

The Madras Medical Journal

The Official Journal of the Madras Medical Association.
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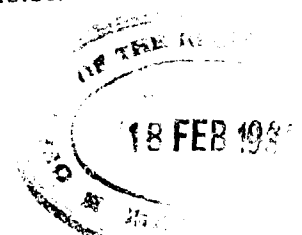
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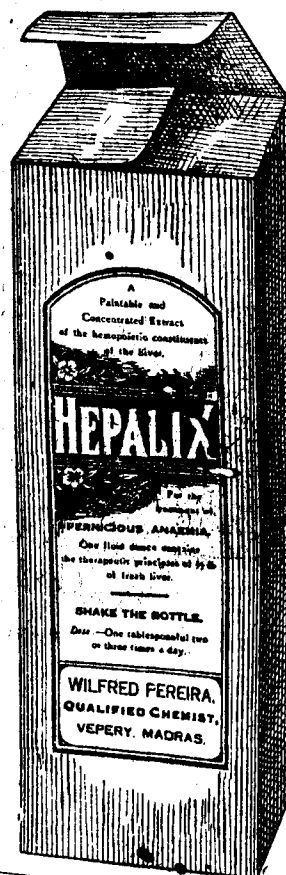
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The Official Journal of the Madras Medical Association.

PUBLISHED QUARTERLY.

Vol. XIII.

January 1931.

No. 1.

Acidosis and Ketonuria*

BY R. VISWANATHAN, B.A., M.B. & B.S.

Assistant to First Physician, General Hospital, Madras.

Introduction.—The object of this paper is to afford a brief review of the present position of acidosis as a clinical entity and to report on the extraordinarily high incidence of acetonuria in febrile conditions as typhoid fever, B. coli septicaemia, pneumonia, dengue, etc. It has not been possible to evaluate the exact significance of ketone bodies in the urine in the series of cases studied nor could we get a clear conception of the mechanism of production of these abnormal products of metabolism. One noteworthy fact in these cases of acetonuria was that only in 16% of them, did any of the recognised symptoms of acidosis manifested themselves to an appreciable degree. In 26% of the cases acetonuria persisted for more than five days in spite of treatment whereas in others it was only of transient occurrence.

Definition.—It is next to impossible to adequately define the term acidosis since it has been applied for entirely different conditions as decreased pH of the blood, diminished alkali reserve, diminished CO₂ tension in alveolar air, increased ketone bodies in the blood with

* Part of this paper is submitted to the Science Congress by Col. Malcolmson and R. Viswanathan.

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appearance of acetonuria and not to speak of the clinical syndrome of acidosis. This confusion is well recognised in physiological work and various attempts have been made to establish a more precise terminology. Van Slyke in his review of acid base balance divided the possible condition of abnormality into six groups. The report on Acid Base equilibrium of the blood of the Haemoglobin Committee of the Medical Research Council proposes the term acidosis and alkalosis to indicate low and high levels of (BHCO_3) and alkalaemia and acidaemia to indicate high and low pH.¹ Hasselbach, Haldane, Van Slyke and Harold Austin and Cullen (in studying acidosis of anaesthesia) have used true acidosis to mean coincident abnormally low pH and (BHCO_3) .² The purely chemical meaning of acidosis as increased acidity of blood as a result of acid substances being poured in, which had cut down by neutralization the reserve of alkali present normally, is not applicable to vital physiological processes. This narrow conception of acid neutralising alkali, on which has been based the wholesale use and abuse of NaHCO_3 in therapy, acted as a stumbling block for a long time against the widening of our knowledge of acidosis.³

Yendell Henderson states "it is time for us to throw off an error of 30 years standing in regard to acidosis. Whatever the condition is, it is certainly not acid poisoning. A decrease in the blood alkali or increase in the H ion concentration is probably in most cases merely incidental to something more fundamental. An excess of acid is probably not even an essential or much less a fundamental feature it, but merely a secondary but not invariable result. In particular uncompensated acidosis, low pH with low alkali so far from being uncompensated in a physiological sense is in fact probably the body's method of seeking compensation".

As Levine rightly emphasises the problem of acidosis must be viewed not only from the chemical side but also from the physiological aspect.⁴ The acid base equilibrium is more than a chemical equilibrium, the living organism playing an equally important part. Many of the investigators in the past looked upon the body as a chemical stock room with beakers and containers holding a blood of fixed standard that may be thrown out of equilibrium by the addition of an excess of some component like acid. The more recent investigations on acidosis by Van Slyke, Wm. Maclean, Gamble Ross and Tisdall, Bugles Peters and Eisenman and Hartmann have much enriched our view points with

regard to acidosis. Levine surmises that acidosis or alkalosis may be a condition produced secondarily in the attempt on the part of the organism to re-arrange its electrolyte concentration.⁵ Removal of alkali or the addition of alkali to the blood may be a method for the compensatory maintenance of the normal osmotic pressure. The preservation of a normal electrolyte concentration within the cell appears according to Levine to be of even greater importance than the maintenance of a constant H ion concentration.

As we are here concerned however with the consideration of that ill defined term acidosis, whatever its relation to the change in the cellular osmotic pressure be, we shall at once proceed with a preliminary discussion of the physiology of acid base equilibrium in the blood.

Acid Base Equilibrium.—According to the theory of electrolytic dissociation, even pure water is dissociated into two oppositely charged H and OH ions according to the equation $\text{H}_2\text{O} = \text{H}' + \text{OH}'$. The concentration of H ion is 10^{-7} gm. equivalent per litre at 22°C . Similarly there are 10^{-7} gm. equivalents of OH ions per litre. Applying the well known law of Mass action, the product of these two concentrations is a constant, i.e., $(\text{H})^\circ \times \text{OH}'$ is equal to 10^{-14} which is a constant. Hence the addition of an acid or an alkali will correspondingly reduce the concentration of the opposite ion. This fact aids us in expressing the reaction of any solution in terms of the concentration of any one of the ions; and for sake of convenience the acidity of any aqueous solution is always expressed in terms of normality of H ion. When as in water the concentration of H ion is 10^{-7} the solution is neutral. When cH is greater than 10^{-7} it is acid and when less than 10^{-7} it is alkaline. In order to avoid the rather cumbersome type of expression as $1/100000$ N H ion etc. pH nomenclature is used as suggested first by Sorensen. The reaction of water according to this is expressed as pH 7.0. As the hydrogen ion concentration rises pH becomes smaller and *vice versa*; solutions of pH smaller than 7 are acid and those larger than 7 alkaline.

Buffers.—Nothing is more constant in the animal economy than the H ion concentration of the body fluids especially of the blood. This regulation is according to Macleod fundamentally of a physico-chemical nature, depending on the interaction of alkalies with acids of which carbonic and phosphoric are the most important.⁶

He thus ignores the important part played by the vital cellular processes and the regulation of osmotic pressure, so much emphasised by Levine and others.

The physico-chemical regulation of the constancy of H ion concentration in blood depends upon the chemical reactions explained by L. J. Henderson.⁷ The fundamental equations are as follows:

M_2HPO_4 plus HA is equal to $M H_2 PO_4$ plus M.A.

$MHCO_3$ plus HA is equal to $H_2 CO_3$ plus M.A.

Where M is a basic radicle and H an acid radicle.

In the neutralisation of a strong base the end point is sharp and clear whereas in titration of urine or serum the end point is uncertain. Exact measurements would show that in the case of neutralisation the change in pH is not proportional to the amount of neutralising substance added. This effort to maintain the constancy of H ion concentration is attributed to the presence in these fluids of certain substances called buffers whose important properties were first made use of by Fernback and Hubert⁸ who wished to keep as constant as possible the reaction of solution in which the agency of enzyme caused the production of acid or alkali. This buffer action is easily exemplified by addition of concentrated HCl to sodium acetate solution which does not raise the pH greatly because of the fact that a poorly dissociating acid as acetic acid is produced; whereas if HCl is added to water, pH is increased to a great degree owing to the presence of a highly dissociating acid as HCl. This shows clearly that the base of a weak acid acts as a buffer against the addition of acid and keeps in check the increase of H ion concentration. The buffering action of these weak bases is made more effective by the fact that these are hydrolytically dissociated in solution in water so much so that the salt of a strong base and a weak acid is alkaline in solution owing to greater dissociation of strong base as in shown by the equation.

$CH_3 COO^-$ plus Na^+ plus H plus OH^- is equal to CH_3COOH plus Na^+ plus OH^- .

Buffers in blood.—In blood plasma we have an acid base equilibrium, carbonic acid being the acid; H_2O plus CO_2 is equal to H_2CO_3 is equal to H plus HCO_3^- ; and $NaHCO_3$ being the base H_2O plus $NaHCO_3$ is equal to Na plus $H_2 CO_3$ OH^- . Hence the reaction of

blood mainly depends on the relative concentration of acid, i.e., dissolved CO_2 and of base $NaHCO_3$, i.e., on the ratio $\frac{H_2CO_3}{NaHCO_3}$. It is more precisely expressed by the equation of L. J. Henderson.⁹ (H) is equal to $\frac{K (CO_2)}{S (NaHCO_3)}$ where K and S are constants representing the respective degrees of dissociation of acid and base. The H ion concentration in blood is maintained by certain constituents of the plasma which act as primary buffers with the co-operation of other systems as lungs and kidneys which exert an indirect buffering action. The primary buffers are $NaHCO_3$, NaH_2PO_4 and proteins.

The chief primary buffer is the $NaHCO_3$ which being the sodium salt of a weak acid is particularly effective because not only is the weak acid feebly dissociated but also escapes in the form of CO_2 when exposed to a tension of this gas lower than that which it has in the plasma as in pulmonary alveoli. The plasma bicarbonate is known as the alkali reserve or available base since it is the amount available for neutralising an extraneous acid. The reaction of the plasma however is not the same as an aqueous solution of $NaHCO_3$ and H_2CO_3 since according to Evans¹⁰ NaCl by depressing the degree of dissociation of bicarbonate leads to an increase of H ion so that pH of plasma is .3 lower than that of a corresponding CO_2 —bicarbonate solution free from other salt. As regards the phosphates, the inorganic phosphorus in blood is so small in quantity that its action can be left out of account. But the proteins of plasma are far greater in amount than bicarbonate but their molar concentration is much smaller. But there are some potentially free NH_2 group on the basis of the number of lysine molecules; so that the molar concentration of basic groups in the proteins of plasma may be estimated as about .5¹¹. Hence the possibility of buffering action of proteins is to be considered. L. J. Henderson calculated the buffering value of proteins on the basis of their dissociation constants and came to the conclusion that this amounts at the most to only a small fraction of the whole buffer action of the plasma.¹² Bayliss has shown experimentally that the buffering of plasma is practically independent of protein.¹³

Secondary buffering.—Whole blood is much better buffered than plasma as Hasselbach showed, because the whole blood not only has its primary bicarbonate but also a variable amount of bicarbonate

produced in presence of CO_2 by the agency of corpuscles. This additional buffering by the corpuscles is called secondary buffering. Zuntz¹⁴ stated that on saturation of blood with CO_2 a carbonic acid carrier passed from corpuscles to the serum in amount approximately proportional to increase in CO_2 content. Though his view is identical with that recently put forward by Parsons,¹⁵ Hanburys¹⁶ and later on Van Slyke and Cullen have shown that there is no actual passage of alkali out of the corpuscles, but merely a redistribution between corpuscles and plasma of anions.

Over and above these physico-chemical buffering, there is the physiological buffering by the lungs and kidneys; for we see that the moment some factors tend to shift the pH of blood, CO_2 concentration of arterial blood is affected by the activity of the respiratory centre while the kidneys by excreting excess of acid or base keeps the H ion concentration within very narrow limits. Kidney may thus be regarded as adjusting the proportion of alkaline salts in the blood while the respiratory centre deals rapidly with changes in reaction caused by variations of concentration of free CO_2 . Besides these, other organs such as the liver, the stomach and the intestines, also play their part in maintaining the acid base equilibrium. A disturbance in the function of important organs or changes in the heat regulating muscles of the body is readily reflected in alteration in the H ion concentration of the blood. Recent investigations have established beyond a shadow of doubt that many nutritional factors such as proper supply of oxygen, proper relation between water intake and water output, between base forming and acid forming foods ingested and between the sugar and fat intake are really involved in maintaining the proper reaction of blood and tissues.

It would not be out of place in this connection to consider in some detail the relation between respiratory processes and acid base balance and incidentally the physiological basis of the mechanism of dyspnoea.

It is a long recognised fact that any condition which increases the venosity of blood passing to the respiratory centre causes hyperpnoea; but it was for a long time a matter for discussion whether increased CO_2 content or want of oxygen in the venous blood that was responsible for stimulating the respiratory centre. Miescher¹⁷ pointed out forcibly the difficulties of upholding the theory that the activity of the respira-

tory centre was attributable under ordinary circumstances to a deficiency of oxygen reacting it. But it was left to Haldane and Lorrain Smith¹⁸ to bring forward incontrovertible evidence to show that the respiratory centre is more sensitive to increase of CO_2 than deficiency of oxygen. These facts were later on substantiated by Zunitz and Loewy.¹⁹

Haldane and Priestly²⁰ showed by their classical experiments that adequate pressure of CO_2 in arterial blood which in turn depended on the CO_2 tension in alveolar air provided the necessary stimulus for the activity of the respiratory centre. They of course made the assumption that CO_2 tension in alveolar air is virtually the same as CO_2 tension in arterial blood basing it on the fact that (1) naturally breathing at rest is so regulated that alveolar CO_2 pressure remains constant in spite of changes in atmospheric pressure. (2) A maintained increase of CO_2 tension causes increase of resting breathing. (3) A maintained decrease of alveolar CO_2 pressure below normal reduces the activity of the respiratory centre. Boycott and Haldane²¹ suggested that the hyperpnoea observed in low atmospheric pressure was probably due to formation in consequence of insufficient oxygen supply of lactic acid which might have the same influence on the respiratory centre as CO_2 . They drew attention to the fact that earlier observers had found that intravenous injection of acids always caused hyperpnoea while injection of dilute caustic soda caused apnoea. They concluded that 'the action of the circulating blood on the respiratory centre is due to what may be called its total acidity, including of course that due to free CO_2 . If more lactic or other acid or less alkali is present in the blood than usual, then less free CO_2 will be required to excite the respiratory centre and *vice versa*.' Winterstein²² made more precise statement than the vaguely worded theory of Haldane that the regulation of breathing was dependent on H ion concentration of blood. He based this suggestion on his experiments on the brain of rabbits which when perfused with saline solution with increased CO_2 tension or with addition of any kind of acid produced hyperpnoea. This interesting suggestion was further substantiated by Hasselbach²³ during his investigations on the electrometric determination of H ion concentration in the blood. But even though there is no doubt about the extreme sensitiveness of respiratory centre to alterations in the H ion concentration, a number of investigators have obtained evidence which they believe points to a definite specific action of CO_2 as a stimulant of respiratory centre over and above any action it might have in causing alteration in the H ion

concentration of blood. Hooker and Wilson²⁴ found that in a perfusion of the medulla with solution of the same CH a solution containing CO₂ was more effective in stimulating the respiratory centre than one in which CO₂ was replaced by HCl. These apparently conflicting views as to the relative importance of free CO₂ and H ion may be reconciled as the Haemoglobin Committee suggests,²⁵ directing attention to the changes of cH in the nerve cells, the reaction of the surrounding medium being only of importance in so far as it affects the former.

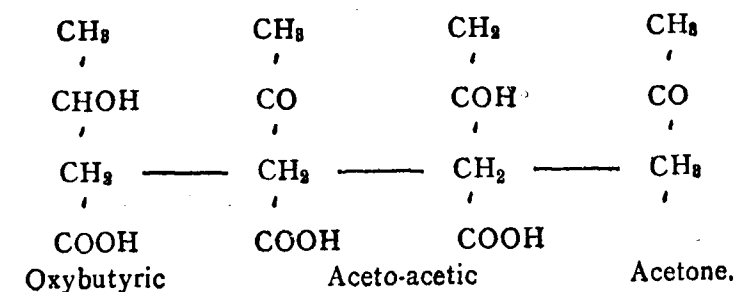
The second factor affecting the respiratory centre is anoxaemia whose influence on the reaction of the blood has been a subject of prolonged controversy. The immediate effect of exposure to the low barometric pressure as in high altitudes is increase in breathing. Earlier explanations of this hyperpnoea and lowering of alveolar CO₂ pressure were based on the hypothesis that lactic acid was produced in the tissues under conditions of oxygen shortage. This was found to be untenable, for Bancroft and his colleagues²⁶ failed in finding any increase of lactic acid by direct blood estimations at the heights of Monte-Roza. In spite of these findings the tendency was to believe in the existence of an acidosis in anoxaemia. So years later Haldane²⁷ pointed out a far more rational explanation of the phenomena at high altitudes, a similar theory being put forward at the same time by Haggard and Henderson.²⁸ They thought that oxygen want has a direct effect on respiratory centre in causing hyperpnoea which in turn leads to diminution of alveolar CO₂ pressure and a reduction in the H ion concentration in the blood resulting in actual alkalaemia. But Koehler, Brunkuis and Loevenhart showed that the observations of Haggard and Henderson were correct so far as they went. But they failed to extend their experiments during anoxaemia long enough to record the fact that oxygen deficiency resulted in true acidosis.²⁹

We have next to consider a condition which has been included under acidosis namely Ketosis a proper understanding of which necessitates a consideration of the physiology of fat metabolism since ketone bodies are supposed to be intermediate products in the oxidation of fats.

In the laboratory ordinary oxydising agents attack a fatty acid chain at the C atom next the Carboxyl group (COOH) (the alpha C atom). But this cannot occur in the animal body because it would leave behind a smaller chain containing an uneven number of C atoms and such

chains are never found present in animal fats. On the contrary the commoner fats all contain an even number of C atoms as Butyric C₄H₈O₂, palmitic C₁₆H₃₂O₂, stearic C₁₈H₃₆O₂, Oleic C₁₈H₃₄O₂. The intersubstances normally produced during breakdown of fatty acids molecule in normal animal are so transient as not to be chemically detected. But in disordered metabolism as diabetes and starvation especially of carbohydrates, oxydation stops short when a chain of 4 C atoms still remain unbroken. This leaves a residue resulting in the formation of various interproducts.

Fatty acid with 4 C atoms is Butyric CH₃, CH₂, CH₂COOH and its oxydation process can be represented as follows:



It might be objected that the chemical process under abnormal conditions need not occur in normal animal. But Knoop's and Emden's experiments go to show that normal saturated fatty acids and their phenyle derivatives can undergo oxydation not only in the animal body but also in vitro in such a manner that the two terminal C atoms are removed at each successive step in their decomposition.

Ketogenic and anti-ketogenic bodies.—When no carbohydrate metabolism is going on fats are imperfectly oxydized and accumulated in the organism as ketone bodies. Hence carbohydrates are called anti-ketogenic substances since they are necessary for the complete oxydation of fats. Woodyatt suggests that this is owing to coupled reaction between glucose or glyceric aldehyde and aceto-acetic acid, sugar being oxydized and aceto-acetic acid simultaneously reduced.

It is worthwhile to remember that the chemical nature of the acetone bodies is such that they might readily be produced from any or all of the three classes of food stuffs. They might be derived from carbohydrates as is the closely related lactic acid, but we know that this is

not the usual source as administration of glucose causes the acids to disappear in the urine. They might be readily formed from proteins by splitting of the NH_2 groups from the amino acids; indeed the amino acids are considered generally as a source of acetone bodies particularly because whenever there is considerable pathological breakdown of proteins these bodies may appear in the urine.⁸⁰ Wells thinks liver plays an important part in ketogenesis as is shown by decrease in acetone bodies in Eck's fistula in dogs.

Acidosis and Acetonuria.—When our chief method of recognition of acidosis was by finding acetone bodies in the urine, the term acetonuria was used synonymous with acidosis. But we now know that we may have varying degrees of acetonuria without significant acidosis as determined by examination of blood and severe acidosis may occur with little or no acetonuria. Leven thinks that sodium bicarbonate helps to increase the production of acetone bodies which will never be the case if ketosis is identical with acidosis causing increase of H ions in the blood. This fact is fully substantiated by experimental evidence in the work of Joslin, Fossner, Allen, Stillman and Haldane.

Causes of Acidosis.—Generally considered are (1) diabetes, (2) nephritis (3) cardiac disease, (4) dehydration as in severe diarrhoea, (5) starvation, (6) anoxæmia, (7) anaphylactic shock, (8) surgical anæsthesia and (9) infections.

Diabetes mellitus has been considered as a typical example of acidosis owing to the accumulation of abnormal products of metabolism. It was thought that the formation of abnormal acids as occurs in this condition tended to displace the CO_2 in the blood, and insufficient quantity to raise the H ion concentration of the plasma, the ketosis producing an acidæmia. The respiratory centre would be stimulated resulting in hyperpnœa. Further investigations have disproved some of these supposed facts. Even though there is no doubt about the occurrence of ketosis as was shown by Kennaway, Pembre and Poulton⁸¹, the belief that a low CO_2 in the alveolar air was necessarily an index of acidæmia has not stood the test of further experimentation. Barcroft and others whilst obtaining a reduced alveolar CO_2 pressure could obtain no evidence of acidæmia⁸². Besides Poulton in a far-reaching series of experiments on eight diabetics found the least evidence of acidæmia, only in two. Hence one has to conclude that 'acid intoxication'

does not explain the pathogenesis of diabetic coma. Hurlley and Trevan⁸³ have put forward an alternative of increased cH as the cause of air hunger and coma. They produced both these symptoms in cats by injecting acetone and they think it is due to the poisonous nature of the unsaturated linkage in the Enolic form of this substance, which not only causes coma but also specially stimulates the respiratory centre. But there are certain factors as increased production by the organism of ammonia and production of a highly acid urine, which can be readily explained only by the presence of acidæmia. The Hæmoglobin Committee of the Medical Research Council thinks that 'in diabetic coma a slight acidæmia cannot be excluded, but it does not cause the state of unconsciousness which is probably due to the poisonous character of the aceto-acetic H ion. The air hunger may be due to both factors in combination⁸⁴.

Uraemia.—Has been baffling investigators for a long time and its pathogenesis has been a subject of controversy. Schleyer and Straub in the paper entitled 'Is uræmia an acidosis?' favoured the view of increased cH in uræmia, because CO_2 tension in alveolar air was lowered.⁸⁵ Later Poulton and Ryffel found definite acidæmia by direct examination of the blood.⁸⁶

Cardiac Disease.—Peabody found no evidence of alteration of pH in uncomplicated cardiac disease. Wilson, Levine and Edgar found normal CO_2 capacity of the plasma in case of irritable heart.

Anaphylactic Shock.—Eggstein, Underhill, Bigwood and others have demonstrated a fall in alkali reserve. Eggstein found that a fall in the CO_2 capacity of plasma to below 25 volumes was usually associated with a fatal outcome and that a preliminary administration of sodium bicarbonate before the production of anaphylactic shock diminished the acidosis and lessened mortality.

Dehydration.—Occurs as a result of excessive loss of water from the system as in stomach disorders with vomiting or intestinal ones like cholera, dysentery, diarrhoea. According to Clausen the acidosis is due to lactic acid, since, he thinks that anhydræmia brings about respiratory embarrassments and sub-normal oxidation.

Ketonuria.—Among the various conditions that cause acetone to appear in the urine, diabetes, starvation, and febrile conditions are

of importance. Diabetes has already been considered in connection with acidosis when it was shown that it causes a ketosis more than an acidosis. As regards starvation French enumerates a series of conditions causing acetonuria as a result of carbohydrate starvation as gastric ulcer, gastric carcinoma, gastrectasis, oesophageal stenosis, intestinal obstruction, cachæxia, whether tuberculous, malignant or syphilitic, in cases of persistent vomiting of pregnancy, uræmia, severe migraine, infantile diarrhoea and vomiting, cyclical vomiting of children, concussion, acute alcoholism, ptomaine poisoning, delirium tremens, tabes with gastric crisis.³⁷

Another group of conditions which do cause acetonuria but which has not been reported till now in a recognisable manner is that of various febrile states which either through starvation incident on anorexia, associated with pyrexial states or through some other toxic process disables the tissues from a complete metabolism of fats. Since the general metabolism is increased in fevers, the excessive breakdown of the fatty substances occurring as it does in the presence of a diminished combustion of carbohydrates interferes with the proper oxidation of the fatty acid molecules and leads to the appearance of so-called acidotic products in the urine and consequently a relative increase in the urinary ammonia.³⁸ A tendency to acidosis or to be more correct, ketosis therefore does exist in febrile conditions.

We first noticed acetonuria in a few cases of typhoid fever in Madras, and thought that it was probably due to high toxicity of the particular strain of typhoid bacilli but subsequently in our routine examination of all febrile conditions for acetonuria we discovered ketone bodies in the urine in many other conditions as pneumonia and dengue. We cannot help mentioning in this connection that we found persistent glycosuria with acetonuria even in a case of Karsakoff's signs of tumour of the hypothalamus as papilloedema, nystagmus and ocular motor paralysis. We are of opinion that the excessive toxicity of the infections in Madras and its hot and humid climate are contributing factors in the production of acetonuria.

Ninety-six cases of fevers due to various infections were examined for acetonuria of which 26 gave positive results. Of the positive ones 13 were cases of enteric, 2 B. coli infection, 1 B. faecalis alkaligenes infection, 5 pneumonia, 2 malaria and 3 dengue. Only in seven cases

Acidosis and Ketonuria

the symptoms generally attributed to acidosis such as hyperpnoea and coma were present. In twelve cases the acetonuria persisted for more than three days in spite of treatment whereas in others it was only of a transient occurrence. In four of the cases of pneumonia wherein ketone bodies appeared in the urine the symptoms observed such as excessive hyperpnoea and delirium with unconsciousness were out of proportion to the physical signs present and could only be attributed to the ketosis present.

We are giving below the reports about a few cases which are of particular interest :—

Case 1.—Hindu, male, 37 years, admitted for fever, 8 days duration. *Previous history.*—Had an attack of mania in 1913 lasting for a month. Otherwise there was nothing particular. Present illness began with fever and headache 8 days before admission. Fever was continuous and unaccompanied by rigors. From the day previous he had been delirious. Physical examination revealed patient to be slightly wasted, not anæmic, having a dry coated tongue and a vacant expression of the face. *Circulatory system.*—But for the rapidity of the pulse there was nothing abnormal. *Respiratory system.*—Depth and rate of respiration slightly increased. *Alimentary system.*—Spleen and liver not palpable, abdomen not distended, no rigidity. *Nervous system.*—Slight exaggeration of tendon reflexes. Babinski negative.

Investigations.—Blood shows slight leucocytosis. Agglutination against B. C. C. was 1 in 100 positive. Blood pressure 118 systolic and 88 diastolic. Motion normal. Urine reaction acid, albumin 0.5% sugar a trace, acetone a trace. Deposits epithelial and granular casts present. Urine culture a pure growth of staphylococcus albus, and C.S. fluid clear and not under pressure, albumin 20.3 mm.; sugar 0.77%, globulin 12.2, culture sterile, Wassermann negative, Lang's test negative curve.

Treatment.—Plenty of glucose was administered, with 10 units of insulin b.d. Owing to the pulse being rapid and feeble he was given intravenous glucose saline. Since the patient refused to take any food by mouth owing to the persistent delirium he had to be given a nasal feeds every four hours for four days. During those four days he had to be catheterised. Subsequently he began to pass urine by himself and

Case No.	Disease.	Urine Ketones.	How long lasted.	Symptoms of Acidosis.	Treatment for Acetonuria.	Result.
1	B. Coli Septicaemia	...	10 days	Coma	Intravenous glucose, Insulin 10 units b.d.	Cured.
2	Enteric	...	12 days	Nil at first, Coma later	Glucose, Soda bicarb and insulin	Died.
3	B. Coli Septicaemia	...	6 days	Slight hyperpnoea retention of urine	Glucose and insulin	Cured.
4	Enteric	...	3 days	Nil	Glucose	Do.
5	B. Faecalis Alkaligen infection	...	6 days	Nil	Do.	Do.
6	Enteric	...	2 days	Nil	Do.	Do.
7	Pneumonia	...	5 days	Hyperpnoea out of proportion to physical signs and delirium	Glucose and insulin	Do.
8	Enteric	...	2 days	Nil	Glucose	Do.
9	Do.	...	Do.	Nil	Do.	Do.
10	Do.	...	1 day	Nil	Do.	Do.
11	Do.	...	3 days	Nil	Do.	Do.
12	Do.	...	Do.	Nil	Do.	Do.
13	Do.	...	6 days	Nil	Do.	Do.
14	Do.	...	1 day	Nil	Do.	Do.
15	Do.	...	5 days	Hyperpnoea	Glucose and insulin	Do.
16	Do.	...	1 day	Nil	Glucose	Do.
17	Do.	...	2 days	Nil	Do.	Do.
18	Pneumonia	...	1 day	Nil	Do.	Do.
19	Dengue	...	3 days	Nil	Do.	Do.
20	Do.	...	1 day	Nil	Do.	Do.
21	Do.	...	Do.	Nil	Do.	Do.
22	Pneumonia	...	4 days	Delirium and hyperpnoea	Glucose and Soda bicarb.	Do.
23	Do.	...	2 days	Delirium	Glucose	Do.
24	Do.	...	6 days	Unconsciousness and hyperpnoea	Glucose and insulin, soda bicarb	Died.
25	Malaria	...	2 days	Nil	Glucose	Do.
26	Do.	...	1 day	Nil	Do.	Do.

take feeds by mouth. He was aphasic for 10 days. In 15 days time the temperature touched normal and the patient was discharged cured 20 days after admission. Acetonuria persisted for 10 days in spite of treatment and only when temperature had a tendency to come down did the ketone bodies begin to disappear from the urine.

Case 2.—Anglo-Indian, Female, age 20 years, admitted for continuous fever of 10 days duration. Physical examination revealed nothing abnormal. Bacillus typhosus was isolated from the blood. Urine was normal except for acetonuria. As the patient's appetite was good from the beginning she was given milk, broth, kungies, fruit juice, jellies, coffee, etc. By way of treatment she was put on Liq. Hydrargperchlor, glucose and soda bicarb and insulin 10 units. As acetouria persisted, soda bicarb was taken off and she was put on more glucose and higher doses of insulin, which caused disappearance of ketone in the urine. Patient was thought to be progressing very well in this regime when there was a setback, pulse becoming rapid, respiration deep and hurried and she became unconscious. There was recurrence of acetone bodies in the urine. After hours of persistent hyperpyrexia between 106 and 108 degrees with unconsciousness, patient succumbed.

Case 3.—Hindu, Male, 32 years, admitted for fever of 5 days duration, dyspnoea and cough. He had a few bronchopneumonic patches in the lungs. But the hyperpnoea which he had was out of proportion to the physical signs. Examination of the urine revealed acetonuria of a marked degree. He was put on glucose and insulin injections which caused the ketone bodies to disappear. Patient was discharged cured in 10 days after admission.

Case 4.—Hindu, Male, 19 years, admitted for fever of 6 days duration, and retention of urine. Nothing abnormal could be detected by physical examination, but urine contained plenty of acetone. Widal and culture of blood were negative. Urine culture showed B. Coli. The only symptom worthy of note which he had was acetonuria which persisted till the temperature touched normal in 10 days in spite of treatment with glucose and insulin.

Treatment of Acidosis.—The ideal form of treatment of any condition is the removal of causative factors and not mere symptomatic

treatment. It is worth while remembering that acidosis is not the cause but the effect, that it is not a disease but a symptom. We must treat the underlying metabolic or nutritional disorders in order to remove or prevent a state of acidosis.

In diabetic acidosis which has gone on to the stage of coma, there is marked dehydration which necessitates administration of fluids. Insulin must be administered in massive doses. Joslin has worked out a scheme of administration which depends on the number of hours the patient in coma is expected to live. If this period is estimated at 24 hours 20 units are given every hour until clinical improvement takes place. Insulin however, must be continued in post comatose conditions also but in smaller doses.

Though some clinicians as Joslin have decided that it is not necessary to use glucose as a safety measure in diabetic coma, there are many others like Foster who believe in the advisability of administering glucose as a safeguard. We think that we are justified in giving glucose because it serves to prevent a condition of hypoglycaemia and to stabilise the osmotic pressure in the blood. Besides sugar will act as sparer of protein which is destroyed during coma perhaps in an effort to supply anti-ketogenic material.⁹⁹

We have found alkalies like sodium bicarbonate to be absolutely of no use in any form of acidosis. It is interesting to remember in this connection that a specialist in diabetes like Joslin has abandoned the use of bicarbonate even from 1917.

In acetonuria sodium bicarbonate may do more harm than good, since it helps to increase their production instead of diminishing it. This fact is fully substantiated by experimental evidence provided by such workers as Forssner Joslin, Allen, Haldane, etc.

Alkalis evidently interfere with the combustion of carbohydrates which lowers the carbohydrate tolerance and thus indirectly help in the appearance of ketone bodies in the blood. In other conditions causing acidosis also the rational mode of treatment will be administration of water to provide for dehydration, glucose for the proper combustion of fat, and insulin help in the burning of sugar.

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From an Advertisement.—“This stethoscope tubing is guaranteed for full three years as there are living evidences who have used the tubing for more than three years”. This is the first time we hear that human life is as long as three years!

Cancer of the Cervix Uterus

BY DR. P. RATNASAMY, B.A., M.D.

A witty Frenchman once said "Fibroids are the reward of virtue and cancer, the wages of sin." But as all truisms are, it is only a half truth, because we know that when the Lord blessed the Patriarch He said "Go and multiply." This paper deals with an analysis of a series of 100 cases of cancer of the cervix from the records of Government Hospital for Women and Children, Madras, during the years 1927—30. It does not mean that there were only 100 cases for these years but such cases during these years were utilised for analysis as were available.

Age.—To determine the relationship between age and incidence of cancer for Madras 100 cases were studied, and for the sake of completeness and comparison the figures of Menon for Madras and Lane Claypon for the European countries and America, are given in the following table:—

Age period.		30	35	40	45	50	55	60
Lane Claypon {	No. of cases	667	1196	1474	1370	1084	691	395
	Percentage	9	16.2	20	18.6	14.7	9.4	5.3
I.G.K. Menon {	No. of cases	7	22	16	14	16	7	2
	Percentage	7.7	24.4	17.7	15.5	17.7	7.2	2.2
Ratnasamy {	No. of cases	9	15	24	17	15	10	4
	Percentage	9	15	24	17	15	10	4

The maximum age in the series is 67 years and the minimum 20 years.

The mean age for 7381 cases 45.75 years.

" 90 cases 41.97 "

" 100 cases 43.6 "

The above figures show that the peak comes at the age period 40—50. It is interesting to observe that at every stage the figures correspond closely. The slight discrepancy in Menon's figures is perhaps

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due to the small number of cases analysed as is shown by the fact that the writer's figures more closely approximate to that of Lane Claypon's. Incidentally, these figures show that whatever may be the nature of the countries concerned, the laws of nature operate with ruthless uniformity. In spite of this evidence of the greater incidence of cancer between the age period 40—50 years it is well to bear in mind the pertinent observation of Lane Claypon that "it is not safe to infer that cancer of cervix uterus is most prevalent at the period of life associated with the climacteric, especially if regard be had to the number of women alive at any given age." There is an impression that promises in youthful patients is rather worse than in those of a higher age. But Lane Claypon, after analysing 238 cases with regard to operability at varying age periods and also 934 cases with regard to five-year results according to age periods, comes to the conclusion that there is no tendency to greater virulence or apparently to a more rapid dissemination of the growth in youth.

Fertility.—The following table gives the number of pregnancies and the number of cases of each:—

Pregnancy.		No. of cases.
Nil	...	5
One each.	...	10
Two "	...	10
Three "	...	12
Four "	...	11
Five "	...	10
Six "	...	11
Seven "	...	4
Eight "	...	5
Nine "	...	2
Ten "	...	7
Eleven "	...	1

This gives an average of 4.4 pregnancies. These results are corroborative of the results of analysis of other writers, Menon's average is 5.03 pregnancies while that of L. Claypon is 5 pregnancies (approx). It is very difficult to obtain a correct history of the number of abortions, for the reason, that if a woman misses a period or two, she is inclined to think that it is an abortion while in reality it may be a case of irregular menstruation. For this reason no special investigation regarding the number of abortions were made. The above data point to the conclusion that the occurrence of cancer of the cervix is independent of the number

of pregnancies but that it is closely associated with the occurrence of pregnancy. In this series only 5 cases have had no pregnancy. The maximum number of pregnancies is 11. In view of the fact that operative interference may not have been present in a majority of cases and also considering that puerperal sepsis might have been a more frequent condition the conclusion is tentatively offered that it is the production of sepsis that plays an important part rather than the number of pregnancies.

Symptoms and their alleged duration.—The three main symptoms are hæmorrhage, pain and discharge.

The following table gives their frequency :—

Author.	Total Cases.	Nature of Symptoms.						
		A	B	C	D	E	F	
	...	I	II	III	I & II	I & III	II & III	
Lane Claypon	... 3208	{ No. of cases ...	1948	653	258	129	109	66
		{ Percentage ...	61.6	20.6	8.2	4.1	3.4	2.1
Ratnasamy	... 100	{ No. of cases ...	62	34	44	19	19	18
		{ Percentage ...	62	34	44	19	19	18

I. Hæmorrhage. II. Discharge. III. Pain.

The high percentages of the writer in columns D, E and F are due to the fact that the cases included in the columns A B and C are repeated in these three while in Lane Claypon's figures they are not repeated. The high percentage of the writers in column 'C' is due to the advanced condition of the disease at which the patients seek hospital advice. Indeed, as will be shown later that except for about 2—4% the rest are inoperable and 'hopeless' cases. Consequently the frequency of pain increases if we bear in mind that in later stages when nerves get involved by pressure or infiltration they give rise to pain. The remarkable coincidence of figures in column 'A' shows that the first and a most common symptom is bleeding per vagina. Only three patients in

the series gave a definite history of amenorrhea and absence of bleeding after the onset of the disease. Only one case in the series gave a history of bleeding noticed first after coitus. Perhaps, if the histories are more carefully elicited and if the patients are less reticent about the exact nature of symptoms it is probable that more cases of that type may come to light. The other symptoms occasionally complained of, either singly or in addition to the trio, are (1) pain and difficulty during micturition and defecation, (2) anæmia and weakness, (3) loss of weight, etc. The average duration of symptoms for cases in this series is 6 months; but as every writer on the subject points out, the tendency is to abbreviate the time and it is probable that the disease may have existed for some time before the onset of the symptoms, which first attracted the patient's attention. Also, the patient's indifference and ignorance to state the exact period has to be taken into account. For example a patient aged 60, with a local lesion far advanced to be operable and who subsequently died in a few days due to cachexia has stated one week as the duration of her symptoms. Such figures, however, were not included for purposes of calculation. The average figure of six months is a little less than the general mean average for European countries which is 29.2 weeks. The discrepancy is perhaps due to the indifference of patients to give a fairly accurate figure when questioned.

Condition on admission.—With the exception of three cases in the series, the vast mass of women who present themselves at the hospital are already in an inoperable stage. The usual condition is one as follows. "A huge cauliflower growth of cancer cervix, easily bleeding to touch; anterior vaginal wall badly infiltrated as also the lateral fornices and broad ligaments; uterus fixed." With a condition like that quoted above, it is fairly evident that the cases arrive too late for any operative interference. Indeed it has been our painful privilege to treat only what one would call inoperable and 'hopeless' cases. While other countries can boast of an operability rate of 34.3% (England), 39% (France); the rate for Madras is 7.47% (Menon). I am inclined to think that even this 7% is rather a high figure. The cancer block of the hospital serves more as a refuge for the incurables than as an effective treatment centre. Education of the women is an essential condition if we hope to grapple with this disease. There is indeed a more urgent need for a Cassandra in our Presidency than ever there was in Troy.

Pathological anatomy.—The statistics, kindly supplied by I. G. K. Menon from the Department of Pathology, Medical College, with the permission of the professor furnish the following details regarding carcinoma of the cervix :—

Spheroidal—celled carcinoma	... 41 cases	} 86 cases.
Squamous—celled carcinoma	... 45 "	
Adeno—carcinoma	... 12 "	
Colloid cancer	... 1 "	
Carcinoma sarcomatoides	... 1 "	
Total	... 100 cases.	

These figures bear out the fact that Adeno-carcinoma of the cervix is a much rarer condition than either the spheroidal or the squamous-celled carcinoma. The clinical types of cancer are mostly of the proliferative or cauliflower growth; next comes the ulcerative, crateriform type while only about 2% belong to what one may call the scirrhus type. This last type is met with in old women and consists of a hard puckered induration of the cervix; it bleeds little on manipulation. Microscopically the cancerous processes are few in number with a large amount of fibrous tissue between them. Eden and Lockyer mention two main sites from which cancer of the cervix may arise: (a) from the deep layers of the epithelium of the portio vaginalis, (b) from the cervical endometrium. They add that cancer may arise as a "Central node" Springing from epithelium derived from foetal relics and lastly from cervical polypi which become cancerous and invade the cervix secondarily. Enlargement of glands are neither very obvious nor numerous (37.3% in a series of 1,325 cases). Besides, about 30% of them (in a series of 1,200 cases) showed septic enlargement without any cancerous infiltration.

Treatment.—There is a tragic simplicity in dealing with the subject of treatment. While in every European country the literature about the mode of treatment, the mortality and the results of treatment and after treatment are voluminous, we have no such data to deal with. While Wertheim in Vienna, Bonney in England and a host of others endeavour to raise their operability rate and decrease the operative mortality, the Surgeon, out here, finds no such way open to him. Far be it for me to suggest, that the indifference of the medical man is the

cause of this lack of material. It is, on the other hand, due to the type of patients that arrive at the clinic which precludes any such advance. As has been shown above, the cases are all inoperable. Not only the local condition, in a majority of cases is far advanced but even in the few (3-4%) operable cases, the general condition at the time of admission is so poor that if an operation is attempted by a bold surgeon, his mortality will be almost 100%. Consequently, the operative treatment is only mentioned here for the sake of completeness. There are two methods of operation, i.e., Abdominal Hysterectomy and vaginal hysterectomy. Of the two the former gives a higher operability rate though a slightly higher operative mortality. Hence, with the exception perhaps of Adler of Vienna, most of the surgeons employ the abdominal route for manifest advantages. The non-operative treatment consists of Radiation. "Speaking generally, there are two schools of technique, one which believes in application external to the growth, the other which believes in burying Radium close to or in the growth." The advantages and disadvantages of the methods have been ably expounded by their partisans and is out of the scope of this paper. But, finding that a compromise is perhaps the best, both the methods have been used in the hospital. However, the authorities, choosing the line of least resistance have favoured more the external application rather than burying the needles in the resistant tissue itself. Combined X-Ray and Radium exposures have been used in a few cases. Radium has been used in other clinics either as a pre-operative or as a post-operative measure. Opinion is more favourable to post-operative irradiation. This is due to the fact that there is much fibrous tissue formation after the exposure of the growth to radium, which later on greatly hinders the operative procedure. Every gynaecological clinic has its own technique with regard to dosage, screening material, exposure time, etc. In the hospital, the technique is as follows. Vaginal douche, with weak lysol lotion, is given for two days prior to application. Fifty milligrammes of RaSO_4 in 3 tubes are enclosed in a cylinder of monel metal of 1.5 mm. thickness, which is screwed on to the end of a long flexible metal stem. The cylinder is inserted into the cervical canal and the metal stem is brought outside the vagina and bent over the anterior abdominal wall; in this position it is fixed with adhesive tape. The fornices are then lightly packed with gauze. Sometimes ring pessaries containing Radium are inserted when it is wished to irradiate the fornices and the vaginal walls. The Radium is removed after 24 or 48 hours and the patient is douched

regularly for a variable period till the sloughs come away or the offensive discharge stops. The indications, contraindications, complications, effects and results may well form the subject of another paper. Suffice it to say that hæmorrhage, pain and discharge are relieved to a variable degree and the local condition shows marked improvements. Radium was first used in the hospital in 1927 nearly 14 years after it has been introduced in European countries. Consequently the three and five year results cannot be given.

There are other aspects of cancer of cervix, like pregnancy and cancer, etc., which cannot be dealt with in this already long paper.

In conclusion, I have to thank Lt. Col.-C. A. F. Hingston, Superintendent of the hospital for permitting me to use the records of the hospital.

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A certain young woman went to a hospital and had her lungs examined. The doctor asked her all the while to say "Ninety-nine". When she returned she was asked by her husband what happened in the hospital, to which she replied "The Doctor made me ninety-nine all the time".

From another case sheet.—"Patient put on Quinine hydrochlor, one ounce thrice daily". We would like to know which hospital it is and the nature of the animal being treated.

A certain patient who was asked to send a specimen of his stool for microscopic examination sent it to the doctor with a note "Dear Doctor, herewith I am sending you a small quantity of my *dung* for your examination"—Veterinary practice indeed!

Diverticulitis

By A. N. VERGHESE, L.M. & S.

Diverticulitis is a subject not very familiar to many of us. The object of this article is to stimulate a search for this condition because it is feared that the condition is escaping notice, as it is not specifically searched for. It is more common than is generally believed to be and one has reason to believe the disease is not peculiar to any country.

The site of Diverticulæ.—The commonest site is the sigmoid flexure. It is also seen in the other parts of large intestines except the ascending colon. In about 40% of cases it is confined to the sigmoid colon only. The sigmoid is affected in 70% of the cases either alone or in association with other parts of the large intestines.

Frequency.—Diverticulitis of the colon is commoner than is generally realised. The Mayo clinic statistics show that the condition exists roughly in one person, out of every eight, who have passed the age of 45. I am unable to get any figures relating to Indian patients. It is to be presumed that the incidence should be pretty nearly the same. Perhaps this disease is not detected as it is not properly searched for. The disease is often found between the ages of 40 and 70 out of 100 cases collected 85 were between ages. It is twice as frequent in men as in women.

Early History.—A word or two may be given about the historical aspect of the disease. This was first described by Cruveilhier in 1849. In England it was first described by a physician to Guy's hospital in 1857. In 1885 Sir Arbuthnot Lane published an account of this condition in Guy's Hospital reports. In spite of these early reports till about 20 years ago the subject did not come into prominence. Along with the improvement in Radiographic technic, this condition was detected better, in its earlier stages.

What is a Diverticulum?—Diverticulæ are tiny flask-shaped or rounded pouches in the walls of the colon. The mucosa and submucosa of the colon herniate through the weakened muscular walls of the colon and project slightly on the outer surface of the gut. In a well developed

condition when fat is stripped off the outer surface of the colon, small flask-shaped pouches stand in two roughly parallel rows. They have a bluish black colour. It is due to the faecal matter filling these pouches and the contents being seen through the thinned mucosa and submucosa. The commonest site for these is between the meso-colic and anti-mesenteric longitudinal muscular bands. The blood vessels of the colon, penetrate the circular muscle fibre in this position. Hence these points are weaker than the rest of the wall—therefore through these weak points the herniation takes place, very often due to straining at stools in constipated subjects.

Etiology.—Let us now consider the causation of these abnormality. Occasionally congenital diverticulæ are noticed, but the condition is chiefly acquired. X-ray examination has helped considerably to watch the beginning and the growth of this condition.

Three theories are advanced.—1. As stated before, it is due to the inherent weakness in the wall, where the arteries enter.

2. Due to inflammation and consequent weakness set up by septic foci existing in the system—tonsils, carious teeth and appendix.

3. Owing to the increased pressure caused by straining at stools.

Possibly all these are contributory factors.

Clinical Varieties.—1. An early inflammatory type is seen. This is not very serious. It is something like a mild appendicitis. The chief signs and symptoms are, discomfort in the lower part of the abdomen, chiefly on the left side—left iliac fossa—constipation, irritation of bladder, occasionally slight fever and a moderate polymorphonuclear leucocytosis. There will be pain and tenderness in that region. Occasionally a tender tumour like swelling could be palpated.

2. The later inflammatory type. It could be roughly classified into

- (a) Chronic inflammatory type.
- (b) Obstructive type.
- (c) Genito-urinary type.

(a) *The chronic inflammatory type* is invariably the result of a primary acute attack. This acute attack may occur suddenly when one is at work or play; it may be while straining at stools. It may

occur after taking a purgative or even after an enema. It has occurred soon after a heavy meal. This attack, its cause and severity resemble an attack of appendicitis with this difference that the scene is changed to the left iliac fossa. This may be a fulminating attack ending in general peritonitis and death. It may take a medium course ending in local peritonitis and abscess formation or it may be mild and end in slight formation of local adhesions.

The general signs and symptoms are exactly like those of appendicitis, all transposed to the left side. The pain may radiate to the testis or vulva as the case may be; rigidity and tenderness are present. Bimanual rectal examinations may reveal a tumour formation. If the swelling is found in the first attack it may disappear, to reappear in the second. The condition thus becomes chronic.

(b) *The Obstructive Type.*—This is a gradual process. The patient may give a history of several attacks and also of chronic constipation. One day he may find that he cannot pass any motion in spite of all efforts. Not even flatus can be passed. This may pass into a condition of acute intestinal obstruction if left untreated. In this type also pyrexia is present. He may be relieved of the pain when the bladder is emptied. Irritation of the bladder causes frequent micturition. This condition resembles cancer of the colon and very difficult to differentiate. Pyrexia is infrequent in cancer. History of passing blood in the stools is common in cancer and not in diverticulitis. Moderate polymorphonuclear leucocytosis is common in diverticulitis but not in cancer. These points may help to make a differential diagnosis.

(c) *The Genito Urinary Type.*—Here the main symptoms are referred to the bladder. It is one of the end results of diverticulitis left untreated. Before reaching this condition the patient shall have passed through the earlier stages, the patient must have suffered from most of the symptoms referred to already. Intermittent attacks of pain and fever, history of constipation, frequent micturition, etc., will be present, even at this stage. The most outstanding symptom, however, will be a sudden attack of frequent, painful burning micturition. In the urine itself grape-seed like faecal concretions may be detected. The urine will be foul smelling and of faecal odour with a thick deposit—due to *B. Coli* infection. There may be passage of gas in the urine. Naturally cystitis of varying degree will be noticed. The pathological

condition in this type is the formation of a vesico-colic fistula. Cystoscopy will clearly demonstrate the condition. In short, these are the different clinical types that are met with.

Diagnosis.—In the early stages diagnosis is not very difficult provided one keeps in one's mind the possibility of this disease. Otherwise the condition may be missed and a wrong diagnosis made. Diagnosis is easier in those cases with complication such as abscess formation and formation of vesico-colic fistulae. But the prognosis is grave in later conditions and therefore it behoves us to find out the condition in the earlier stages.

As a general rule it may be stated that a fairly correct diagnosis can be made under the following conditions. Very often the patient is above 40, with a chronic history of constipation. He complains of tenderness in the left iliac fossa and a certain amount of irritability of bladder. He may have an occasional attack of slight fever and perhaps a mild leucocytosis. These justify the assumption that the disease is diverticulitis but the diagnosis can be clinched only with the help of the X-ray examination, which will be taken up presently.

Sigmoidoscopy is rarely useful as the lesion is often beyond the reach of a sigmoidoscope.

X-ray examination.—For this purpose an opaque meal and opaque enema combined, will be the most effective method. After the bowels are cleared by evacuation, the opaque meal will still fill the diverticulae. These can be easily detected by their characteristic appearance. They stand out like palisades on the contour of the colon and it is said that a series of super-imposed films will show this out better. But the details and pitfalls of this branch of the work are better appreciated by a radiologist and we have to depend on him for this part of the job. Before I pass on to the treatment I may mention another aspect of the question. It is still a moot subject whether cancer follows on the site of diverticulitis, different schools hold different opinions in the matter. But it is enough for us to know that there is a certain amount of predisposition produced by diverticulitis for the formation of cancer.

Treatment.—I mentioned before, that diverticulitis is seldom a congenital but mostly an acquired condition. It is sometimes discovered accidentally while one does not search for it directly. The condition can also be diagnosed early enough. When diverticulae are detected

immediate appropriate treatment should be adopted. Diverticulosis is a term applied to the condition where diverticulae exist without symptoms. So when diverticulosis is detected prophylactic treatment should be adopted. This consists chiefly in relieving constipation and thereby avoiding frequent straining at stools. For this purpose sufficient paraffin must be given to keep the motion in a semi-liquid state; diet should be regulated. Articles of diet which leave irritating indigestible residue should be avoided; salads, green vegetables, skins, and seeds of fruits should be discarded.

If actual diverticulitis exists with no urgent symptoms such as peritonitis the patient must be put to bed till the rigidity and tenderness disappear. Diet should be of the right variety. Paraffin should be slowly allowed to run in by an enema. Eight to 10 oz. may be given. If possible the paraffin should be allowed to be retained. Purgatives should be avoided. Atropine may be given to relieve the spasms. Other general treatment may be adopted as indicated by symptoms. By these means attacks may subside and no complication may arise.

But if early conditions pass on to the more serious types various surgical measures are to be adopted according to the conditions present.

One important point to be remembered is not to do excision till the acute inflammation subsides. Invariably a preliminary colostomy is advised before excision is done. The most successful method is 3 stages method of Mickulicz. Very briefly it is as follows. The first stage consists in bringing out the diseased loop and fixing to the abdominal wall over a glass rod. In a few days the affected portion is cut off with a diathermy knife. This is the second stage. The third stage is either completed at once or, a little later on. This consists in either an end to end or lateral anastomosis.

The Vesico-colic fistula is the most difficult complication to deal with. The ingenious surgeon has to adopt his own methods. The essential in the treatment of this condition is to close the fistula both in the bladder and the gut. This also should be undertaken only after preliminary colostomy.

In rare cases where only a small hole is found due to the bursting of the diverticula, the condition can be treated by a purse string suture and thus closing and burying the open edges. A stab drain will be necessary in this case, as in the others.

From what has been said it is evident that the successful treatment depends on the early diagnosis of the condition. When once it passes into an acute condition with complications, the chances for recovery are as few as in other acute abdominal conditions.

This is a disease which requires the close co-operation of the physician and surgeon.

I have heard it said that a good surgeon can be defined as one who knows when not to operate. If one were to rush in with a knife at the first chance in a case of diverticulitis, one will not be considered a good surgeon at least according to the definition given above.

* * * * *

In conclusion I have only to request you to do two things.

(1) Please keep in your mind the possibility of a disease like diverticulitis when you have to diagnose diseases of the left lower abdomen.

(2) Please keep an open mind and search for the condition, wherever possible. In operations of the abdomen there is chance for the surgeon to look for this. I do not mean to say that precious time should be wasted in searching for it. But the eye and hand can run to the parts and a search be made. More than in the operation room in the post-mortem room one can spend a few minutes in making a search for this condition. My object in making this request is to find out how far this condition is prevalent in India.

There was a time not very long ago, when it was thought that appendicitis was rather uncommon in India. But it has been proved since, by the surgical experience and advance, that appendicitis is as common here as in the West. So also it is reasonable to believe that diverticulitis will be found to be almost as common in the East as in the West. This condition should be searched for in all possible ways. In all cases of post-mortem examination over bodies above 40, a careful search should be made and the findings recorded. In all suspicious cases with chronic symptoms, X-ray examinations should be made and the results noted. Those who have the chance to open abdomens for various operations should try and see if this condition could be detected.

In these three combined ways the problem can be tackled to the best advantage of all.

Benign giant cell tumours of tendon sheaths

By A. VASUDEVAN, M.B., & B.S.,
and

M. NARAYANA PAI, M.B., & B.S.

(Department of Pathology, Medical College, Madras).

It has long been recognised that certain benign giant cell tumours arise from tendon sheaths and aponeuroses chiefly of the hands and feet. They are usually small, generally not bigger than the size of an orange. French observers such as Gross, Paquen, Reverdin, etc., have described them as "Myeloma" "Xanthosarcoma" etc.

The essential difference between these tumours and myelomata is that there is no bone involvement in the former. There is no metastasis. They usually have a definite capsule and grow slowly. In one of the cases recorded below, the duration was over 5 years, a point very much against a sarcoma. On section they are firm, yellowish or greyish in colour and are lobulated. Recurrence after operation is very rare.

Histologically these tumours present the following features:—

(1) Presence of giant cells of the type found in myelomata, with central nuclei. In fact, these tumours were for a very long time classified as "myelomata" until their strict localisation to tendon sheaths and aponeuroses was brought to notice. These giant cells belong to the type of foreign body giant cells (Ewing).

(2) Groups of large cells in which the cytoplasm is granular, acidophilic and often contains much lipoid material, giving them a 'foamy' appearance.

(3) Numbers of spindle, round or oval cells and dense connective tissue.

(4) Haemosiderin pigment is frequently found in the cells.

(5) There are no mitotic figures.

These tumours are essentially benign. Their origin is ascribed to trauma and local inflammation. Some observers regard them as neoplasms whereas others (Macfarland) regard them as one form of granulation tissue.

In one of the cases recorded below, (Case No. 1) the wearing of a tight fitting shoe seems to have been the cause. In two of the cases recorded viz., 1 and 2, there has been no recurrence up till now. The third case could not be traced after he left hospital, and it is noteworthy that in this case, the duration was at least 5 years.

Case No. I.

V—, 30 years, male, Hindu, a doctor by profession, had been noticing a firm nodule in the region of the head of the first metatarsal bone of the right foot. The nodule was adherent to the Extensor Hallucis Longus tendon and was not adherent to bone. It was not painful on pressure, but used to give him much discomfort. He could not attribute it to any injury, but said that he had been wearing rather tight fitting shoes.

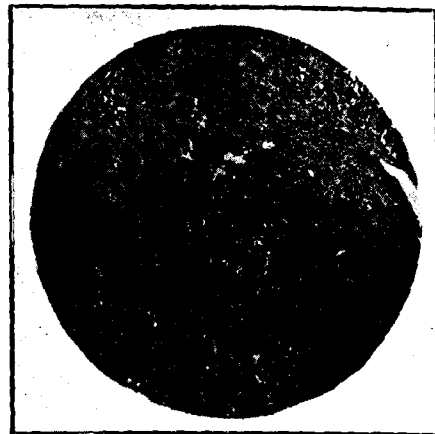
The tumour was of the size of a small lime and the duration was 3 years. It was removed under local anæsthesia in April 1930 and there has been no recurrence till now.

Naked eye appearances of the tumour.—The tumour is of the size of a small lime, whitish in colour, firm but not hard. It is tough on section. There is no definite capsule around the tumour.

On section.—The slide shows a number of giant cells with eosinophile protoplasm and multiple central nuclei. Haemosiderin pigment is found in places. There are a number of oval and spindle cells in the rest of the field. A few 'foamy' cells are also seen. Blood vessels are scanty. (See plate).

Case No. II.

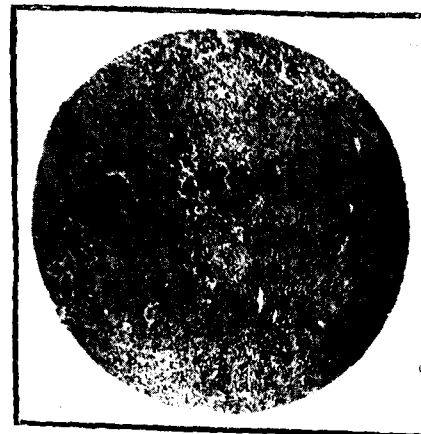
Vallatchi, 30 years, female, Hindu, was admitted into the Third Surgeon's wards of the General Hospital, Madras, on 5-10-30 for a hard cystic swelling in the region of the thenar eminence of the left hand. The tumour started 5 years ago; was at first small, about the size of a marble and has grown gradually since. At the time of admission there were two tumours, one on the volar aspect, of the size of a big lemon and the other on the dorsal aspect of the metacarpal bone of the little finger, of the size of a marble. These tumours were slightly painful; skin was not adherent to the tumours. A few veins were prominent under the skin. The movements of the little finger were not affected and there was no anæsthesia over the parts. An X-ray examination



CASE NO. I.

Shows a number of giant cells in the centre of the field.

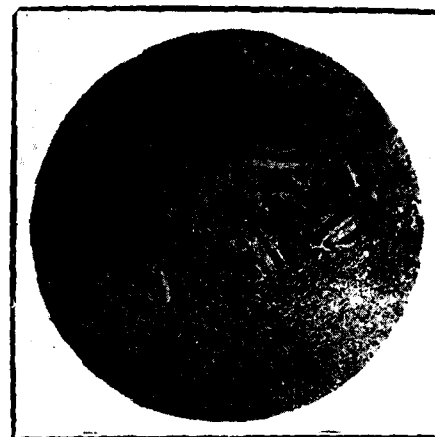
Zeiss: ocular $\times 7$.
" objective $\times 8$.



CASE NO. II.

Shows a few giant cells in the field and also round celled infiltration.

Zeiss: ocular $\times 7$.
" objective $\times 8$.



CASE NO. III.

Note the collection of giant cells in the vicinity of the fatty acid crystals seen as lanceolate spaces small round celled infiltration is also seen.

Zeiss: ocular $\times 7$.
" objective $\times 8$.



CASE NO. III.

Fatty acid crystals (stained dark) stained by osmic acid. Some linear empty spaces are also seen from which the crystals have fallen off.

Zeiss: ocular $\times 7$.
" objective $\times 40$.

showed a partly calcified growth in the region of the 5th metacarpal, not connected with the bone. The tumours were enucleated on 7-10-30. There has been no recurrence up to this time.

Naked eye appearances of the tumour.—The specimen is of the size of an orange, nodulated and has a brownish capsule. There are small nodules varying in size from that of a bean to that of a marble, on the outer aspect of the tumour. On section, it is of a greyish white colour and is tough in consistency. There are no visible blood vessels, nor is there any bony or cartilaginous tissue in the tumour.

Microscopically.—The section shows a number of large multi-nucleated giant cells lying in the midst of oval and spindle shaped cells. There are a few blood vessels and blood spaces. The matrix is scanty. (See plate).

Case No. III.

Arumugam, male, Hindu, 40 years, was treated at the Government Hospital, Palghat, in April 1930, for a tumour in the left axilla. The tumour was adherent to the axillary fascia and was tough. The duration of the tumour was 5 years.

Naked eye appearances.—The specimen received for examination consists of three whitish oval masses, each of the size of a big marble. The surface shows red haemorrhagic areas. There is no definite capsule. On section it is whitish in colour.

Microscopic appearances.—Section shows a very highly cellular tumour with a relatively scanty matrix, which consists of irregular strands of connective tissue which does not take fuchsin with Picro-fuchsin stain. Blood vessels are scanty, but well developed, consisting of well defined capillaries with endothelial lining and small arterioles. The cells are of widely different shapes—some of them are spindle shaped, others are oval and polygonal, with large hyaline protoplasm and centrally placed nuclei. Some cells are ovoid, slightly smaller than endothelial cells with scanty highly acidophile protoplasm and darkly staining nuclei. Here and there, are collections of large fusiform and lanceolate empty spaces. In between these spaces and immediately surrounding them are seen numerous multinucleated giant cells of varying size, some of them measuring about 60 to 70 μ . The nuclei are collected in the centre of the cells; these have the appearance of "foreign body" giant cells. There are also seen numerous

epithelioid cells, though these are not arranged in any definite order. Throughout the section numerous round cells are seen.

On examining a frozen section, many of these lanceolate spaces are occupied by highly refractile crystalline deposits, though in some places they have dropped off the section. Staining with Sudan III shows these crystalline deposits taking this stain. Osmic acid stains these deposits dark brown. These are probably of the nature of fatty acid crystals. The collection of the giant cells in the vicinity of these fatty deposits and their appearances suggest that they are caused by irritation due to these fatty acid deposit. This as well as the presence of round cells is in favour of inflammatory origin. (See plate).

We are indebted to the Medical Officers for the notes of the cases and to the Professor of Pathology, Medical College, Madras, for premission to publish the same.

REFERENCES

Ewing: Neoplastic diseases.
Mao Farland: Surgical Pathology.

"Definitions !!!"

"*Motion Picture*".—The appearance of a sample of motion under microscope.

"*Freezing method*".—The look that your wife gives you when she catches you redhanded in a restaurant with another girl.

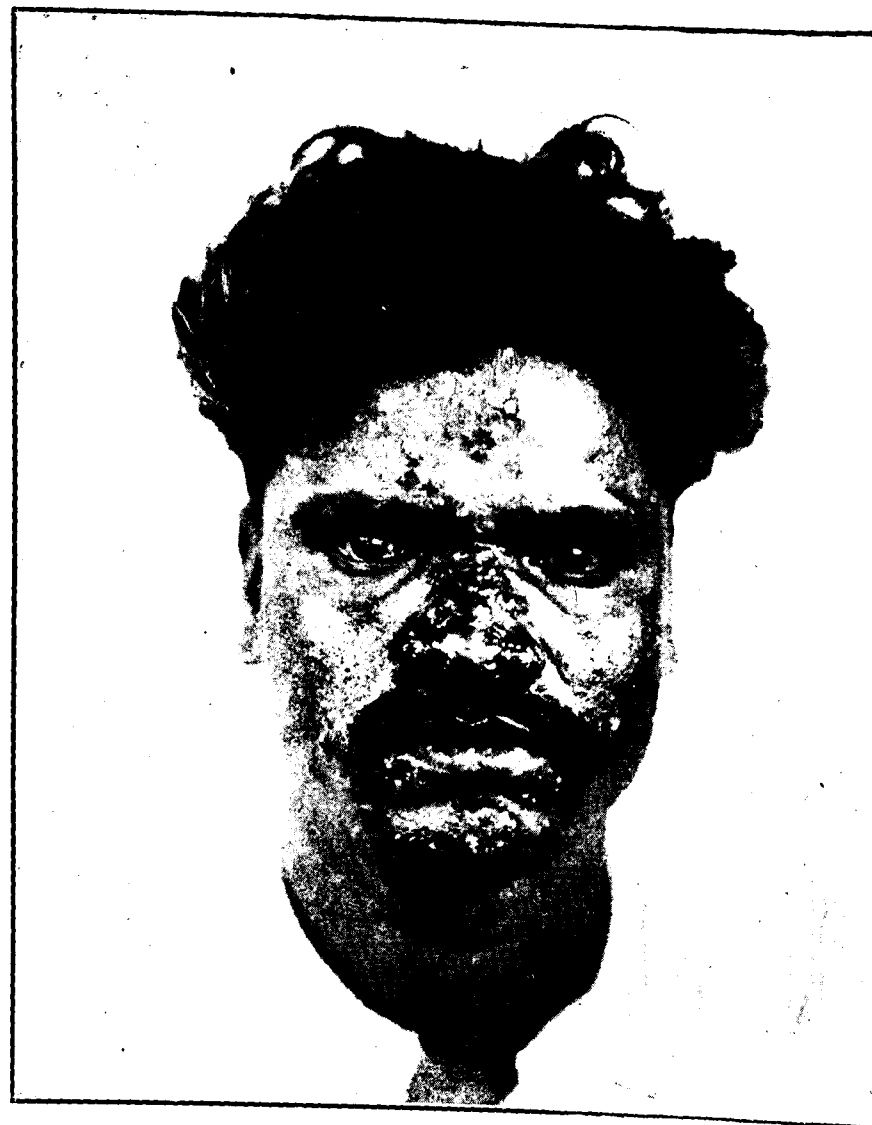
"*Fixed deposit*".—The non-de-plume for an elephantoid scrotum. Or, when you allow the blood smear to dry with the Leishman stain on it.

"*High Colour Index*".—The depth of pigment in the skin of certain individuals.

"*Cold Storage*".—The nose in acute coryza.

"*Non-stop Flight*" (*from bed to commode*).—The behaviour of the typical bacillary dysentery patient who passes 50 motions a day.

"*Rodent Ulcer*".—Is what happens to a book when it is left in a room infested with rats.



DERMAL LEISHMANOID

(Note the strong resemblance to nodular leprosy.)

By kind permission of
Lt.-Col. J. M. SKINNER, I.M.S.

(Photo X-ray Institute, Madras).

Dermal Lishmanoid

BY CAPTAIN N. SESHADRINATHAN, M.B.B.S., D.T.M.,
Assistant Professor of Bacteriology, Medical College, Madras,

WITH A SHORT NOTE ON ITS TREATMENT

BY DR. K. NARAYANAMOORTHY, M.B.B.S.,
University Research Scholar.

The object of writing this short note on 'Dermal lishmanoid' is to bring to the notice of those of us who are in Kala-azar endemic areas, the fact of the existence of such cases in Madras and which have escaped our notice till now.

The disease is characterised by a generalised invasion of the skin by *lishmania donovani*. It was first noted by Dr. U. N. Brambachari of Calcutta who also gave the name 'Dermal lishmanoid' to the disease. Since then, several cases have been reported at the Calcutta School of Tropical Medicine by Dr. S. P. Bhattacharji, Col. Acton and others. But so far, no case had been reported from Madras till Dr. J. H. Theodore of the King Institute of Guindy, recently recognised a case, which has been published in the latest Indian Medical Gazette, (September 1930). Soon after this, a case was recognised by one of us (N. S.) and subsequently another case by Dr. K. Narayanamoorthy and Col. Skinner. Notes of these cases have also been sent to I. M. G.

The factor of interest in 'Dermal lishmanoid' is that cases have been for years classed among leprosy even though no anæsthetic patches nor bacilli were seen and among syphilis even though W. R. was negative. In such cases, treatment had been tried with E. C. C. O. and Salvarsan preparations respectively. The case described by one of us (N. S.) was once diagnosed as syphilis and on another occasion by a practitioner of the indigenous system as modified small pox.

The clinical characteristics of these cases are peculiar in that, except for the appearance of the skin, the patient does not usually suffer from any constitutional disturbance or cutaneous ulceration. The skin presents nodules about the size of a mustard seed to that of a pea, and distributed over areas with a large amount of blood supply, such as the forehead, round the lips, over the bridge of the nose, the margins of the

pinna of the ear, the axillary folds. In some cases these nodules are flattened and coalesce and then look like Xanthoma. Col. Acton has noted infiltration of the larynx with the growth in one case. The rest of the skin is dotted in many cases with depigmented patches (looking like *taenia versicolor* infection) about the size of small peas. These patches are distributed only up to the waist, and most marked on the back and flanks and on the arms they are limited to the wrists.

The pathology of the lesions is very similar to that of granulomas in general without the formation of giant cells. No polymorphonuclear or round celled infiltration is seen. The nodules show an invasion with endothelial cells, very often laden with numerous *lieshmania* parasites. These nodules do not usually show ulceration. That ulceration can, however, occur is noted by Dr. Brahmachari while following up his first case of dermal *lieshmanoid* (Trans. Roy. Soc. of Trop. Med. and Hyg. November 25, 1929). Any wound caused to obtain smears usually heals quickly. The depigmented patches do not show any parasites, but the skin seems to have become somewhat devitalised over these areas and show infection with yeast like fungi (*malassezia ovalis*). Blood culture and spleen or liver puncture culture have been negative except when Kala-azar is latent or is associated with the condition. Cultures from the nodules have shown abundant growth of flagellates. The aldehyde test has been negative. Dr. Moorthy has tested the blood of his case by the antimony test and found it to be negative both with diluted and neat serum.

It will not be out of place to mention here the production of similar nodules in monkeys experimentally by Col. Row of Bombay with *L. Donovanii* parasites (in 1912).

Most of the cases of 'Dermal *lieshmanoid*' have had Kala-azar previously and the rest have lived in endemic areas. A case has been reported by Dr. Brahmachari (Trans. Roy. Soc. of Trop. Med. and Hyg. November 25, 1929)—in which dermal infection was observed first, subsequently Kala-azar developed with enlarged spleen and liver and with skin lesions persisting.

The finding of these cases where the parasites appear to have lost their virulence raises certain problems connected with the etiology of the different *lieshmania* infections. A little scope for the imagination could be pardoned in attempting to explain them. How did these parasites

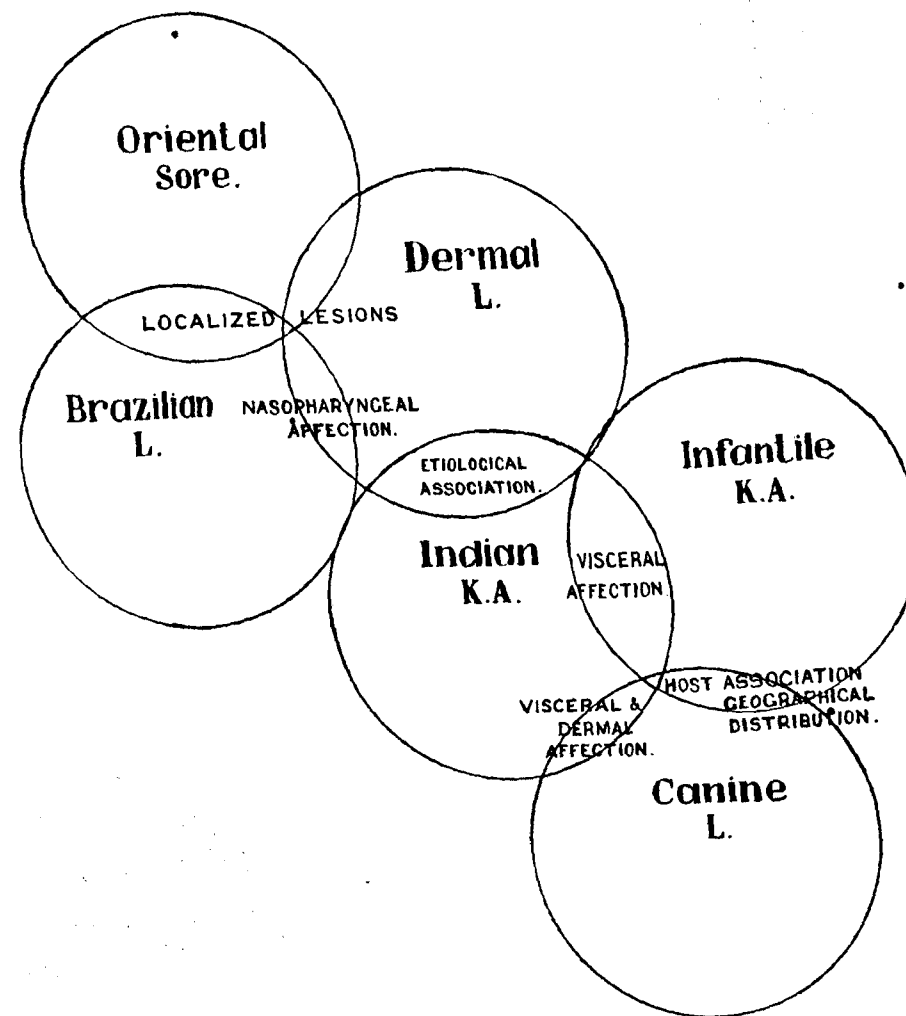


Diagram showing the relationship between the various forms of Leishmaniasis.

reach the skin in those cases following Kala-azar and in those in which the skin lesions are primary? These cases can be described as the carriers in an endemic area if the sandfly bite theory can be proved. In post Kala-azar (in treated and untreated cases) either owing to the action of antimony or to some other natural factor, the parasites which have multiplied in the internal organs, it may be presumed, have been driven out to the periphery. It has been noted (Action and Chopra 1927) that the normal rhythmic contractions of the spleen are increased after antimony injections especially the pentavalent compounds, which may result in a flushing out of the organ. The parasites contained in the endothelial cells may thus be deposited in the remotest susceptible tissue viz., the reticulo-endothelial system of the skin. Evidently the blood vessels are responsible for the distribution.

Speculation is possible also in attempting to unravel the relationship existing among the different leishmania manifestations. These parasites show very few morphological and cultural characteristics except the clinical manifestations to distinguish them as separate species. Why should it not be possible that the same parasite has become modified during its sojourn from one host to another and from one tissue to another. That modification in virulence can occur by migration from the internal organs to the skin is evident in 'dermal leishmanoid' following Kala-azar.

There seems to be every reason to believe that the same parasite infects dogs and human beings in the Mediterranean area. The extirpation of dogs has been followed by the disappearance of the human disease in some areas. The close association with infected dogs has been shown to be present in most cases of Kala-azar in this area. The serological reactions (Rieckenberg and Agglutination Phenomena) appear to point to the identity of *L. canis* and *L. Donovanii* (Chodukin, 1928-29, summarised from the Russian in Trop. Dis. Bulletin August 1930, p. 620). Experimentally, in India the *L. Donovanii* has been successfully transmitted to dogs, the resulting disease has not been different from natural canine leishmaniasis (Patton 1923, Donovan, 1941, Mackie 1916).

Brazilian leishmaniasis and Oriental sore appear to exhibit many points of similarity. There is tendency to ulceration in both; both show localised lesions. Visceral lesions are absent in both. A point of

resemblance can be remotely traced between the Brazilian disease and dermal lieshmanoid. Nasopharyngeal involvement is said to be common in the former. In a case of dermal lieshmanoid the larynx has been noted to have been involved (Acton).

A similar remote relationship can be traced between *L. tropica* and *L. Donovanii*. Dr. B. M. Das Gupta has been able to produce visceral disease in experimental animals with *L. tropica*.

This inter-relationship existing among the different varieties may be described graphically adapting a similar diagrammatic representation like the overlapping ellipsoids used by Major-General Megaw in describing the inter-relationship of epidemic dropsy and dry and wet forms of beriberi. (See Diagram).

So far there is very meagre information available on the treatment of this condition. Various drugs have been tried, but none of them are found beneficial. Visceral lieshmaniasis clears up with 12 injections of any of the pentavalent compounds of antimony while the same number of injections in a case of dermal lieshmaniasis does not produce any effect on the skin condition. Acton and Napier (1927) reported that the patients who had treatment for Kala-azar react more readily when treated for the dermal lesions.

Neo-Salvarsan and Novarsenobillon and various other compounds of arsenic have been tried because of its resemblance to the granuloma of syphilis but all of them are found useless. Berberine used in the treatment of oriental sore with success had also been tried in this disease. Acid berberine sulphate was injected directly into one of the larger nodules. The nodules after some time have been shown to shrink ; but this treatment is not practical. Even granting that the nodules can be tackled, the depigmented patches are too extensive to be dealt with in this way.

The other tried methods of treatment are (1) X-ray exposures, deep as well as superficial rays for prolonged periods. Marked improvement was not noticed in a majority of the cases. (2) Antimony ionisation and application of antimony ointment over the lesions for prolonged periods, had proved to be of no value. (3) Injections of soamin had also been tried with no success. The pentavalent and the trivalent compounds of antimony alone were seen to have any effect. The trivalent ones are very toxic. The effects of antimony are

Dermal Lieshmanoid

however very slow and the patient seldom remains for long periods under treatment.

Sodium antimony tartarate of 2% solution had been tried. As many as 80 injections of this drug was found necessary to effect a cure

Fouadin, a trivalent aromatic compound less toxic than the sodium compound, had also been tried. An 8 per cent solution 1 c.c. or $\frac{1}{2}$ c.c. to start with and gradually increased, is used. Dr. Napier reported a single case of almost complete success with this drug. The maximum amount of solution used was 95 c.c.

The pentavalent compounds that have given somewhat satisfactory results are urea-stibamine, neostibosan, amino-stib-urea and each of them has its own advocates.

Dr. Brahmachari and Banerjea (1925) reported of having cured a case with urea-stibamine which was given intravenously during a period of over one year. The total quantity of antimony used was about 12 grains.

Amino-stibiurea is another useful pentavalent compound of antimony. It is amino-phenyl stibinic acid with urea and glucose and only 24.8% of metallic antimony. The injections could be given intravenously twice weekly reaching the maximum dose of 0.2 gram. The total quantity that has been found necessary to cure is 6 grams.

Some cases do improve without further injections, but some others require another course with the drug.

Dr. Napier in the issue of Indian Medical Gazette of July 1930 reported that out of 150 cases only 23 patients were completely cured and received a mean total dose of 5 grains and a mean number of injections of 26.7 during a mean period of 123.1 days.

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- Acton and Napier* :—I.M.G. 1927.
Brahmachari and Banerjea :—I.M.G. 925.
Napier :—I.M.G. 1930.

A certain criminal was tried in a court for two separate offences. He was sentenced to transportation for life for the first offence and hanging for the second offence. On his telling the court that he could not serve the second sentence, as his whole life was "engaged" for the first, the Judge remarked "Oh, then, in your next life you will be hanged."

Case Reports.

I. A Case of Bilharzial Infection of the Bladder.

By M. NARAYANA PAI, M.B., B.S.

Bilharziosis is so rare in India that the following case is worthy of record.

Lal Bascha Sahib—35 years, male, Mohammedan, was admitted into the Government Pentland Hospital, Vellore, on 12-9-1930 with a complaint of Hæmaturia of two months duration. His symptoms suggested a stone in the bladder, which is perhaps the commonest thing to think of, and a cystoscopy was done. No stone was detected. The ureteral orifices were normal. But the inter-ureteral band was prominent and congested. There was oedema of the trigone and there was some fibrinous material at this area. The posterior wall of the bladder was also reddish. The patient had tenderness in the region of the bladder when a rectal examination was made.

He was operated on under spinal anæsthesia on 24-9-30. On opening the bladder a large number of small, sessile discrete papillomatous masses were noticed in the base of the bladder. Some of them were pedunculated with two or three 'berry like' masses on each stalk. A few of these masses were necrosed. The patient was in a cachectic condition.

The examination of the urine gave the following report :—

Sp. Gravity 1020

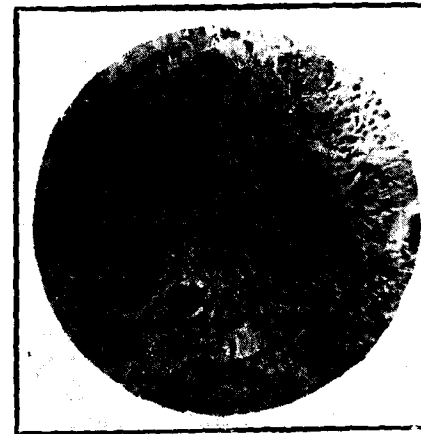
Albumin Nil.

Sugar Nil.

Blood cells present in deposit. Flakes of blood and mucus were seen in the washings from the bladder.

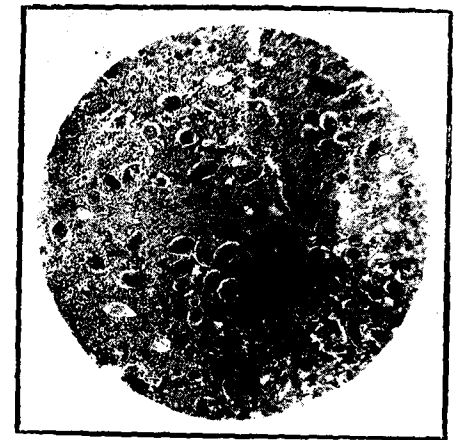
Unfortunately a history of travel abroad in Egypt or Mesopotamia, was not asked for, as Bilharziosis was not suspected, until the pathological examination of the tissue sent revealed the presence of numerous ova of Bilharzia Hæmatobia.

The section shows a number of ova of Bilharzia Hæmatobia in the field under low power, about 40 in each field. The oval shape and



Ova of Bilharzia Hæmatobia under high power. Note the oval shape and pointed terminal spine. A few round cells are also seen.

Zeiss : ocular $\times 7$.
.. objective $\times 40$.



Note the numerous ova of Bilharzia Hæmatobia in the field. Shows round celled infiltration.

Zeiss : ocular $\times 7$.
.. objective $\times 8$.

Case Report No. I.



Fig. 1.

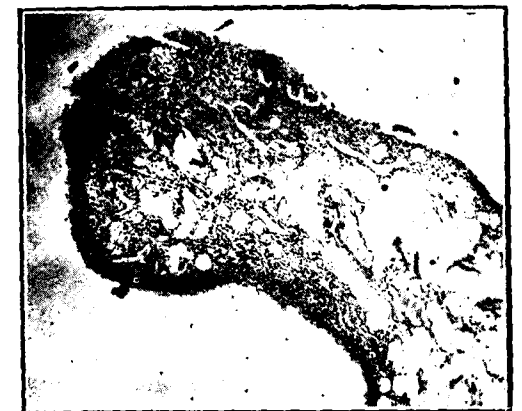


Fig. 2.

Hypertrophic Papillary synovitis of Knee. Figure 1 shows four villi. Figure 2 shows one villus with the fatty core.

Case Report No. III.

terminal spine characteristic of *Bilharzia Haematobia* are shown well under high power. Photo-micrographs (low power and high power) are appended. (Please see plates.)

In conclusion, I wish to express my gratitude to the Superintendent, Government Pentland Hospital, Vellore, and the Professor of Pathology, Medical College, Madras, for permission to publish this case.

II. A curious case of Suppurative meningitis.

By DR. A. SRINIVASALU NAIDU, B.A., M.D., B.S.Sc.

Lakshmayya, 17 years, male, Hindu, was admitted into the Government General Hospital, Madras, on 8-7-30 for fever, headache and pain all over the body of 4 days duration. He had been noticing protrusion of both eye balls for the past 3 months. He was also suffering from dysentery and had epistaxis. He had a dull expression. Both pupils were dilated and reacted to light and accommodation. The maxillary antra on both sides were dark on trans-illumination and there was swelling in the right nasopharyngeal region. He had an irregular fever while he was in hospital and was treated with diaphoretics. His condition grew worse in spite of all treatment and he died on 2-8-30.

A post-mortem examination was conducted on his body on 2-8-30 and the following are the appearances found :—

The facial appearance.—Bilateral protrusion of eyes, left cornea opaque, bridge of the nose flat, bilateral protrusion of cheeks; on reflecting the scalp, there was a little haemorrhage in the left temporal muscle. The bones of the calvarium at either parietal eminence and frontal eminence, were thinned out, soft and could be easily cut through with the knife. The pericranium was discoloured at these sites, giving a greenish yellow colour. On removing the calvarium, the dura was found adherent to the bone at these four sites and peeled off with difficulty, leaving behind on the bone small pile like bony projections. The dura was similarly discoloured at these sites. On reflecting the dura, there were collections of greenish-yellow circumscribed tumours pressing upon the brain at the sites mentioned above, and also at the base in the anterior fossa, with two smaller collections at the tip of the temporal lobes; with a greenish trail on the cribriform plate. On removing the orbital plate of one side, a similar collection was found in the orbital

fossa. The antrum of highmore also presented the same appearance. These collections look like hard inspissated pus. There was no visible general inflammation of the brain. Vessels were not dilated. Dura in other parts normal. The brain matter was compressed at these sites.

Smears were taken, also cultures from the material.

The facial appearance presented a characteristic frog's face.

All sinuses were found filled with thin greenish yellow masses. There was no bone disease, except thinning at these sites.

Bacteriological examination.—Cultural examination of the pus shows a growth of staphylococcus albus.

Smears from the pus show a few staphylococci.

Microscopic appearances.—The meninges show a collection of polymorphonuclear leucocytes, eosinophile cells, round cells and fibrin. The brain tissue in immediate contact with the membrane is also inflamed—a case of suppurative meningitis.

We are indebted to the Honorary Physician, General Hospital, Madras, for the notes of the case.

Meningitis has been localised in this case, and seems to have resulted from an extension from the sinuses. Why instead of running an acute course, the disease took on this slow localised character is not quite clear and the symmetry of the collections of hard greenish yellow pus is striking.

Reports of rare Cases

By N. S. NARASIMHAN, F.R.C.S.,

General Hospital, Madras.

III. A case of hypertrophic papillary synovitis of knee.

Cases of Osteoarthritis of knee joint are described where the synovial membrane undergoes villous hypertrophic changes and such changes are described as the proliferative types of infectious arthritis (Whitman Royal and Nelson's loose leaf Surgery).

The following case occurred in a man aged 25—tall, muscular, well built; a village ryot; the left knee joint was distended to a great size with fluid; the patient was experiencing a good deal of difficulty in his work for 3 years. The joint was aspirated and the fluid was sterile on cultural examination. His blood and synovial fluid was negative for Wassermann test. There were no obvious sources of infection, teeth, tonsils and genitals. After aspiration the fluid accumulated in 2 days. The joint was explored by a medium incision and the synovial membrane was seen as noticed in the photograph. I did a synovectomy and the patient was encouraged to make active movements from the very beginning. He walked on the 12th day and there was a good range of movement on discharge. The microphotograph shows the villous nature of the change.

There was no change in the articular cartilage of the margins of the femur, tibia and patella. It is in the knee joint that osteoarthritis with great increase of synovial fluid, persistent or recurrent, is sometimes seen.

The X-ray examination did not reveal any osteoarthritic changes.

This is the only specimen available in the Madras Medical College Museum.

IV. A case of Haemangioma of the left gluteal region.

Patient Corea, male, aged 25, was admitted on 7-10-29 for swelling of the left buttock and bleeding. The swelling started as a small tumour of the size of an arecanut 12 years ago. He had an operation done for it in Cannanore 12 years back. The scar of the operation

got thickened and began to bleed since the last six months. A month back he was operated on in Calicut. Five days after this he began to bleed again. According to patient the bleeding was in a forcible jet. A hard nodular pulsatile (expansive) tumour of the size of a cocoanut over the left glutæus muscle adherent to the muscle but not to the bone with a small opening closed by a clot and scab through which it bleeds was seen.

Rectal Examination.—No intrapelvic swelling.

8 10-29. *X-ray.*—Tumour is well seen.

W. R.—Negative.

Treatment.—The patient was put on Calc. Chloride 10 gr. t. d. s. Rest in bed. Mercury and Pot. Iodide.

10-10-29. N.A.B. 0.45 Grms.

14-10-29. Swelling present. An ulcer present which may burst at any moment. No intrapelvic aneurysm. A consultation was held and it was agreed that the internal iliac artery must be ligatured.

Operation.—I tied the internal iliac artery by the intra peritoneal method.

7 p.m. Slight temperature. Coughed a little blood.

17-10-29. Drainage tube removed and dressed.

6-11-29. Swelling very much diminished.

Pulsation disappeared. Discharged cured 6-11-29.

The patient came back on 29 7-30 with marked pulsation of the swelling; a section was taken and it was reported as a haemangioma. It was thought best to apply radium and a 50 mg. pad was applied for 10 days. There was some diminution in the size of the swelling with marked decrease of pulsation. Suddenly he began to bleed and he was dead in a few hours on 26-9-30.

A dissection of the tumour showed the ulcer on the surface of the tumour to be communicating with a big vessel which will easily admit a pencil. There were a large number of blood vessels interspersed with muscle tissue. The specimen is preserved in the Medical College Museum, Madras.

The case is reported as a case of aneurysm of the gluteal artery in the annual report of the General Hospital for 1929.

The only indication for tying the internal iliac artery is a gluteal aneurysm. In a gluteal aneurysm it is most difficult to tie the superior gluteal artery; the old operation of laying open the sac, turning out the clot and securing the open mouth of the vessel is a very hazardous one although a case has been recorded by Abbe (*Annals of Surgery*, Vol. XLVIII, 1908, page. 10). He treated by Mata's method by continuous obliterative suture. The temporary silk ligature on the main artery by mistake or external iliac and not commoner, (internal iliac)—did not stop the bleeding. The finger plugged the orifice of communication with the sac while the suture was carried out. This method was thought of and abandoned in favour of the ligature of the internal iliac.

V. A Case of Subphrenic Abscess, (both right and left).

R.—20 years, H. M. Trichinopoly. Admitted 29-12-29. Discharged. Cured.

Subphrenic abscess right and left perforated. (Duodenal Ulcer).

The patient was admitted in the Medical Wards with symptoms of liver abscess and right basal congestion of the lung. A course of emetine injections was tried. Was aspirated and no pus was drawn. The patient was running a septic temperature and was transferred to the Surgical Wards. Upper abdomen full and distended, a tender epigastric swelling extending to the right hypochondrium, fluctuating, dull on percussion. Patient jaundiced. General condition poor.

W. R.—Positive Moderate. Urine: Nil abnormal. Blood—Leucopenia. 30-12-29. Aspiration. No pus found.

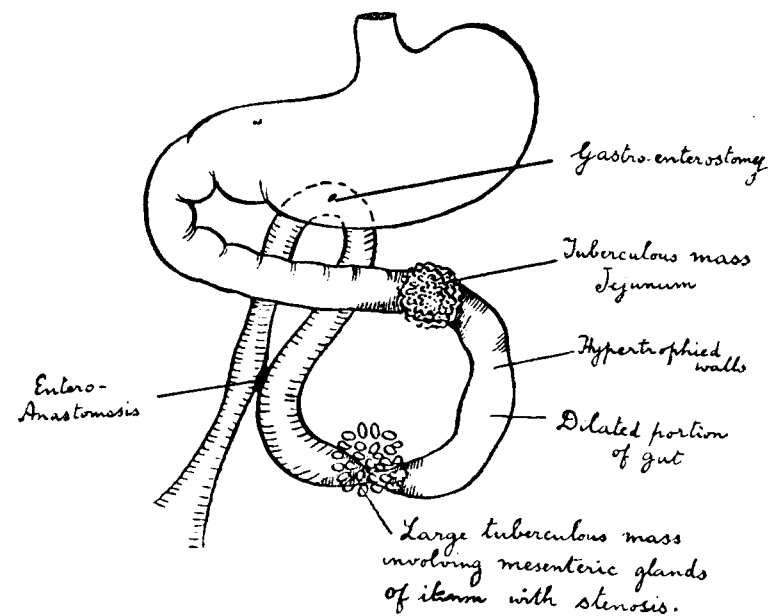
A right para median incision over the prominent part of the swelling was made and foul smelling coliform yellow pus was let out. Drainage tube put in.

31-12-29. Abscess cavity draining well. Patient's general condition better. Pain somewhat less.

1-1-30. Patient continues to improve. Pain is less.

4-1-30. Food taken by mouth. Part of the same leaks out of the drainage tube. General condition better, frequent dressings.

- 7-1-30. Food (Milk) continues to come out in part through the tube. General condition better.
- 10-1-30. *Operation notes.*—A left anterior subphrenic abscess. There was a large abscess intraperitoneal which was opened by an incision through the left rectus, the other opening was explored and a catheter apparently passed into the duodenum which appears to have a wide opening communicating with the abscess.
- 12 Noon. Bismuth meal through catheter passed into the wound and X-rayed. Catheter found inside all along the third and fourth part of the duodenum as far as the deodeno-jejunal flexure, feeding through the catheter ordered. 1. Milk, 2. Egg clip, 3 Brandy, 4. broth. 6th hourly.
- 11-1-30. Wound shows no purulent matter, but bile stained dressings, edges of the right wound looking sodden. Protective Zinc ointment on lint. Patient is jaundiced.
- 13-1-30. Patient still in same condition. Facies Hipocratica, wound still discharging a lot. Feeds going in through the catheter fairly well. Very restless at night.
- 14-1-30. Catheterised. Not passed urine since 4 p. m. yesterday.
25 ozs. dark coloured urine drawn off.
- 15-1-30. The stitch retaining the catheter has cut through and the feeds are coming out of the wound. Rectal feeds ordered. Parotitis, 4th hourly fomentations.
- 16-1-30. No change in condition.
- 17-1-30. With tube in position, Bismuth shows it to be in jejunum. Feeds continued.
- 18-1-30. Patient has cough, extensive moist sounds in the chest. Bronchitis. No temperature or evidence of consolidation. Put on expectorant mixture and stupes.
- 21-1-30. Wounds cleaning up, no complaint, lungs clearing up. Parotitis completely subsided.
- 27-1-30. Both wounds granulating, food passing down catheter, patient doing well, slight cough, a few rales.



Case Report No. VI.

- 2-2-30. Jaundice clearing ; patient is able to take good quantities of coffee, milk, fruit, broth and eggs by mouth.
- 3-2-30. Catheter removed, drainage tube put in.
- 15-2-30. A little amount of food comes through the tube.
- 1-3-30. Only bile coming through the tube. No food comes through. Jaundice cleared up. Wound dressed with protective Salicylic acid ointment, slight oedema of feet, put on Diuretic mixture.
- 18-3-30. Condition same, swelling of leg much better.
- 19-3-30. One or two rice particles coming through the tube.
- 19-4-30. Patient was discharged cured.

VI. A case of "Hyperplastic tuberculosis of Jejunum".

Isolated hyperplastic tuberculosis of the small intestine is rare only 7 cases have been reported.

Chronic hyperplastic tuberculosis was first described by Hartmann and Pilliet in 1891. Currath in 1898 reviewed 77 cases. Lartigall's (1901--05) monograph may be considered as the most exhaustive pathological study of the subject. In 90 to 95 per cent it affects the ileo-caecal region. Occasionally the rectum is involved ; less commonly the ileum in conjunction with caecum and almost never the ileum alone. It is a disease of long duration ; the most conspicuous feature is the extensive formation of fibrous and tuberculous granulation tissue in the involved regions. Necrosis and caseation do not as a rule occur and ulceration unless of the chronic enteric type is not seen. Involvement of regional lymph nodes, with or without caseation is the rule. In the rectum the condition may be mistaken for syphilis.

Hyperplastic tuberculosis of the small intestine, occurring in conjunction with caecal tuberculosis is uncommon but as a single isolated lesion appears to be rare. Lartigan writes " here it is not so often a question of those large tumour masses so easily mistaken for carcinoma ; the growth is ordinarily more limited and less voluminous. More complete stenosis has been observed." Lartigan could find only 2 cases of this disease limited to the small bowel.

Symptoms.—"The progress of such a lesion is toward obstruction of the bowel, the symptoms are "ballooning" of the intestines, visible peristalsis, borborygmi accompanying the colic and with the appearance of an elongated tumefaction."

Treatment.—Co-existing tuberculosis in other parts of the body is not clinically significant.

Radical resection of the affected segment with intestinal anastomosis is the operation of choice.

A man aged 40, was admitted into the wards for a hard and irregular swelling of eight months duration below and to the right of the umbilicus—movable with respiration. He complained of symptoms of a duodenal ulcer and very vigorous peristalsis was noticed at times. Lungs were normal and he had no pyrexia. A laparotomy was done by Col. Bradfield and there was a tuberculous mass involving the jejunum. Below this the small intestine was thickened and dilated for about 8 to 9 inches where there was another large mass involving the glands in the mesentery. The intestine between the two masses was dilated and hypertrophied resembling hyperplastic tuberculosis.

Gastro-enterostomy distal to the 2nd mass and entero-anastomosis between the ends of the loop was done as shown in the diagram. The patient made an uneventful recovery and was discharged cured from the hospital on 2-10-30.

Since writing the above I have had one case (male, aged 35) of tuberculosis of the intestines involving the cæcum and splenic flexure with a duodenal ulcer and another (male, 45) involving the peritoneum, small intestines, transverse mesocolon and greater curvature of the stomach causing a filling defect in Barium meal examination. The last case was not clinically one of malignant disease but for the filling defect which was constant on repeated examinations. Hence an explanatory operation was performed.

REFERENCES.

Masson Mc Indoe—Surgery, Gynæcology and Obstetrics, January 1930.



Photograph of the patient with Cleido-cranial Dysostosis.



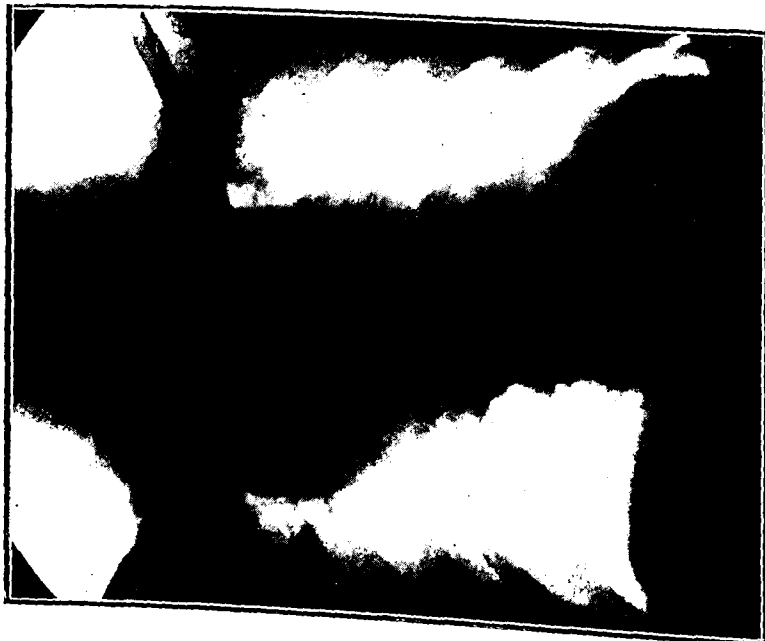
Skiagram of the thorax of the same patient, showing absence of clavicles on both sides.

Photo X-ray Institute, Madras.

Case Report No. VII.



Photograph of the patient having an Aneurysm of the first and second parts of the aorta. Note the dilated veins on the right side of thorax.



Skiagram showing an Aneurysm of the first and second parts of the arch of the aorta.

Photo X-ray Institute, Madras.

Case Report No. VIII.

Reports of rare Cases

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Case VII. A case of Cleido-cranial dysostosis

By R. VISWANATHAN, B.A., M.B., B.S.

Hindu, female, age 8 years, admitted to the hospital for lack of development, absence of collar bones and non-closure of the anterior fontanelle. There was nothing particular in the family history. The parents of the child had noticed the absence of the clavicles and presence of an unusually large head even from birth.

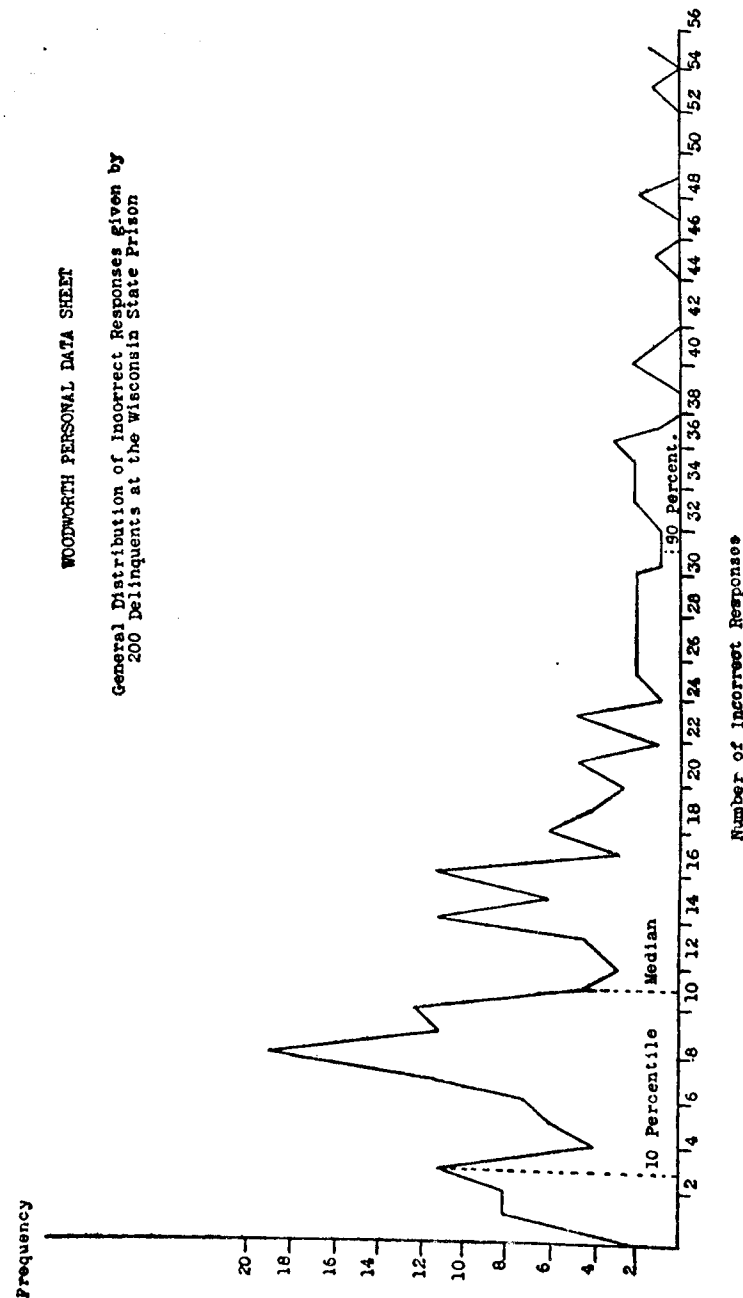
But for those two defects there was nothing else abnormal about the child. Fundi were normal. Wassermann was negative. While the blood calcium was 10.2 mgm. per 100 cc., blood phosphate was unusually low being less than .5 mgm. per 100 cc. X-rays confirmed the clinical findings of non-closure of the anterior fontanelles, absence of clavicles and non-union of the symphysis pubis.

Anostriplasia or cleido-cranial dysostosis, often a hereditary condition, causes moderate dwarfism with pronounced defect in the formation of the membrane bones. Hence the deformity found in the case reported above. (See plate.)

Case VIII. A Case of Aneurysm of the arch of the aorta.

Hindu, Male, 46 years, admitted for breathlessness and hoarseness of voice, duration three months. On examination, he was found to have a flushed face, more marked on the right than on the left, and dilated veins over the right side of the chest and neck. There was inequality of the pupils. There was extension of the cardiac dullness to the 2nd right interspace over which area there was distinct pulsation. Auscultation revealed a systolic murmur with a ringing second sound in the aortic area. Laryngoscopic examination showed paralysis of the right vocal cord. On screening, a large aneurysm involving the ascending and the arch of the aorta was found. Paralysis of the right part of the diaphragm was also distinctly revealed. (See plate.)

This case is interesting in that it showed almost all the signs of pressure due to an intrathoracic tumour.



Extracts.

The Psychoneurotic Delinquent.

By M. J. PESCOR, M.D.

*Research Psychologist, Psychiatric Field Service,
State Board of Control of Wisconsin.*

(Continued from October Issue.)

TABLE I.

Percentile Norms.

Percentile Norms.											
Gen. Dis.		Ages					Intelli- gence		Criminal History		
		16- 20	21- 30	31- 40	41- 50	51-	Sub- norm	Nor- mal	Habit- ual	Reci- divist	1st Off.
Total No. Indiv. Perce- ntiles	200	15	89	60	25	11	104	96	15	72	113
10	3	2	3	1	2	4	3	3	10	2	3
50	11	11	10	13	8	16	10	10	19	9	10
90	31	36	25	35	23	25	28	32	36	24	29

(See page 50 for chart.)

The norms for the general distribution correspond quite closely to those obtained by Woodworth. Thus the 50 percentile norm of 11 compares favorably with Woodworth's median of 10. Similarly the 90 percentile norm of 31 compares with Woodworth's upper limit of 30. The norms obtained for the various sub groups must be considered with reservations on account of the smaller number of cases. It appears that the individuals between the ages of 31-40 and the habitual criminals tend to have a higher median score than the others. These two sub-groups also tend to have a higher 90 percentile norm with the addition of the delinquents falling in the group of individuals between the age of 16-20.

The 89 individuals who had 30 or more wrong answers on the psychoneurotic index were studied in detail both collectively and selectively according to the institutions of which they were inmates. The data in Table II, compare the above group with the balance of the individuals examined on admission to the various institutions previously named, during the period from July 1, 1928, to January 1, 1930.

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TABLE II.

**Comparison of Non-Psycho-neurotic and Psycho-neurotic
Delinquents in Wisconsin State Penal and Correctional
Institutions.**

Classification	Non-Psycho- neurotic		Psycho- neurotic	
Number and Percent	No.	%	No.	%
Number of Examinations	... 1486	100	89	100
Parents' Nativity				
Native	... 881	59	41	46
Both foreign born	... 422	28	35	39
The foreign born	... 183	13	13	15
Individual Citizenship				
Native	... 1349	91	82	91
Alien	... 62	4	3	4
First papers	... 22	2	—	—
Naturalized	... 53	3	4	5
Environment				
Urban	... 1102	74	68	76
Rural	... 384	26	21	24
Home Location				
In State	... 1229	82	71	79
Out of State	... 257	18	18	21
Home Conditions				
Unbroken	... 852	57	43	47
Disrupted	... 138	9	7	8
Death of one parent	... 393	27	27	31
Death of both parents	... 103	7	12	14
Step-parent uncongenial	... 77	5	9	10
Parents' Economic Status				
Poor	... 576	39	32	36
Fair	... 910	61	57	64
Individual's Economic Status				
Dependent	... 130	9	2	2
Poor	... 1233	83	72	81
Fair	... 123	8	15	17

Extracts

Classification	Non-Psycho- neurotic		Psycho- neurotic	
Number and Percent	No.	%	No.	%
Occupation				
Dependent	... 130	2	2	2
Agriculture	... 204	14	12	14
Skilled	... 209	14	18	20
Unskilled	... 831	56	51	57
Professional & miscellaneous	... 109	7	6	7
In business for self	... 12	8	—	—
Marital Status				
Single	... 937	63	42	47
Married	... 348	23	23	26
Divorced or separated	... 169	11	21	23
Widowed	... 32	3	3	4
Social and Economic Responsibility				
Single with children	... 6	11	—	—
Married with no children	... 169	11	14	16
Married with one child	... 135	9	14	16
Married with 2-3 children	... 150	10	15	17
Married with 4 or more children	... 95	6	4	4
Education				
Illiterate	... 22	2	1	1
Fourth grade	... 236	15	8	9
Seventh grade	... 582	39	38	42
High school	... 362	24	21	24
Eighth grade	... 203	14	13	14
High school graduate	... 49	3	4	5
College	... 27	2	4	5
Age				
51 or more years	... 48	3	4	4
41-50 years	... 99	7	5	6
31-40 years	... 192	13	20	22
21-30 years	... 571	38	38	44
18-20 years	... 357	24	14	16
16-17 years	... 149	10	7	8
Under 16 years	... 70	5	—	—
Physical Condition				
Poor	... 80	5	10	11
Fair	... 308	21	28	32
Good	... 1098	74	51	57

Classification	Non-Psycho-neurotic		Psycho-neurotic	
Number and Percent	No.	%	No.	%
Physical Disabilities				
Gastro-intestinal	...	6	5	1
Hernia	...	50	4	5
Eye and ear	...	52	4	9
Cardio-vascular	...	119	8	9
Throat	...	28	2	1
Teeth	...	505	34	33
Genito-urinary	...	129	8	5
Lungs	...	46	3	8
Tuberculosis	...	12	1	4
Endocrine	...	40	3	2
Spinal fluid positive	...	53	4	7
Blood Wassermann positive	...	80	5	9
Pregnancy	...	21	2	—
Otherwise	...	135	9	14
Negative	...	676	45	33
Venereal Disease History				
Chancroid	...	5	3	1
Had gonorrhea	...	281	19	25
Has active gonorrhea	...	92	6	4
Had lues	...	16	1	5
Has active lues	...	41	3	4
Has neurosyphilis	...	53	4	7
Habits				
Drug addiction	...	12	1	1
Sexual promiscuity	...	1074	72	61
Liquor	...	667	45	54
Heredity				
Suicide	...	22	2	1
Epilepsy	...	39	3	10
Delinquency	...	299	20	15
Feeble-mindedness	...	23	2	4
Insanity	...	81	5	11
Military History				
World War	...	119	8	9
Foreign service	...	8	5	1
Other service	...	132	9	9

Extracts

Classification	Non-Psycho-neurotic		Psycho-neurotic	
Number and Percent	No.	%	No.	%
Criminal History				
Misdemeanors	...	799	54	59
First conviction	...	1118	75	57
Two to three convictions	...	205	14	20
Four or more convictions	...	23	2	7
Parole or Probation History				
Kept	...	147	10	10
Broke	...	142	10	16
Trial and Reaction				
Transferred	...	4	1	1
Plead guilty	...	1239	83	67
Bench trial	...	135	9	11
Jury trial	...	708	7	10
Admits guilt	...	1198	81	65
Denies guilt	...	284	19	23
Reasons for Crime				
Ill-health	...	11	7	6
Economic distress	...	165	11	14
Liquor	...	290	20	17
Miscellaneous	...	727	49	43
Bad company	...	72	5	4
Fun and excitement	...	75	5	1
No reasons	...	146	10	3
Offence				
Two crimes	...	118	8	—
Rape	...	114	8	4
Adultery	...	43	3	1
Incest	...	16	1	1
Prostitution	...	21	2	—
Other sex crimes	...	163	11	5
Abandonment	...	71	5	5
Public health	...	11	1	2
Vagrancy	...	19	1	2
Otherwise	...	121	8	2
Burglary	...	482	31	30
Automobile crimes	...	132	9	4
Forgery	...	149	10	12

Classification Number and Percent	Non-Psychoneurotic		Psychoneurotic	
	No.	%	No.	%
Robbery	101	7	9	10
Arson	15	1	2	2
Other property crimes	58	4	3	3
Crimes against persons	63	4	4	5
Murder	25	2	3	3
Sentence				
Indefinite	160	11	6	7
One to two years	643	34	29	32
Three to four years	357	24	25	28
Five to nine years	222	15	16	18
Ten to nineteen years	61	4	8	9
Twenty years to life	38	2	4	5
Life	14	1	1	1
Institutional Adjustment				
Well adjusted	1442	97	79	88
No well adjusted	44	3	10	12
Intellectual Status				
Very superior	4	3	1	1
Superior	18	1	3	3
Normal	373	25	28	32
Subnormal	212	14	22	24
Mentally deficient	621	42	21	24
Retarded general mental develop.	258	17	1	16

With due consideration for the much smaller group of psychoneurotic delinquents in contrast to those not found psychoneurotic the following apparent differences exist between the former and the latter; considering a variation of ten per cent or more as significant:

1. Psychoneurotic delinquents show a higher percentage of foreign born parents than the non-psychoneurotic.
2. Psychoneurotic delinquents show a greater proportion of individuals with unfavourable home conditions than the non-psychoneurotic if the individual items of disrupted family life, death of one or both parents, and uncongeniality are collectively considered.
3. Psychoneurotic delinquents show a higher percentage of individuals with a history of misdemeanors, and a history of previous convictions than the non-psychoneurotic.

4. Psychoneurotic delinquents ascribe their delinquency to ill-health and economic distress more frequently than the non-psychoneurotic.
5. Non psychoneurotic delinquents show a higher proportion of individuals in good physical condition than the psychoneurotic. Similarly there are fewer non-psychoneurotic individuals who show physical disabilities in proportion to the psychoneurotic delinquents.
6. The psychoneurotic delinquents include a greater percentage of individuals with families of one or two children than the non-psychoneurotic.
7. The psychoneurotic delinquents show a greater percentage of individuals with a hereditary history of epilepsy or insanity than the non-psychoneurotic.
8. The psychoneurotic delinquents have a greater proportion of individuals with sentences of 3 years or more than the non-psychoneurotic.
9. The psychoneurotic delinquents have a higher percentage of individuals who have been divorced than the non-psychoneurotic.
10. The psychoneurotic delinquents have a lesser percentage of single persons than the non-psychoneurotic.
11. The psychoneurotic delinquents show a proportionately larger number of individuals between the ages of 21 to 40 than the non-psychoneurotic.

III. PSYCHONEUROTIC THERAPY

The basic principle of prevention of psychoneurosis is to forbid the intermarriage of neuropathic people. Where the congenital predisposition already exists general measures of prophylactic treatment include cultivation of pride in good health during childhood and adolescence, creation of a purpose in life, and the inculcation of regular habits. Bleuler (8) quoting Ziehen gives the following rules for the prophylaxis:

1. "Total abstinence from coffee, tea, alcohol, spices and tobacco up to and including puberty.
2. Supervision of the sexual life.
3. Hardening by cool rubdowns and cool baths; habituation to pain and exertion; regular gymnastics (eventually all sports). Careful

restraint of the development of the phantasy (supervision of the reading, care in leaving them alone, etc.); favoring all objective occupations (collections of all kinds, construction, drawing; later also painting from models or from nature, open air games with other children, etc.). The daily routine in all cases should be regulated by a definite schedule.

4. Attendance of a public school is, as a rule, preferable to private instruction.
5. In case of unfavorable home conditions (unfavorable example of the parents, coddling by the parents, etc.) education outside of the parental home in a private boarding place or in the counter with a teacher, physician or minister should be prescribed; in more severe cases the so-called pedagogical sanatoria (schools with medical supervision) like those first founded by Kahlbaum, should be considered.
6. Habituation to obedience and self-control by means of a calm severity. Passionate scolding is almost never successful. Corporal punishments also are rarely effective; nevertheless they are permissible to the same degree as in the case of normal children. Other punishments (deprivation of pleasures, etc.) are not only allowed but when sensibly applied are, as a rule, effective."

The treatment of active cases of neuroses necessitates the removal of obvious physical disabilities. Foci of infection deserves particular attention. General hygienic measures should be instituted such as proper diet, sufficient rest, regular habits, fresh air, moderate exercise, and wholesome recreation. A radical change of occupation and environment often proves of great service. Isolation is of benefit especially in cases of hysteria. Endocrine therapy has found some favor. The use of ovarian and corpus luteum extract in cases of menopause neurosis may be cited as an example. Drugs should be avoided as much as possible. Morphine should never be used as neurotics are fertile soil for the cultivation of addicts. Soporifics such as bromides, laxatives, and tonics may be employed when necessary.

Psychotherapy is the most efficacious remedy. The simplest form of psychotherapy is that of suggestion. While suggestion removes symptoms it does not cure neuroses. Moreover new symptoms frequently crop up in place of the old. It is most effective in the transference neuroses such as hysteric anxiety and phobias. Suggestion becomes much more powerful when it is applied to a patient in a hypnotic state. While Wechsler believes that hypnotism is a valuable method in the hands of competent

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individuals in selected cases, he regards it in the light of an induced neurosis, *i.e.*, the substitution of one neurosis for another, hence raising the same objection to it as for simple suggestion.

Psycho-analysis is a form of Psycho-therapy which endeavors to remove the complexes underlying the neurosis. The minimum time required for treatment by this method is one hour a day, five days a week, for six months. The procedure is as follows:

1. Period of free association during which the patient is instructed to express freely everything that comes to his mind regardless of how trivial, irrelevant, ridiculous, or bad it may be. He must conceal nothing. Analyses of dreams for submerged complexes are also made. Thus infantile phantasies are eventually unearthed.
2. Period of transference in which the patient identifies himself and other persons to whom his infantile phantasies were attached with the person of the analyst. This is in reality a substitution neurosis.
3. Period of re-education during which interest is shifted from the analyst, energies are sublimated and the individual is taught to face situations in an adult manner. It is only during this final stage that the neurosis is actually surrendered.

Transference neuroses offer the best prognosis for treatment under this method, while hypochondriacs present the least favorable prognosis.

Although the treatment of delinquent psychoneurotics is confined to narrower limits than the treatment of non delinquent psychoneurotics, still much can be accomplished by the means at hand. As it has been previously noted the inmates of the various correctional institutions of the state are given a complete physical examination not only on admission, but on application for parole as well. Routine blood Wassermann examinations are obtained, as are also spinal fluid examinations, when indicated. During the next years urinalysis and blood chemistry will be included in the list of laboratory aids. Eventually basal metabolic and X-Ray studies will be added.

In addition to the routine physical examinations each institution has available medical service either by a resident physician or attending physician. Minor physical ailments are therefore amply taken care of. Dental work can be obtained free at the juvenile correctional institutions and for a nominal fee at the other correctional and penal institutions.

The policy of the state Board of Control of Wisconsin is to provide for medical care of such a character that delinquents will be discharged from custody in the best physical condition practical.

Institutions provide excellent opportunity for general hygiene. Regular habits of living are compulsory, while reasonable industry, recreation, and rest are incidental.

Isolation, *i. e.* protection from social and economic strain and stress, is also provided without any difficulty. It is remarkable how some cases clear up simply under institutionalization. Two brothers admitted to the State Reformatory on a charge of burglary gave unmistakable evidences of psychoneuroses. Their scores on the psychoneurotic index were 49 and 53 respectively at the time of admission. Nine months later they were re-examined at which time their scores were 2 and 9 respectively. Good management on the part of the administrative officials changed these men from borderline mental cases to well-behaved inmates free from mental instability.

While change of occupation and environment is not as readily procured in an institution as it is outside of an institution, there are some alternatives possible. The most radical change is the transfer of an individual from factory work to farm or garden work.

The use of psychotherapy especially hypnosis and psychoanalysis is impractical for institutions since its practice requires specialized training and continuous application.

The general plan of treatment therefore for psychoneurotic delinquents consists of attending to physical ailments, advising outdoor occupation either on the farm or in the yard, and encouraging the patient to take part in recreational events. The regular routine of the institution will do the rest. In many cases improvement follows such a regime. The case of the two brothers previously cited may be given as an example. The case of E. K., an inmate of the State Prison is another example. At the time of admission he was egocentric, euphoric with increased flow of thought and impaired memory. He gave 31 incorrect answers on the psychoneurotic index. A year later he was found mentally clear with no psychotic complexes. The psychoneurotic inventory showed 15 incorrect answers. Other cases are on record, but the above will suffice to illustrate the point.

CONCLUSIONS

1. The Woodworth Personal Data Sheet was employed in the examination of 861 delinquents in the various penal and correctional institutions of the State of Wisconsin.

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2. 89 of these were found to be psychoneurotic.
3. 200 of the completed psychoneurotic inventories were analyzed in order to establish the relative frequency of incorrect responses made to each of the 116 questions listed in the Personal Data Sheet and also to establish percentile norms.
4. Questions appertaining to alcoholic excess, worries, irritability, suspicions, unhappiness, dissatisfaction, and frequent change of interest were found to have the highest frequency.
5. The norms established compared quite favorably with those found by Woodworth.
6. The 89 psychoneurotic delinquents were studied by comparison with the non-psychoneurotic delinquents.
7. The psychoneurotic delinquents were found to have a higher percentage of those individuals whose parents were foreign born; whose home conditions were unfavorable; whose history shows a greater number of misdemeanors and previous convictions; whose reasons for committing offenses are ascribed to ill-health or economic distress; whose physical health is in poor or fair condition; whose family history shows epilepsy or insanity; and whose sentence is three years or more. They also show a higher percentage of individuals with one or two children and also a higher percentage of those who have been divorced.
8. The treatment of psychoneurotic delinquents consists of correcting physical ailments, advising outdoor occupation and encouraging participation in recreational activities. Institutional routine, itself, tends to promote general hygiene.

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Medico-Legal Journal.

The General Management of Otitis Media.

BY M. R. DINKELSPIEL, M. D., WILKES-BARRE, Pa.

While the general practitioner is often first consulted about an otorrhea, the majority of cases ultimately come under the care of the specialist. Even with intensive postgraduate training, every out-patient department has its quota of cases of chronic suppurative otitis media of long duration.

Every symptom referable to the ear requires an otoscopic examination through a clean canal, after removing, with a syringe and a warm water, all pus, debris, wax, etc. Each case of chronic suppurative otitis media is a case by itself, based upon the pathologic changes and the clinical symptoms.

CLASSIFICATION

The cases may be divided into two classes: Those limited to the middle ear, and those with bone involvement. While the mastoid cells are always more or less affected, bone involvement should not be considered unless it is demonstrable by further examination. The discharge may be of a thin, mucoid character, with no odor, or it may be thick and with an odor discernible at some distance from the patient, depending upon granulation tissue, polypi, or caries of the ossicles.

The general classification of otitis media has hitherto been more or less obscure, the best one, I believe, being that of Harold I. Lillie¹, as follows:

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(1) Hypertrophy of the lining membrane of the antrum and mastoid cells, and complete obliteration of these cells, (the granulating tissue which fills them may persist or ossify); (2) granular osteitis and carious softening of the walls of the mastoid antrum, which may become abnormally widened, giving the appearance of a cavity similar to that following a radical mastoid operation; (3) circumscribed or diffuse caries and necrosis, with or without sequestration; (4) formation of a cholesteatoma, resulting in destruction of bone from pressure necroses; and (5) hyperostosis and osteosclerosis, the result of the natural tendency toward limitation of the disease.

The dictum may vary that, in the majority of cases of suppurative otitis media, the acute affection has either been neglected or improperly treated, especially by not securing sufficient drainage or by removing nasopharyngeal obstruction. There are only a few exceptions to this, such as in the infectious fevers, especially scarlatina.

According to Gleason², as many as ten varieties of bacteria may be found in a single case, the pus cocci finally predominating. I have seen, in numerous instances, large numbers of pneumococci in smears from chronic suppurative otitis media which presented no other symptoms than those ordinarily found. This was particularly true in cases with polypi.

The fact that many cases remain dormant for a number of years, and then suddenly flare up, is due, according to Loughran³, to the *Streptococcus mucosus capsulatus*. This organism produces extensive destruction of bone tissue and is especially rapid in its action, even while repair is going on.

The necessity for early and proper incisions in cases of acute otitis media does not require emphasis; nor does the inadvisability of leaving the case to spontaneous rupture. There is plenty of diagnostic armamentarium at the disposal of the family doctor, such as the electric otoscope, the X-rays, rhinoscopy, and chemical examination of the pus, in order to determine the severity of the condition. Manual examination of the temporal bone should be made in each case.

ETHER TREATMENT

Given a case of otorrhea, following either an incision or spontaneous rupture, the following procedure should be adopted within the first two weeks of suppuration. If suppuration persists after that, the case falls within the domain of the specialist.

I have adopted with great success, in a number of cases, the ether treatment of McAuliffe⁴. It requires the co-operation of the patient and is safe, reliable and efficacious. It is conducted as follows: All epithelial and other

accumulations are removed from the ear by syringing with warm water at a temperature of 100° F. This is very important, as the combination of the ether with any wax or other substance will render it comparatively inert when it reaches the drum.

The patient is placed in a recumbent position on the side opposite the affected ear, into which ether is slowly dropped. The first instillation sometimes produces some pain. Tolerance to this pain is gradually established, until the whole canal can be filled with ether, which is left until it has entirely evaporated. The procedure is repeated every day for one week and then, gradually, at longer intervals. In cases with large perforations and patulous tubes, the patient can feel the ether on its way to the throat.

While aware of the valuable bactericidal effect of mercurochrome, an objection I have found is in its use in visible inflammatory conditions of the canal and drum, as, after the first application, it is difficult to distinguish the inflammation from the mercurochrome stain.

While a bacteriologic study has not been conducted, I have found the ether treatment considerably enhanced by the instillation of a 1-to 2-percent ethylhydrocuprein hydrochloride (*Numoquin* hydrochloride) solution, after complete evaporation of the ether. While this drug is primarily directed to pneumococcic infections, it is also very valuable as an adjunct in mixed infections, particularly where the staphylococcus is predominating. The employment of the drug was studied by the author⁵ in the treatment of pneumococcic ulcer of the cornea.

It is, of course requisite only to mention the necessity for constitutional observation, as otorrhea frequently imposes a burden upon the general economy.

In all of the infectious diseases of infancy and childhood, the ears should be systematically examined, even if there are no subjective symptoms. It is only after the fourth or fifth month that infants indicate subjective symptoms, either by putting their hands to their ears, or by crying during nursing. All cases of acute otitis media should be carefully examined to determine the etiology, especially obstructions and infected foci.

In the absence of resolution, with a profuse discharge, where early incision has failed adequately to drain the abscess, or where mastoid, cerebral or meningeal symptoms occur, the mastoid operation is indicated. During infancy and early childhood, the infection often finds a path of least resistance externally more frequently than in the case of adults, on account of the absence or scarcity of mastoid cells in the pneumatic tissue.

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- I have had a number of cases of acute mastoiditis in children, where the incision employed in the simple mastoid operation was sufficient to effect a cure; and while this should not be followed as a routine procedure (as in selected cases, it may be necessary to resort to a more radical operative measure), yet, in these cases, free subperiosteal drainage has very often accomplished complete resolution.

PNEUMOCOCCUS INFECTIONS

- I believe the frequency of pneumococci in acute mastoiditis has been overlooked, and that they are often responsible for meningeal complications. Even in the absence of a bacteriologic examination, all local treatments should be augmented by the use of ethylhydrocuprein hydrochloride in a 2 to 5 per cent solution.

The recent investigations of Bauer and St. Clair⁶ have thrown considerable light upon the subject, and while their series of observations is small, it should be a stimulus for further studies. Their conclusions show that "in eighteen cases of primary pneumococcus infection of the mastoid cells and meninges, in which the organisms have been typed, Type III pneumococci predominate in the cases following otitis media, and Type IV pneumococci in meningitis without a history of otitis media." As mentioned by these authors, Wirth⁷, in a series of 84 cases of acute otitis media, noted the occurrence of Type III pneumococci in 23.8 per cent of the cases.

Clinical Medicine and Surgery.

The Doctor.

Of all lives the life of the physician is the most self-denying. He has no time that he can call his own. His home is his office, and furnishes him no sweet retreat from irksome care. The night can never assure him unbroken rest. Sundays are often, whether he will or no, his busiest days. He has no holidays, and few and fragmentary vacations. Friendship furnishes him fewer solaces than to other men, for his friends are generally also his patients. He meets men in their morbid conditions—when they are sick and miserable; when they are well he knows them not. He can hardly make a friendly call without the hazard of having it converted, before the evening is over, into a professional one. He fights a battle in which, no matter how many victories he wins, he is sure to be defeated at last—for he is fighting death. And when the defeat, which must come sooner or later, does come, he is fortunate if unreasonable friends do not charge the defeat upon his lack of science or of care. But no man renders a more grateful service; no man comes nearer to

our hearts ; no man is more beloved. Other services may be as great, but none is more deeply or tenderly appreciated. He summons back from death the child, and puts him in his mother's arms ; the wife, and reunites her to her husband. No fee can ever compensate for such a service. He to whom it is rendered is for ever debtor to the doctor.—*The Out Look*.

A Good Creed—Why not adopt it ?

To respect my country, my profession and myself. To be honest and fair with my fellow-men, as I expect them to be honest and square with me. To be a loyal citizen of my country. To speak of it with praise, and act always as a trustworthy custodian of its good name.

To base my expectations of reward on a solid foundation of service rendered. To be willing to pay the price of success in honest effort. To look upon my work as an opportunity to be seized with joy and made the most of, and not as painful drudgery to be reluctantly endured.

To remember that success lies within myself—my own brain, my own ambition, my own courage and determination. To expect difficulties, and to force my way through them.

To study my business. To know my profession in every detail. To mix brains with effort, and use system and method in my work. To find time to do every needful thing by never letting time find me doing nothing.

Finally, to take a good grip on the real joys of life. To play the game like a man. To fight against nothing so hard as my own weaknesses.

So I may be courteous to men, faithful to friends, true to God, a fragrance in the path I tread.—*The Medical World, April, 1922*.

SMILE-A-WHILE

A certain young man, whose father was suffering from periodical attacks of unconsciousness, probably epileptic, went to a doctor and said " Doctor, kindly come and see my father, who is not well. At times he has conscience, at other times no conscience." We hope the doctor had the conscience alright !!!

Current Medical Literature.

I. Medicine.

THE PROGNOSTIC SIGNIFICANCE OF EOSINOPHILIA IN THE TREATMENT OF KALA-AZAR.

Amulya Kumar Sen in *The Calcutta Medical Journal*, October 1930, mentions the prognostic significance of Eosinophilia in the treatment of Kala-Azar. Marked leucopenia is one of the characteristic features of the disease and it has been found that anything that causes leucocytosis has a beneficial effect on Kala-Azar. Scarification or blisters over the spleen, inserting a dirty piece of Neem wood into the muscles of the leg, to produce suppuration was followed in many cases by a reduction in the size of the spleen and remission of symptoms.

It was found that in almost all cases which recovered, a definite increase in the Eosinophiles in the blood was noticed. He divides Kala-Azar into 2 groups.

I. Those cases in which the Eosinophile count was normal.

II. Those cases in which there was Eosinophilia at the commencement of treatment. Cases belonging to group II improved more rapidly than group I cases.

Fifteen cases are quoted of which two died, and it was noteworthy in both these cases that the Eosinophile count was zero at the commencement.

He concludes therefore that increase in Eosinophiles is a good sign in Kala-Azar. All causes for Eosinophilia, *i.e.*, asthma, helminthiasis and parasitic skin diseases were excluded in the above cases. He therefore believes that Kala-Azar patients in whom asthma, helminthiasis or parasitic skin diseases is present, (thereby producing Eosinophilia) should recover sooner than others. Eosinophilia, according to the author, is the defensive mechanism of the body against the toxins of the Kala-Azar bodies which are of the nature of amines. These toxins are liberated in the body as a result of destruction of the parasites which are carrying on a losing battle against the Eosinophiles.

TREATMENT OF ASTHMA IN CHILDREN.

W. R. F. Collis in the *Lancet*, 13th September 1930, reviews the treatment of asthma in children on a basis of 60 cases. He states that bronchial constriction may be produced (1) directly by the inhalation of

irritating gases, (2) chemically by histamine and peptone. (3) nervously, through the vagus. The vagus might be stimulated psychically by suggestion or through the mucous membrane of the nose. Foreign proteins also have a great influence on the vagal system.

He summarises the treatment as follows :—

- (1) General measures such as general care of the child's health, mental and physical ; sufficient rest, diet and exercise.
- (2) Measures to remedy faulty digestion and metabolism. Many cases of asthma have a deficiency or absence of HCl in the gastric juice. In these cases great benefit may be derived by administering HCl and Pepsin.

There is one type of asthma in children which is associated with other allergic conditions such as eczema and cyclic vomiting in which the blood shows a preponderance of amino acids and low blood sugar. In these cases Glucose, about 4 ozs. per day helps to steady the metabolism of the child. Removal of achlorhydria or hypochlorhydria prevents the absorption of "allergising" protein molecules into the blood stream.

- (3) Remedying nasal defects such as deflected nasal septum, hypertrophic rhinitis or sinus infection.
- (4) Psychotherapy—In children it is rare for the cause of asthma to be a neurosis. The attacks must be treated efficiently so as to "dispel fear from the child's mind"; autosuggestion must be employed.
- (5) Specific diagnosis of allergic type. Comparative study of the physical examination with a special history and a subsequent number of skin tests. The allergen must be distinguished as respiratory, alimentary, bacterial or toxæmic from foci of infection. Pollen, epidermals, foods, Emphysema, Chronic bronchitis, Tonsillitis or adenoiditis, Sinusitis, etc., must be borne in mind.
- (6) Treatment of attacks—Two drugs are chiefly employed. Adrenalin and Ephedrin. Adrenalin should not be given in more than 3 m. doses. Ephedrin has the advantage of being given by mouth or as a nasal spray. The dose of ephedrin sulphate is 0.025 g. by mouth.

Other methods such as inhalation of stramonium or lobelia compounds are not so good.

SERUM PROPHYLAXIS OF MEASLES.

Dr. A. C. Silverman, of Syracuse, N.Y., in J. A. M. A., Dec 8, 1928, reports upon the application of convalescent serum in a recent measles epidemic in that city. The epidemic was unusually severe but there was no death in 398 serum-treated cases; and in the 297 patients for whom records are available not one developed bronchopneumonia and only 2 had ear complications. As a rule, the serum was not given until the very approach of the onset or invasion.

In about half of those who developed modified measles, 82 per cent showed a shortening or absence of the prodromal period; 72 per cent a lessening of the catarrhal symptoms; 67 per cent a diminished or evanescent rash and in 77 per cent the incubation period was more than 12 days.

The serum was usually given to children under 3 years old.

The author is of opinion that convalescent serum adds an important instrument in the individual and communal fight against measles.

Clinical Medicine and Surgery.

BERI-BERI AT GUNTUR.

V. Mahadevan and T. K. Raman publish a report on 490 cases of Beri-beri in Guntur District for the years 1926—1929 (Indian Medical Gazette, October 1930). Their observations about the sex incidence, age, etc., are as follows :—

Males		Females	
339		151	
Married	Single	Married	Single
313	26	145	6
Total married	458	Deaths: 29 out of 490 cases.	
" single	32		
Hindus	263	The greatest number of cases (115), occurred between the ages of 26—30, 90 occurred between 16—20, 78 occurred between 21—25.	
Mohammedans	92		
Christians	78		
Other castes	57		

The maximum age was 70 and the minimum age was 6. Their observations point out.

- (1) According to occupation, labourers accounted for 333 cases, Police constables for 101 cases.

- (2) The largest number of cases come on at the end of the hot weather when the rainy season commences.
- (3) The greatest number of cases came from places where there were many rice mills.

Four different forms of beri-beri are described on a clinical basis.

- (1) Larval stage of beri-beri when the patients complain of tingling and numbness and there is slight anaesthesia of lower extremities—knee jerks either diminished or absent.
- (2) Wet beri-beri where oedema of lower extremities is an additional feature. There is swelling of calf muscles and the patient has weakness of the legs, getting easily tired after walking a few yards—dilatation of left side of heart, enlargement and tenderness of liver in a few cases. Low blood pressure 90 to 110 systolic and 60 to 80 diastolic. Pulse varies from 90 to 120; circumoral anaesthesia was not noticed in their series. Paresis of affected muscles is present. A fever of 5 days duration was seen in 25 per cent of cases.
- (3) Paraplegic or dry beri-beri is the advanced stage of wet beri-beri with paralysis of all affected limbs, typical ataxic gait and atrophy and tenderness of calf muscles—cardiac symptoms are not present in the above 3 forms.
- (4) Acute Pernicious forms:—There is fever of a week's duration ranging between 99 and 102°. The patients are absolutely bed ridden with orthopnoea, oedema of lower extremities or whole body, except the scrotum. Extreme tenderness of the muscles, especially the calf muscles is present. The most important symptoms were those due to dilatation of both left and right sides of the heart; vomiting, hiccough; and suppression of urine was sometimes seen.

Beri-beri often has a tendency to recur. It comes on once a year and may occur twice or thrice. Symptoms of recurrence are (1) weakness of lower extremities with paralysis of the limbs, (2) oedema of lower extremities, (3) loss of knee jerks (4) in some cases dilatation of heart with systolic bruit.

In the differential diagnosis the following cardinal points are of importance: (1) Tingling and numbness with anaesthesia of the lower extremities (2) oedema of the lower extremities with extreme tenderness of calf muscles, (3) loss of knee jerk, (4) cardiac involvement, when present.

- *Treatment.*—Rest in bed. Rice is cut off from diet; bread and milk is substituted. Tonics such as strychnine, iron, arsenic (in the form of Salvarsan or Myosalvarsan, small doses) Vitamin B in the form of toddy (two day old) 2 ozs. thrice daily.

When the muscles show signs of atrophy, massage and graduated exercises are useful.

The treatment of acute beri-beri with dilatation of heart:—(1) Absolute rest in bed. (2) Adrenalin 1 c.c. b. d. to counter act the low blood pressure, and atropine 1/100 gr. once a day. (3) Venesection: 10 to 20 ozs. of blood: $\frac{1}{2}$ c.c. of adrenalin to be given before and after the venesection to counteract the fall of blood pressure. (4) Hyoscine hydrobromide 1/200 gr. (not to be repeated within 24 hours) for the restlessness. (5) Tinct. Digitalis 20 m. every 4 hours for the first two days. (6) Fluid diet with toddy.

Etiology of Beriberi.—Their observations point out that beriberi is prevalent in places where rice is the staple article of diet. But milled rice deficient in vitamin B is not the sole cause of beriberi for (1) Beriberi was present in Guntur District long before the introduction of rice mills. (2) The paddy that is brought for milling is not kept for more than 3 days. (3) Parboiling is not done in this District. (4) Two kinds of rice are available for consumption (a) the partially polished rice which contains the pericarp and hence sufficient vitamin B. (b) The finally polished rice which contains too little pericarp. (5) Rice is not stored in the factories for more than three days. While the therapeutic test of giving vitamin B in the shape of toddy, points out the cause as a vitamin deficiency, the presence of fever of about a week's duration; (this fever does not correspond in its features to any of the fevers in the tropics) is in favour of an infection. The infectivity of beriberi is suggested by the occurrence of 2 beriberi cases in the hospital in which the patients, who were hitherto free from beriberi, had their beds close to typical beriberi patients.

The authors suggest that a spirochaete might be the causative factor in precipitating an attack of beriberi in an individual whose diet is deficient in vitamin B and that this spirochaete is lying dormant in the areas in the hot season, to multiply with the onset of the rains. This probably explains the endemic nature of the disease.

II. Surgery.

RADIUM TREATMENT OF CANCER.

E. W. C. Bradfield in the Indian Medical Gazette (August 1930) gives a report on the treatment of cancer by radium at the Government General

Hospital, Madras. Out of 411 cases of malignant disease treated at the General Hospital in 1929, the following is the classification :—

Myeloma	Sarcoma	Rodent Ulcer	Carcinoma.
1	41	2	367.

Out of the 367 cases of Carcinoma, there were 42 of the breast, 16 of the stomach, 143 in the cheek and jaw, 44 in the tongue 25 in the rectum, 27 in the penis. The above list did not include gynaecological patients who went to special hospitals.

He says that the prevalence of cancer in South India is the same as elsewhere and it is the existence of radium at the General Hospital which has attracted patients, who, hitherto did not come to Madras for treatment. The comparative 'rarity' of cancer of the breast is not real, for there is a tendency for women to conceal the disease.

Out of 69 cases treated with radium 9 were 'cleared' 16 'improved' 5 'increased', 12 died, 27 no report.

These results he says, are not discouraging. Of the several methods of applying radium, interstitial implantations and surface applications with prepared paste gave the best results.

A modified teletherapy was employed in which 250 mgs. of radium was put into a packet and patients were submitted to distance irradiation at 10 cms. for the skin for 4 hours daily for 14 days, giving a dose of 14 gram hours.

The best results were obtained in cancer of the breast, tongue and floor of mouth. One case of endothelioma of the Parotid and another of adenocarcinoma of the meninges improved remarkably.

In cases of cancer of the cheek, the radium needles are implanted into position all round the tumour by sutures or by the method of retrograde needling, one end of the thread being drawn through the mouth and after knotting to the outside end, fixed to the cheek by strapping.

Duration of radiation seems to be more effective than massive dosage; the longer the time of irradiation the better the result.

Superficial necrosis of the jaw is a complication which arises in this method of applying radium, but it is a risk that must be taken. The author concludes that this method of treating cancer has been very encouraging and it is only the limited stock of radium at Madras which prevents a more extensive trial.

• The Tuning Fork in Diagnosing Fractures.

When there is a suspicion that the clavicle, a rib, or other long bone lying near the surface, is fractured, but a positive diagnosis cannot be made by ordinary means, I have found the following method useful :

Apply a stethoscope to one end of the bone and the handle of a vibrating tuning fork to the other end. If the sound comes through clear and strong, the bone is not broken ; if it is indistinct or blurred, the bone is cracked, but the fragments are in apposition ; if no sound comes through, the bone is fractured and the fragments are separated.

In case of doubt it is well to check by making the test on the uninjured clavicle or a sound rib.

C. H. BURTON, M.D.,
—Clinical Medicine and Surgery.

III. Pathology.

PITFALLS IN MAKING LEUCOCYTE COUNTS.

S. K. Ghosh Dastidar in the Indian Medical Gazette, August 1930, refers to a possible pitfall in making leucocyte counts. In making an ordinary leucocyte count, a fluid consisting of Acetic acid, Gentian violet and distilled water is used and this fluid haemolyses the r. b. c, fixes and stains the nucleated cellular contents of the blood. In the ordinary cases only leucocytes are stained by this method. If nucleated r. b. cs are present, these cells will also be stained by the fluid and be counted as leucocytes by the haemocytometer. Thus a wrong result is obtained. He cites a case of a woman in whom both blood smears and a leucocyte count were taken. The blood smears showed a number of normoblasts and megaloblasts. The differential leucocytic count was more or less normal. The absolute count gave however, a leucocytic count of 60,000, although the blood smear showed only 2 leucocytes in each field, but there were 9 nucleated r. b. cs to each leucocyte, these nucleated r. b. cs were also counted as leucocytes in the absolute count and hence the correct result ought to have been 6,000 instead of 60,000.

The possibility of this error ought not to be overlooked, because the pathologist's report might entirely change the outlook of a case with disastrous results.

THE DIAGNOSIS OF KALA-AZAR BY CULTURE OF THE PERIPHERAL BLOOD.
BY B. M. DAS GUPTA

(Indian Medical Gazette, September 1930).

Though Mayer and Werner (1914) and Wenyon (1914) demonstrated the possibility of the diagnosis of Kala-azar by culture of the peripheral blood Row (1914) was the first to apply this measure with much greater success in

the routine diagnosis of Kala-azar. His technique was as follows:—The blood, withdrawn by aspiration from a vein, is diluted with several times its volume of citrated saline solution, and then centrifuged. The deposit, which consists of red corpuscles and parasite containing leucocytes, is then aspirated into a sterile capillary pipette and sown in the water of condensation of several tubes of N. N. N. medium, or in Row's haemoglobin-saline medium. The tubes are incubated at 22°C.

Whilst working at the King Edward VII Memorial Pasteur Institute, Shillong, in 1922, the author was able to obtain 34 positive cultures out of 36 unselected cases of Kala-azar by following Row's technique; the only modification introduced being that, instead of centrifuging the diluted blood and thus running a great risk of septic contamination, the citrated blood was allowed to stand for some time in the cool incubator until the corpuscles settled to the bottom of the tube.

Culture of the peripheral blood in cases of Kala-azar gives a positive finding in 161 out of 169 certain cases, or 95.9 per cent.

FACTORS INFLUENCING THE GROWTH OF LEISHMANIA IN CULTURE.

1. TEMPERATURE OF INCUBATION.

The cultures are usually placed within half an hour of taking them in the cool incubator at 22°C.

2. MEDIA.

Row (1912) has advocated his haemoglobin saline medium for culture of Leishmania. We have tried this medium on a fairly extensive scale, but have abandoned it as we have always found the results inferior to those with the classical N. N. N. medium.

3. EFFECT OF TREATMENT.

It has been found almost invariably that cultures taken after the first injection of antimony—and especially so with the organic compounds of antimony—remain sterile. This method of diagnosis is therefore not to be relied upon in partially treated patients. Also—as has been pointed out by Shortt (1927)—a negative culture from the peripheral blood cannot be relied upon as a test of cure.

4. STAGE OF THE DISEASE.

Growth takes place equally well in both early and advanced cases of Kala-azar, though in the former it takes place more slowly, taking some 12 days or so before the flagellates appear.

CONCLUSIONS.

1. In proved cases of untreated Kala-azar, culture of the peripheral blood yields positive results in 95.9 per cent of cases.

2. The average number of days for the appearance of flagellates in the culture was 11.4 days—minimum and maximum being 6 and 19 days respectively.

3. Although the optimum temperature for the growth of *Leishmania donovani* is 22°C or thereabouts, the parasites have been found on rare occasions to remain viable in citrated saline at 37°C for more than 12 hours.

4. Blood inhabiting organisms of the typhoid group can grow on N. N. N. medium at a temperature of 22°C. and both *Leishmania donovani* and *B. paratyphosus* B can grow together at that temperature in the same tube.

5. In most cases, after the first injection of antimony, the parasites disappear from the peripheral circulation, or undergo such changes that they do not grow in N. N. N. medium. Culture of the peripheral blood with negative results, therefore, cannot be taken as a criterion for cure.

IV. Therapeutics.

PRURITUS ANI ET VULVAE.

L. F. R. Knuthsen and F. Howard Humphris, in the *Lancet* (13th September 1930) review the latest methods of treating this condition. The importance of this condition, they point out is due to the fact that there are serious consequences of insomnia, melancholia, insanity and suicide.

The treatment is usually slow and prolonged as the condition is often very chronic; causes such as chronic constipation, haemorrhoids, ulcers, enlarged prostate, discharges (including irritant urine or faeces) carbuncles, hypertrophied anal papillae and eczema must be removed. The general health of the patient must be looked to. Moderation in alcohol, and tobacco must be advised. Sleep must be restored when insomnia is present, by Luminal. Opium is not so good; it might, on the other hand, aggravate the condition.

The direct treatment of the fissures, etc., is done by ultra violet radiation, X-Rays, painting by Friar's Balsam or touching with silver nitrate. When the pruritus is of mycotic origin, the following ointment, called Deek's Ointment is useful:—

Deek's Ointment.

Rx.	Salicylic acid.....	4 parts.
	Bismuth Subnitrates.....	10 "
	Mercury salicylate.....	4 "
	Oil of Eucalyptus.....	4 "
	Vaseline and Lanolin equal parts up to ...	100 "

Calamine and Zinc Oxide lotion might be used to allay irritation. Thorough washing and cleaning the parts must be insisted on.

If any cracks or excoriations persist, the following ointment might be tried:—

Rx. Hyd. Subchloridi.....	2 drachms.
Bismuth Subnitratis.....	1½ "
Tinct. Aconiti.....	8 minims.
Glycerine.....	2 drachms.
Unguenti Sambuci up to.....	1 ounce.

A 2% carbolic lotion with spirit and rose water will abort a paroxysm of pruritus. Dry calomel powder might be dusted over the area.

Radiological therapy such as Ultra Violet Ray exposures, is advised, beginning with 5 minutes on the first day, to about 10 minutes on the twelfth day, though six treatments are sometimes sufficient. Zinc ionisation and application of static electricity are also said to be of great value.

LUMINAL SODIUM IN TETANUS.

In the absence of antitetanic serum, good results have been obtained in the treatment of tetanus from the daily hypodermic injection of 1 to 3 cc. of a solution made by dissolving 2 gm. of luminal-sodium in 10 cc. of sterile water. This solution should be used while fresh (less than a week old) Medical Gazette, December 1927.

—Clinical Medicine and Surgery.

RING-WORM.

After epilation, apply Whitfield's ointment over the whole scalp. This consists of:

Salicylic acid.....	2 parts,
Benzoic acid.....	4 "
Benzoinated lard.....	30 "

M. et Sigh: Rub in vigorously for at least five minutes, twice a day.

Secondary infection can be controlled by the temporary application of antiseptic wet dressings and exposure to ultra-violet rays.

Treatment should be continued for at least two weeks after the disease seems to be entirely cured.

X-Ray epilation should be avoided. (Dr. Samuel Ayers, Jr., in California and West. Medi., August 1927.)

—Clinical Medicine and Surgery.

CARDIAC PAINS.

For immediate relief in true angina, in atheroma of the large arteries, or in other vascular conditions causing paralyzing cardiac pains, nothing

Current Medical Literature

- compares with a one-hundredth grain hypodermic tablet of nitroglycerin placed under the tongue. The spasm will usually relax in 20 or 30 seconds. Nitrite of amyl pearls crushed and inhaled will relieve the spasm sometimes quicker than the tablet. Euphylin tablets and benzyl benzoate are exceedingly useful also, the latter for the more chronic cases, untroubled with extreme violent spells.

Substernal pain stimulating cardiac pain may be due to a variety of causes. The treatment must be directed to the underlying cause, after relief of the immediately distressing symptoms. (Dr. J. S. Lankford, San Antonio Tex., in m. Med., October 1928.)

—Clinical Medicine and Surgery

SPECIFIC TREATMENT OF AMOEBIC DYSENTERY.

Dr. O. W. Bethea, of New Orleans, in J. A. M. A., January 26th, 1929, states that the following method of ward treatment of amoebic dysentery has been found very satisfactory in the Charity Hospital, New Orleans.

First Period: (Five days). One grain (0.065 Gm.) of emetine hydrochloride is injected daily into the deltoid muscle.

During this period no other medication is employed. Unless contraindicated, the patient may be put on the full typhoid diet.

Second period (Ten days): Emetine is continued, as suggested, and one of the following drugs added: ten phenylsalicylate (salol coated), 5 grain (0.3 Gm.) ipecac pills, each night at bed-time; or two tablets of acetarsone each morning on awakening; or two or three pills of an organic iodine preparation (iodi-oxybenzenepyridine sulphonate) three times a day.

If the ipecac pills are given at bed-time, the patient is given a soft diet during the day, up to 1 p.m. after which time nothing but simple liquids, as water, tea, coffee, bouillon and ginger ale are given.

If the acetarsone is given in the mornings, no food is allowed for four hours, except water, tea, black coffee (without milk), bouillon or ginger ale.

During the second period, the patient is given a daily colon irrigation of 30 grains (2 Gm.) of quinine sulphate in one-half gallon of warm water.

The typhoid diet is continued.

Third period (Three months): one day each week a full treatment is given, as directed in the second period.

—Clinical Medicine and Surgery.

Editorial.

The Future of Medical Research in Madras.

Time and again criticism has been levelled against the graduates, diplomates and licentiates of the Medical Colleges and Schools of this Province that their contribution to the field of Medical Research is so little and therefore the faculty for original work is very limited in the young men of this Presidency. Such a criticism was expressed by a high-placed administrator of the Province before a large gathering at the premier College on an important occasion: and when it is repeated time and anon, it is no wonder that the impression should be left that there has perhaps been a radical hiatus which necessarily interfered with the possibility of the creative faculty developing in the South Indian mind. But at the same time, it is perhaps not so clearly realised that there were certain factors which stood in the way of the development of the creative faculty till within recent years, and that those factors were so dominant in their nature that perhaps it is not surprising that the young men were not able to overcome the difficulties of the situation. Let it be frankly admitted that so far as this Presidency was concerned, till within the last few years, the best medical graduates were content—had to be content—with playing the minor role in subordinate capacities in the large teaching institutions and hospitals and they had neither the opportunities nor the privilege to turn out any better work. We would even go further and say that if there was a promise of such ability, it was not infrequently that promise was killed in its very conception by more ways than one. But within the last few years, things have changed radically and for the present, it must be conceded that in most

Editorial

of the important subjects and sciences, the products of the local University have more than fulfilled themselves in discharging their duties to the entire satisfaction of those who are the best judges in the matter, and with this increasing opportunity given to the men of the Service there has dawned a clearer realisation of what is due from them in the interests of the profession and in the interests of the science itself. We are happy to note that the spirit is more domineering in the younger generation and that to-day a much larger number of our young graduates are taking to higher degrees with great avidity and coming through with brilliant colours whether it be through the portals of the local University or through foreign universities. The increasing number of our young men who have gone abroad and have benefited by a wider experience of conditions in the different universities and by a closer acquaintance with some of the leading medical men on the Continent and Great Britain, has been a valuable asset to the profession at large and to our Service in particular; and it is a matter for great congratulation to us that we have at present a number of young men who have distinguished themselves at the various colleges and universities and who have brought back with them an amount of knowledge which doubtless will bear fruit in years to come. We have no doubt that these young men, animated as they are with the one desire of making themselves felt in the medical world, will be contributing, in increasing measure, their quota towards the promotion of knowledge; and we feel assured that ere long, Madras will hold up its head in the field of Medical Research and be able to attract the attention of other parts of the world. The Province has no reason to feel ashamed of its research workers in other fields. Professor Ramanujam, the great Newton of the present century—Sir C. V. Raman—the great Physicist and to whom the Nobel Award was given only this year; Dr. Radhakrishnan, the erudite scholar, who

commanded so much of attention in the Universities of Great Britain are all products of this University who have made their name and contributed gloriously to the advance of their respective sciences. We have no doubt that in the field of Medicine also, such men are not wanting, who will prove to the world that Madras has no need to feel despondent or sad about it. What is wanted with the members of the profession to-day is a little less of pessimism and a little more of that clear realisation of their own potential worth. Research, as it is at present carried on in many countries, does not necessarily mean the bringing out into the world at large a great truth for first time. Many people who are engaged in research have got to pave the way for a new light to emerge out of their laborious duties. The discovery of Insulin or of Salvarsan was not done at one stroke, but was born of patient and laborious work. Minot and Murphy did not, for the first time, and suddenly, a light upon the discovery of liver-therapy for Pernicious Anaemia. Nor should we be under the impression that research is necessarily a matter of laboratory experimentation; for, to-day there is more than the ordinary probability that many in the profession will be under the impression that the ancillary sciences are so important that research can only flow through the aid of these sciences. While we do not under-value the importance of these sciences in the field of research, we cannot help stating that clinical research is just as important and probably even more important, than the research that is arrived at by laboratory technique, by animal experiments and other ways. The late Sir James Mackenzie is one of the brilliant examples of men who discovered many new features of the interesting pathological conditions associated with the heart through intense study of clinical material. India presents to-day an immense field for research. Indeed the harvest is so great, but the labourers are so few,

There are many conditions associated with the incidence of some of the common diseases prevalent in this country which require further elucidation. The geographical distribution of certain diseases and the seasonal incidence and variations in the severity of these diseases, the movement of epidemics, the constitutional factors underlying some of these conditions, the characteristics pertaining to race, heredity, are all conditions well worth investigating. Whether the worker is confined to a small mofussil station, or has the advantage of working in one of the larger and better equipped hospitals connected with the teaching institutions, one has a field of research, limited or extensive, but still enough to work and to show his aptitude for the work. We therefore commend unto our readers the great duty they owe unto themselves and unto the profession in this matter. We would also like to emphasise that there are many opportunities which they would do well to take advantage of. We feel we are not prophesying when we say that one of the most valuable of acquisitions in future for any bright young man to progress will be through the field of research. Degrees by themselves and higher qualifications are good; but will not in future go sufficiently far, and the time will not be far distant when medical men in Southern India, as elsewhere, will be judged not by their academic qualifications only, but by the quantity and worth of the medical research that they have contributed; and it is from this point of view we feel that a note of warning is necessary to the members of our service to take stock of the situation and to be prepared, so that when the time comes, it shall not be said that they had not utilised their opportunities to the full.

We are very pleased indeed to note that of late, there has been a growing consciousness of the importance of research and that a large number of our men of the Service in some of the State Hospitals in the City are already be stirring themselves helping in the formation of organisa-

tions and trying to emulate each other in the field of research. The Association hopes to take a more active part in gathering together all those interested in medical research and in promoting to the utmost of its capacity, facilities for undertaking research. We hope ere-long to be in a position to state more clearly what can be done to promote the interests of research. We would in this connection, appeal to our members to realise that there are other agencies in the country which are bound to help research workers and if only our members should show that they are contributing to this field, such agencies are bound to come to their assistance and give them the benefit of their advice and co-operation. We are sure also that in course of time the Government will be prepared, in a more liberal manner, to encourage and to actively help research workers in this field. We make no vain appeal, we hope, to the members of the profession and in particular of our service and to the younger generation thereof, when we say that the possibilities for a great advance personally, and professionally, hereafter will lie through the magic door of research, and we trust that every member of our service will take up some line or other, some little object, for medical research, and thus promote the interests of the profession and make a name for himself and add glory to the Service to which he belongs and to the Association of which he is a member.

* * * *

Retirement from service.

Dr. G. V. James after a long and meritorious service of about 30 years, retired from the activities of the medical department, to divert his energies to pastime and to more philanthropic aims. He graduated as an M. B. C. M., entered the service as a Civil Assistant Surgeon, obtained the M. D. in midwifery, and after holding various appoint-

ments was raised to the status of a Civil Surgeon, and later to that of the third Surgeon, General Hospital, Madras. His well merited work was recognised both in service and in public and the honorary title of V. H. A. S. was conferred on him. He illustrates what tenacity and thirst after knowledge can earn for a man in service how lowly placed. His manner and catholicity, his reserve and his Surgery have endeared him to one and all of the profession and we do hope that he will, in spite of his retirement, evince a keen and abiding interest in the activities of the Association, to which he has the honour to belong.

OBITUARY.

The Late Dr. V. V. Narasimham, L.R.C.P. & S.

Dr. V. V. Narasimham was born in the year 1887 in a poor but respectable family of Chattada Sri Vishnava community at Singavaram near Nidadavol in the West Godavari District. He lost his mother in his infancy, and was under the tender care of his father till about the tenth year when he also died. Thus Dr. Narasimham was left an orphan early in life.

The boy then went to his maternal uncle at Draksharam, in the East Godavari District and subsequently to Polavaram to his maternal aunt's home. He passed his Lower Secondary Examination at Polavaram. But his relatives were of so poor circumstances, that the prosecution of his further studies appeared to him almost impossible.

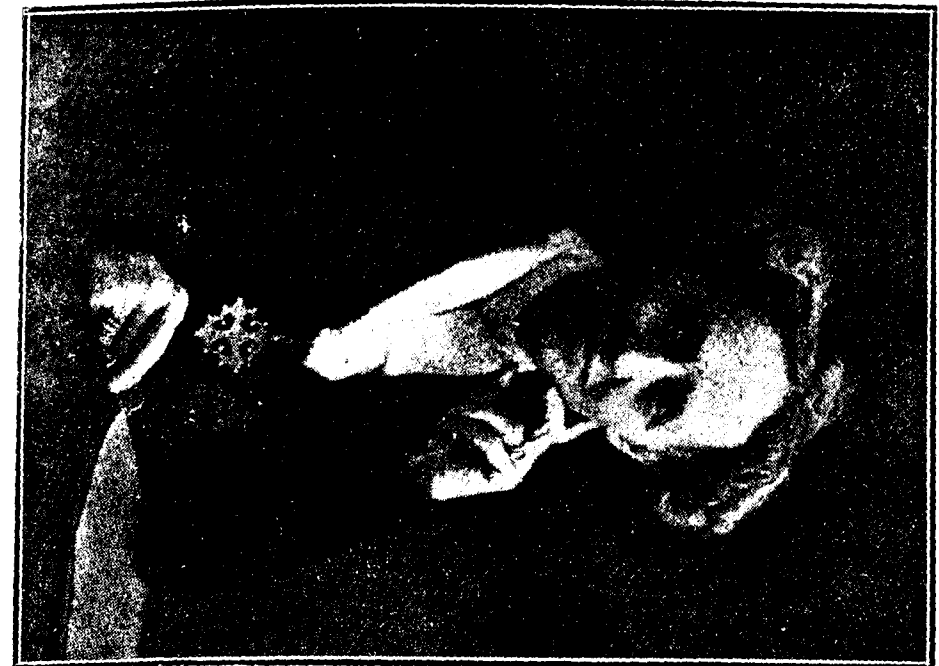
In this state of dilemma, he happened to hear of M.R. Ry. Asuri Kanthayya Suri Garu, B.A., Sub-Registrar at Bobbili (now retired District Registrar), the only graduate at the time in his community in the Circars. He heard of his charitable disposition and ardent desire to help the poor and the needy. The boy immediately left Polavaram without the knowledge of his guardians and lost no time in seeking the help of Mr. Kanthayya Suri. He somehow managed to reach Bobbili and presented himself before Mr. Kanthayya Suri. The gentleman was so much impressed with the pleasing appearance, prepossessing manners and the striking intelligence of the boy that he readily took him in as his protege, shouldered the responsibility of educating him and shortly after gave his daughter in marriage to him.

He joined the High School at Bobbili in 1904. He always took a high rank in his class. He passed his Matriculation in 1906. He joined the Christian College, Madras in 1907 but had to come away for the second term to the Noble College, Masulipatam, from which he passed his First in Arts Examination in 1908. He entered the Medical College in 1909 and successfully completed the L.M. & S. course in four years taking his degree in the year 1913. He stood for the next Competitive Examination for Assistant Surgeon. He was confirmed in service and was very soon taken as an served for various periods at Ambur, Tirupathi, Chicacole, Chittoor, Government Ophthalmic Hospital, Madras, and Ramachandrapuram.

THE LATE DR. V. V. NARASIMHAM, L.R.C.P. & S.



THE LATE DR. DAME MARIE SCHARLIER, M.D., M.S.
(From The British Medical Journal).



• While he was at Ramachandrapuram, the facilities of study leave rules were extended to the Provincial Service, and he was one of the first few who offered to avail himself of them. He left for England in 1924. He passed his Triple in Edinburgh within about 3 months. As he had a keen interest in Surgery, he began to study for the Fellowship. But he was a subject of "chronic dyspepsia", and was always of very delicate health. The change of climate and the arduous nature of his studies worsened his health and he was advised to have an operation performed for the cure of a duodenal ulcer the cause of his 'chronic dyspepsia'. He was operated on by Prof. Wilkie at Edinburgh in October 1925, and the operation gave Dr. Narasimham relief from suffering. But he felt unequal thereafter to the task of preparing for any Examination and had to return to India very soon.

On reaching home, he was appointed as Assistant Surgeon in the Ophthalmic Department, King George Hospital, Vizagapatam. After about a year he was transferred to Anantapur. But he had always a passionate desire to work in a teaching institution. He was therefore at his request, transferred to the Medical College, Vizagapatam, in 1928, as Assistant Professor of Surgery. He acted as Second Surgeon, King George Hospital, for four months in 1929 when he displayed to the full, his skill and resource as a Surgeon of no mean order. But unfortunately, his health broke down; again his old digestive trouble assumed a more threatening aspect and he was obliged to take leave. On the expiry of the leave he was posted to the Government Hospital, Tenali, in May 1930. He had an attack of Influenza in the month of August. During the convalescence, he showed signs of heart trouble for which he came to Vizagapatam for treatment on October 17th. None of his medical advisers and friends expected that his end was so very near. His heart showed signs of sudden failure on the morning of 26th October 1930; unfortunately no treatment was of any avail. He expired at 1.30 p.m. the same day leaving a wife, four daughters, a posthumous child, and a wide circle of relations and friends to bemoan his loss. Inspired by the example and precept of his venerable father-in-law whom he always held in the highest respect, he always took a keen interest in the education of the poor and never failed when approached, to give them a helping hand. He was a man of wide sympathies and most liberal views. In him, his community, has lost one of its most ardent benefactors and the Madras Medical Service one of its most promising members.

The Late Dr. Dame Marie Scharlieb.

We regret to record the death of Dame Marie Scharlieb at the age of 85 in London. The life of Dame Marie Scharlieb is intimately associated with some of the prominent medical institutions in this City and it is a matter of pride to us that she was one of the first women students of the Madras Medical College who qualified here as an L.M.S. and then went to England and had a most successful and honourable career for very near half a century. Mrs. Scharlieb was the wife of the Presidency Magistrate in Madras, and her great interest in the women of this country first prompted her to take the course of a Midwife in the Government Maternity Hospital, Egmore. Later, realising the growing need for women doctors in India, she began to study Medicine at this University and in the Madras Medical College and qualified as a Doctor in 1878. She was for some time employed in the Victoria Caste and Gosha Hospital and then left for England where she underwent further study in the University of London and in 1882 took her M. B. Degree with Gold Medal in Obstetrics and honours in Medicine, Surgery and Forensic Medicine. After some post-graduate study in Vienna, she returned to Madras and became Lecturer and Examiner in Midwifery in the Madras Medical College. She founded the Victoria Caste and Gosha Hospital for Women in Madras, but was obliged, on account of ill health due to over-work, to leave India in 1887. She qualified for the M.D. and M.S. Degrees in the London University and in 1902 she became Gynæcological Surgeon to the Royal Free Hospital, being the first woman appointed to the staff of that hospital.

The latter part of her career was one of brilliant successes following in quick succession. She was given the Honour of the Dame Commander of the Order of the British Empire; received the Degree of L.D. at the Edinburgh University, and was made a Justice of the Peace and President of the London School Medicine for Women.

As to her professional abilities, it would be impossible to speak too highly. Sedate, with a charming disposition, and always a feminist at heart and in practice, she was one of those who was an inspiring example for succeeding generations of her sex. In Dame Marie Scharlieb, the profession has lost one of its most brilliant exponents and we, who take a special pride in the fact that we were the first to coax her to take to this profession, join in paying our tribute to the memory of one who was held in such high esteem by all alike.

Association Notes.

The Annual General Body meeting of the Association was held on Tuesday, the 15th December 1930, at the Medical College with Dr. M. Kesava Pai, M.D., President in the Chair.

Twenty-five Members attended the meeting.

The Annual Report and auditor's statement of accounts for the year ending 30th November 1930 already circulated to members were passed.

Dr. C. Ramamurti, Dr. K. Koman Nair and Dr. C. A. Venugopal were nominated to scrutinise the voting papers; 77 voting papers were received, of these 6 were invalidated. As a result of the scrutiny the following members were elected as office-bearers:

- Dr. A. Srinivasalu Naidu.
- „ P. V. Cherian.
- „ N. Mangesh Rao.
- „ C. Abbu.
- „ P. Kutumbiah.
- „ M. Narayana Pai.
- „ S. Ramakrishnan.
- „ H. S. Hensman.
- „ K. Venkatachallam.

The President moved a condolence resolution at the demise of Dr. V. Venkatanarasimham a member of the Association.

Dr. T. S. Tirumurti seconded the resolution and spoke at length about the good qualities of the deceased. The resolution was passed, all members standing.

The following resolution was moved by the Secretary:—

That clause (c), Article 2 of the Memorandum of the Association, be amended as follows:—

“ The term Madras Medical Service shall mean and include all Civil Apothecaries, Civil Assistant Surgeons and Civil

Surgeons (Provincial) in Government employ and gazetted officers of the Public Health Department."

The resolution was passed unanimously.

Y. Ramaswamayya was appointed as auditor for the next year.

An Executive Committee meeting was held on the 17th December 1930 at 6 p.m. at No. 11, Police Commissioner's Office Road.

PRESENT :—Drs. A. Lakshmanasami Mudaliar; M. R. Gurusami Mudaliar; K. Venkatachallam; P. Kutumbiah; A. Srinivasalu Naidu; S. Ramakrishnan; N. Mangesh Rao; P. V. Cherian; T. S. Tirumurthy; and M. Narayana Pai.

Drs. S. Ramakrishnan and A. Srinivasalu Naidu were elected as Joint Secretaries and Dr. P. V. Cherian as the Treasurer.

The following members were constituted to form an Editorial Board :—

Dr. A. Srinivasalu Naidu.
 „ N. Mangesh Rao.
 „ P. Kutumbiah.
 „ P. Venkatagiri.
 „ C. Ramamurthy.
 „ M. Narayana Pai.

The President to be an *ex-officio* member of the Board.

Dr. A. Srinivasalu Naidu to be Editor of the Journal and Dr. S. Ramakrishnan to be the Business Editor and to be in charge of advertisements, sale of Journal, Accounts connected with the journal.

It was resolved that the journal should comprise of the following :—

Editorial comments.
 Original and clinical notes.
 Abstracts from journal.
 Service notes (business meetings).

The following members to be requested to collaborate for sending in abstracts from the current medical literature :—

Dr. T. Bhaskara Menon.
 „ K. Koman Nair.

Association Notes

Dr. P. V. Cherian.
 „ S. Venkatasubba Rao.
 „ G. R. Parasuram.
 „ R. Mahadevan.
 „ M. J. Santhanakrishna Pillai.
 „ K. Venkatachallam.
 „ P. A. Mathew.
 „ M. G. Kini.
 „ P. Ratnasami.
 „ K. S. Visvanathan.
 „ E. Achyutha Menon.
 „ K. Vasudeva Rao.

The Editorials of the Journal to be passed by the President before publication.

A sum of Rs. 15 was sanctioned for getting 20 reprints each for each of the original articles—for the January issue.

It was resolved that all professional men may be invited for Scientific meetings.

Correspondence.

MADRAS,

Dated 10th January 1931.

FROM

THE SECRETARY,
THE MADRAS MEDICAL ASSOCIATION,
Madras.

TO

THE PERSONAL ASSISTANT TO
THE SURGEON-GENERAL WITH THE GOVERNMENT
OF MADRAS.

SIR,

I have been directed by the Executive Committee of the Madras Medical Association to submit the following memorandum for the favourable consideration of the Surgeon-General.

The Association understands that it is likely that Teaching Cadres will be formed for the subjects of Biochemistry, Pathology, Bacteriology and Pharmacology. Members of the Association are anxious to know how those who are at present holding teaching appointments in these subjects will be graded in the new cadres. The Executive Committee feels that the total number of years that these officers have served as Teachers in the particular departments should be counted in fixing the initial salary in the proposed cadre. The Association submits that it would be only fair that when officers holding these teaching appointments are admitted into the cadre, they should not be in a position of disadvantage as compared with those who may be initially recruited to the cadre.

I request that you will kindly place this before the Surgeon-General for favourable consideration and recommendation.

I have the honour to be,
Sir,

Your most obedient servant,
S. RAMAKRISHNAN,
Madras Medical Association.

Correspondence.

91

21st January 1931.

FROM

M. R. RY. P. K. WARRIER AVL., L.M.S.,
PERSONAL ASSISTANT TO THE SURGEON-GENERAL
WITH THE GOVERNMENT OF MADRAS.

TO

THE HONORARY SECRETARY,
THE MADRAS MEDICAL ASSOCIATION,
Madras.

SIR,

I have the honour to acknowledge receipt of your letter, dated 10th January 1931, regarding fixing initial pay of Medical Officers holding teaching appointments in special cadres and to state the question has been referred to Government for orders.

I have the honour to be,
Sir,

Your most obedient servant,

(Sd). P. K. WARRIER,

*Personal Assistant to the Surgeon-General
with the Government of Madras.*

News.

Patna Medical Association Affiliates to the Indian Medical Association.

The question of affiliation of the Patna Medical Association to the Indian Medical Association was discussed at a general meeting of the Patna Medical Association on the 16th July 1930.

The general meeting referred the matter to the Executive Committee of the Patna Medical Association.

The Executive Committee of the Patna Medical Association at its meeting held on the 11th August 1930 decided to affiliate to the Indian Medical Association as its Patna Branch.

Bombay Medical Council.

The following summary of the proceedings of the meeting of the Bombay Medical Council held on the 15th September 1930 is published in the Press for information.

2. The Council considered a correspondence between the Government of Bombay and the Government of Portuguese India, showing that the latter was not prepared to accept for registration in Portuguese India all the qualifications mentioned in the schedule of the Bombay Medical Act, and resolved to address the Government of Bombay with a view to the Government of Portuguese India being moved to accept for registration the qualifications granted by the medical institutions in the Bombay Presidency only, as described below:—

- (1) Doctor, Bachelor and Licentiate of Medicine and Master, Bachelor and Licentiate of Surgery of the University of Bombay;
- (2) Fellow, Member and Licentiate of the College of Physicians and Surgeons of Bombay;
- (3) Any person trained in a Government Medical College or School in the Bombay Presidency who holds a diploma or certificate granted by Government declaring him to be qualified to practise Medicine, Surgery and Midwifery, or to be qualified for the duties of a Military Assistant Surgeon, Hospital Assistant, or Sub-Assistant Surgeon;

clause (3) being subject to the provisions of the Indian Medical Degrees Act, 1916, i.e., that none of these qualifications shall be registrable if obtained after 1916.

3. The Council considered a suggestion made by Mr. R. H. Desai, L.C.S., of Nadiad, that the Diploma of L.T.M. granted by the Calcutta School of Tropical Medicine and Hygiene be recognised for registration as an additional qualification under the Bombay Medical Act, and resolved to inform Mr. Desai that the suggestion could not be accepted.

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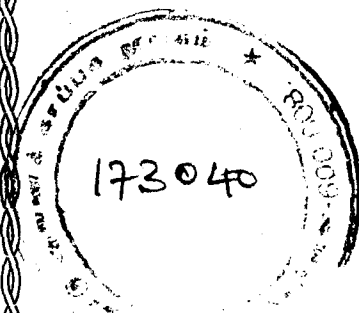


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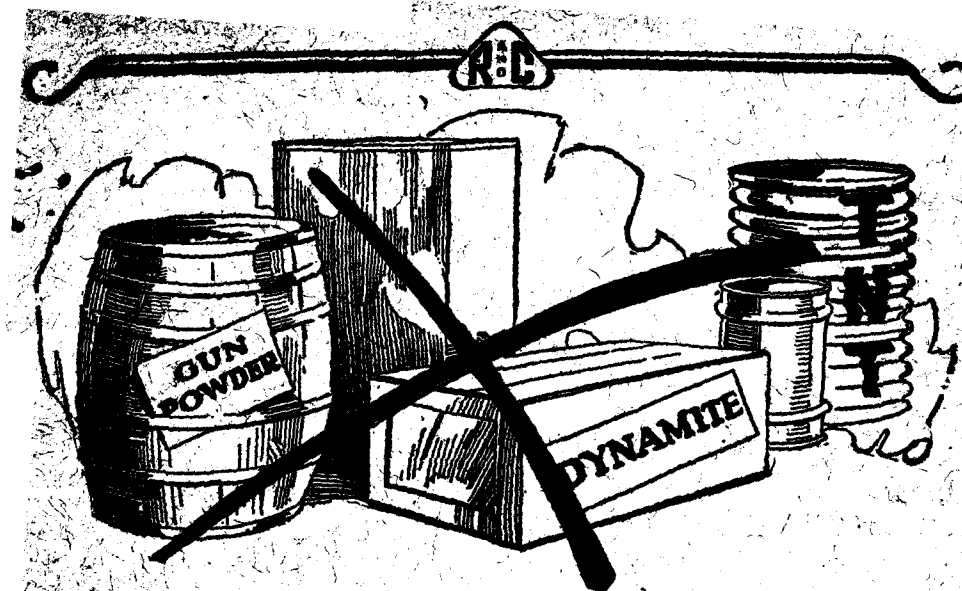
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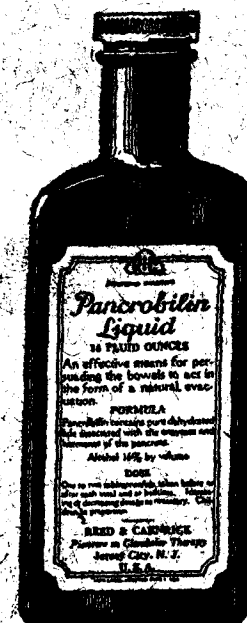
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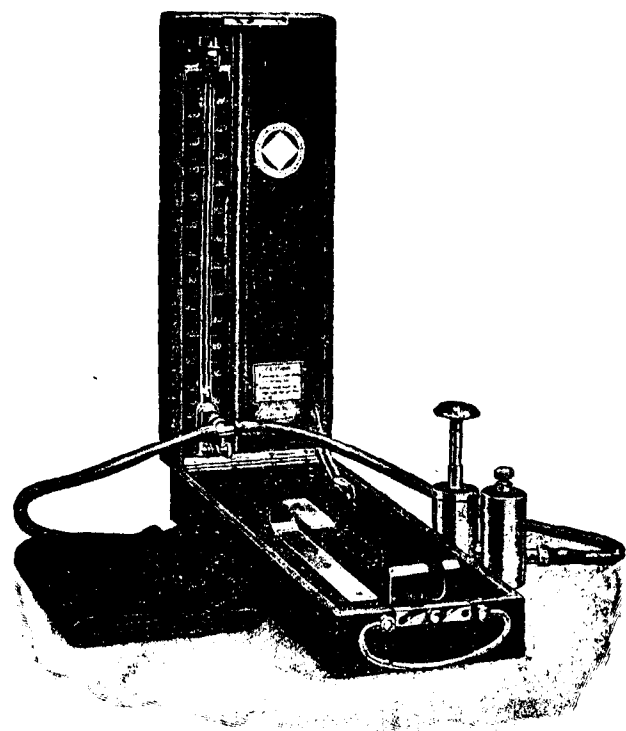
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