

Deccan Medical Journal

PUBLISHED BY
 The Hyderabad Medical Association

CONTENTS *Verified* PAGES

DEVELOPMENT OF THE VASCULAR SYSTEM—PART I	
By H. HYDER ALI KHAN, F. R. C. S. E., Professor of Anatomy, The Prince of Wales Medical College, Patna.	170
INTERESTING FACTS GATHERED AT THE 7TH CONGRESS OF THE FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE (<i>contd.</i>)	
By DR. R. N. COORLAWALLA, F. R. C. S., & D. P. H.	179
MAL-EFFECTS OF CARELESS CENTERING OF OPTICAL LENSES, AND OF BADLY FITTING FRAMES	
By DR. K. P. POPAT, L. R. C. P. & S., L. M.	198
A CONSIDERATION OF THE TUBERCULOUS PROBLEM	
By DR. S. A. RAHMAN, M. B. CH. B., D. T. M. & H. (Edin.), Civil Surgeon, Osmanabad	202
CLINICAL NOTES	219
1. TREATMENT OF A CASE OF HYDROPHOBIA WITH SCOPOLAMINE: RECOVERY	
By DR. S. MALLANNAH, M. D., D. P. H.,	
2. STRANGULATED HERNIA IN A CASE OF GENERALISED TUBERCULOUS DISEASE OF THE INTESTINE AND PERITONEUM: OPERATED ON	
By DR. R. N. COORLAWALLA, F. R. C. S. (Eng.) D. P. H. (Camb), ETC.	
3. A CASE OF HODGKIN'S DISEASE	
By DR. V. N. DORASWAMY.	
EDITORIAL	
TUBERCULOUS INTOXICATIONS AND TREATMENT WITH IMMUNE BLOOD	234
POST GRADUATE NOTES	
AURICULAR FLUTTER	240
NOTES AND NEWS	243
REVIEW OF BOOKS	245

EDITOR
 V. R. GORAKSHAKAR, B. A., M. B., Ch. B., (Edin.)
 OSMANIA GENERAL HOSPITAL,
 HYDERABAD-DECCAN

The Bengal Immunity Co. Ltd.

ESTABLISHED 1919

The Premier Establishment for the Manufacture of
Sera, Vaccines, Injectuins and other
Organotherapeutic Products

Awarded Gold Medals at the All-India Medical Exhibitions

DIRECTORS:

Hon'ble Sir Nilratan Sircar, Kt. M.A.,
M.D.

Rai Harinath Ghosh, Bahadur M.D.

Hari Sankar Paul Esqr. of Messrs B. K.
Paul & Co.

Dr. K. Ghosh, D. T. M. & H., (Cantab).

Dr. Indu Bhusan Basu, M.D.

Captain Narendra Nath Dutta, M. B.,
Managing Director.

HON. WORKING COMMITTEE.

Dr. Bidhan Chandra Ray, M.D., M.R.
C.P., F.R.C.S. (Engl.)

Dr. Harinath Ghosh, M.D., Rai Bahadur.

Dr. P. Nandy, M.D.

Dr. A. Chakravarty B. Sc., M.B.

Dr. Manindra Nath De M.B. (Cal),
M.R.C.P. (Lond.)

Dr. Dharendra Nath Banerjee M.B. (Cal)
M.D. (Berlin)

Dr. H. Ghose M.B.

Dr. D. R. Dhar M.B., T.M. (Cal).
M.R.C.P. (Lond.)

Dr. B. B. Sen M. Sc., M.B.

Captain N. N. Dutta, M.B.

Dr. B. C. Das, B. Sc., M.B., Secretary.

Laboratory fitted up with most up-to-date apparatus. Works carried
on under the direct supervision of Medical Experts and hence products
absolutely genuine and reliable.

Vaccines prepared from highly virulent Strains

Our Sera—A Speciality

The only fresh and genuine Sera in the market

Anti-Dysenteric, Anti-Streptococcal, Tetanus and
Diphtheria Antitoxic and Normal Horse Sera

*Liberal Commission allowed to Trade and Profession. For terms,
Lists and Literatures please write to Managing Director,*

153, Dharamtolla Street, Calcutta

Telegram: "INJECTULE,"



definite blood channels called the vitelline veins are formed and enter the body of the embryo. As the human yolk sac does not contain any appreciable quantity of nutrition another series of blood vessels called the umbilical vessels develop which connect the placental portion of the chorion with the embryo. The umbilical veins unite in a single trunk called the vena umbilicalis impar which enters the body along with the body stalk and divides into a right and a left umbilical vein. Each umbilical vein passes through the septum transversum, joins with the vitelline vein and forming a common channel called the vitello-umbilical vein, opens into the ventral aorta. A vein appears in the cephalic region on each side called the precardinal vein and is joined by another vein appearing in the caudal region called the postcardinal vein forming a common trunk known as the duct of Cuvier. This opens into the vitello-umbilical vein.

After birth the placental circulation is cut off and the greater part of the umbilical vein disappears.

A pair of stem arteries called the primitive aortae appear in the ventral region of the pericardial area which is situated at the extreme cephalic end of the embryo. Each primitive aorta extends caudally on each side of the notochord and gives origin to the umbilical artery ventrally.

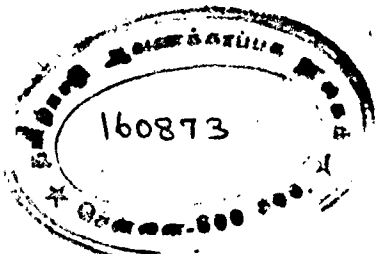
As the embryo is folded upon itself the primitive aortae in the cephalic region get bent and each results in a ventral aorta, a dorsal aorta and the bend which is called the first aortic arch. The caudal portion of the ventral aortae fuse together to

form a single heart tube, into the caudus venarum, which the veins open. The dorsal aorta of the level of the fourth thoracic to the fourth the two vertebrae and form the descending aorta. The middle sacral artery has been supposed to be the direct continuation of the aorta but it is doubtful as to whether it is so.

Constrictions appear in the heart tube and divides it into five portions called from the cephalic to the caudal region the truncus arteriosus, the bulbus cordis, the atrium, the ventricle and the sinus venosus. The ventral aortae arise from the truncus arteriosus. The vitelline, the umbilical, and the cardinal veins join the sinus venosus.

The first aortic arch or the bend of the primitive aorta passes through the first visceral (mandibular) arch; five additional arches make their appearance subsequently and run through the remaining visceral arches. The second arch joins the ventral with the dorsal aorta and gives off the stapedial artery which atrophies in man but persists in some animals as the rat. The third and the fourth arches arise from the truncus arteriosus and join the dorsal aorta. The fifth arch springs from the truncus arteriosus and joins the dorsal end of the sixth arch. The sixth arch runs between the truncus arteriosus and the dorsal aorta. As the ventral aorta keeps pace with elongation of the neck the third and the fourth arch arise from the ventral aorta.

The truncus arteriosus splits longitudinally and divides itself into the pulmonary artery and the



160873
160873
160873

ascending aorta and a portion of the arch. The pulmonary artery becomes continuous with the left sixth arch which forms the remaining portion of the pulmonary artery and the ductus arteriosus. The aorta is connected with the left fourth arch which forms a portion of the arch of the aorta.

The cephalic ends of the primitive aortae lie ventral to the mesodermal area which forms the pericardium. The folding of the embryo brings about a reversal of the pericardium; the pericardium therefore which was dorsal to the aortae becomes ventral. The heart tube begins to grow rapidly in length and so it is bent with its convexity forwards and then gets twisted. As the tube is bent forwards it pushes the mesoderm before it, and the mesoderm in contact with the heart tube becomes the visceral pericardium.

Further elongation of the heart tube results in its twisting in such a manner that the sinus venosus and the atrium occupy a dorsal position, the sinus venosus being the most caudal; the ventricles, the bulbus cordis and the truncus arteriosus occupy a ventral position, the truncus being the most cephalic. The heart thus gives off the ventral aorta cephalically from the truncus and receives the veins caudally into the sinus venosus.

The sinus venosus becomes crescentic in shape and receives the vitelline and umbilical veins, and the duct of Cuvier in each horn of its crescent. The sinus venosus develops further and opens into the right side of the atrium. The right horn increases considerably in size and forms the greater portion

of the right atrium known as the sinus venarum. The fully developed atrium is thus formed of the sinus venosus and the primitive atrium, and the two divisions are marked inside by a vertical ridge called the crista terminalis (His). The right vitelline vein develops into the inferior vena cava and opens together with the right duct of Cuvier into the dorsal part of the atrium. The left horn lags behind in development and becomes the coronary sinus. It receives the left duct of Cuvier only. As the right horn forms a portion of the right atrium of the fully developed heart, the right duct of Cuvier which develops into the superior vena cava opens above. Three openings are thus seen on the dorsal wall of the right atrium, the superior vena cava above, the coronary sinus intermediately and the inferior vena cava below.

The opening of the sinus venosus into the right atrium is guarded by the right and left venous valves; these meet above and form a ridge called the crista terminalis referred to above. The valves fuse below to form an elevation called the spina vestibuli. The right valve develops into the valve of the inferior vena cava and the valve of the coronary sinus.

The constriction between the atrium and the ventricle is called the atrial canal. This is soon overlapped by the over-growth of the atria round the bulbus cordis. The elevations called the anterior and the posterior endo-cardial cushions appear in the primitive atrial canal and join together to form a partition called the septum intermedium which

divides the primitive atrial canal into the right and the left atrioventricular orifices.

A partition called the septum primum grows ventrally from the dorsal wall of the atrium and eventually joins the septum intermedium, thus dividing the primitive atrium into the right and left atria but before the communication between the atria called the ostium primum (Born) is closed, perforations appear in the septum primum and fuse together to form the ostium secundum (Born) commonly known as the foramen ovale. Another septum called the septum secundum grows from the dorsal and cephalic part of the atrium on the right side of the septum primum and as it grows it overlaps the foramen ovale and acts as a flap valve. After birth the septum secundum and the septum primum fuse and the foramen ovale is closed.

A crescentic septum called the septum inferius grows upwards from the lower portion of the ventral wall of the ventricle and divides the ventricle into the right and left ventricles. These are connected for a time with each other by the interventricular foramen between the two horns of the crescentic septum. The posterior horn of the septum inferius joins the dorsal endocardial cushion which forms the pars membranacea of the interventricular septum. The septum inferius forms the main muscular part of the fully developed interventricular septum. The primitive ventricle and the bulbus cordis forms the ventricles, the bulbus cordis becomes the infundibulum of the right ventricle.

The truncus arteriosus is divided longitudinally by means of a spiral septum into the ascending

aorta and the pulmonary artery. The septum sp subsequently and separates the two vessels from each other.

Four elevations called the endocardial cushions appear in the bulbus cordis near the truncus arteriosus and form the valves of the aorta and of the pulmonary artery. The right and left endocardial cushions meet and form a central septum which fuses above with the aorto-pulmonary septum and below with a septum which appears in the bulbus cordis and joins with the crescentic margin of the interventricular septum separating the right from the left ventricle completely. The two divisions of the truncus arteriosus thus communicate with the right and the left ventricles respectively.

The septum formed from the right and the left endocardial cushions divides these cushions into an anterior and a posterior pair; the anterior pair together with the anterior endocardial cushion develop into three semilunar flaps of the pulmonary valve; the two posterior pair together with the posterior endocardial cushion develop into the semilunar flaps of the aortic valves. The atrioventricular valves are developed from the septum intermedium at the invagination of the atrial canal into the ventricles; the former develops into the medial cusp and the latter forms the lateral cusp.

The Arteries.—The portions of the aorta between two arches are called roots. Modification of the aorta and aortic arches results in the formation of the arteries of the head and neck, superior extremity, the lungs and the arch of the aorta. The

first, second and fifth arches entirely disappear in man. The third arch together with the dorsal aorta above it forms the internal carotid artery. The fourth arch forms the right subclavian artery on the right side, and a portion of the aortic arch on the left. The portion of the dorsal aorta between the left third and fourth arches disappears. The left sixth arch becomes the pulmonary artery and the ductus arteriosus. The right sixth arch disappears. The right ventral aorta becomes the innominate up to the fourth arch. The common carotid up to the third, and the external carotid artery beyond that.

On the left side the ventral aorta becomes part of the aortic arch between the innominate and the left common carotid arteries; further up the ventral aorta becomes the left common carotid up to the third arch and the left external carotid arteries beyond that. The aortic arch is therefore formed of the truncus arteriosus from the beginning of the arch to the origin of the innominate artery, from the left ventral aorta between the innominate and the left common carotid artery, from the fourth arch and from the cephalic portion of the left dorsal aorta. The right dorsal aorta from the third arch to the point of fusion of the two primitive dorsal aortae disappears.

As the pericardium together with the developing heart descends into the thorax the arteries also descend, the right subclavian artery to the root of the neck and the aortic arch into the thoracic cavity. The recurrent laryngeal nerve, which passes under the sixth arch to supply the muscles of the larynx,

is also carried down. The left nerve hooks round the ductus arteriosus which represents the left sixth arch, and the right nerve hooks round the subclavian artery which represents the left fourth arch, the left fifth and six arches having disappeared.

The dorsal aortae give off a dorsal, a lateral, and a ventral series of arteries. The ventral arteries are at first paired, but as the dorsal aortae fuse each pair becomes a single artery; these are called the splanchnic arteries and supply the abdominal viscera. Out of these only the coeliac artery, the superior mesenteric artery and the inferior mesenteric artery persist. The lateral arteries pass laterally and supply the Wolffian body. Of these only the arteries to the gonads (testicle or ovary) and the three suprarenal arteries persist. The superior suprarenal gives off the inferior phrenic while the inferior suprarenal gives off the renal artery. As the diaphragm and the kidneys develop the inferior phrenic and the renal arteries attain a large size and become the main arteries; consequently the superior and the inferior suprarenal arteries become secondary and appear to arise from the inferior phrenic and the renal respectively. The middle suprarenal however retains its origin from the descending aorta. The dorsal segmental arteries pass at first laterally and then forwards and each gives off a dorsal and a lateral branch. The arteries that retain their segmental character are the intercostal and the lumbar arteries. Longitudinal anastomoses of the segmental arteries form fresh arteries, such as the internal mammary in front of the thorax and the vertebral

artery in the neck; the proximal portion of the vertebral artery is, however, derived from the dorsal branch of the seventh segmental artery.

The arteries in the limbs are probably segmental and anastomose very freely and in the case of the superior extremity only the seventh segmental artery persists and continues as the subclavian, the axillary, the brachial, the volar interosseus and the median artery, the radial and the ulnar being lateral offsprings. As the radial and the ulnar arteries develop the median artery atrophies. Rarely the median artery persists and its pulsation can be felt next to the median nerve.

Recent investigations by Senior, show that the main or the axis artery of the lower limb is derived from the dorsal root of the umbilical artery and runs along the dorsal surface of the thigh, knee and leg and ends in a rete plantare; one of its branches passes through the sinus tarsi and forms the rete dorsale. The femoral artery is formed later, passes ventral to the thigh and is connected with the axis artery. Portions of the axis artery disappear but the root persists as the inferior gluteal artery, the part behind the knee persists as the proximal part of the popliteal artery and a part near the ankle persists as part of the peroneal artery. The rete plantare develops into the planter arch and the rete dorsale forms the arteries of the dorsum of the foot.

them. Under their long use the enamel of the teeth at the gum-margins, and the gums themselves get soft. Gums get swollen and spongy, and ultimately exude blood and pus. These conclusions are very condemning but they have been arrived at after exhaustive observations. Then it may be asked "What made them so popular with the people"? My answer is

- (1) The credulity of the people in the glittering but lying advertisements.
- (2) The last World War. Because the tubes could be easily carried about in the haversack, they were recommended in preference to the powder bottles.

I am unshakably convinced that they are a bane of human mouths, and that conviction did not need any outside support, but when it came, unsolicited, in the form of an article called "Dām (n) the Mouth washes and Pastes" in Oral Topics of April 1920 by Dr. Zarbough from Italy, I certainly welcomed it. Therein he says that "tooth pastes are a snare and a delusion" and indeed that they are.

Mal-effects of careless centering of Optical lenses, and of badly fitting frames.

BY

DR. K. P. POPAT, L. R. C. P., L. M. ETC.

The lenses should be accurately centered in frames that are light, strong, and rigid, otherwise the good effect of the most carefully chosen correction may be frustrated by a faulty position of glasses, or even a fresh source of eye-strain may be introduced.

In majority of cases the bridge is found to be badly fitting. It should be moulded to suit the shape of the nose so as not to cut or indent the skin, while the glasses should be at sufficient distance from the eyes to just clear the lashes. The lenses should not be further from the eyes than 14 millimeters. You will not be able to find out two similar noses out of a million people, some have elephant trunk nose, cat nose (small and low with prominent eye-balls) Japanese nose, Canadian etc.

In great many cases it is impossible to fit a perfect frame on such noses. A special frame should be ordered according to the requirements of the nose. *Dr. Mackay affirms that ninety per cent of those who wear glasses are mechanically misfitted.*

The joint should be angled according to the use of the glasses:—distance, constant or reading from ten to twenty degrees to enable the line of sight to pass at right angles through the optical centres.

The zylo frames with large round eyes were first made in America of different colours to suit big fair faces of American or English Standard noses. People of this country have adopted them wholesale, not caring whether they have a face or nose to suit. Roughly there are three types of face:—round face, triangular face and square face. Big round faces should be prescribed big round eyes. A strong rugged face needs a strong looking frame to set it off well. The same sort of frame will look out of place on a patient of delicate, thinking type. Very many with round lenses positively look ridiculous aesthetically if they have small oval faces and projecting eye-brows. Besides in ninety-nine per cent of cases the lenses remain too far forward or too near touching the lashes, or eye-brows, necessitating the victim to clean the lenses frequently. *The lenses revolve in zylo round frames during cleansing, which changes the axis of cylinders, which causes strain and frequent change in refraction which could*

be avoided by observing the two diamond marks on each lens perfectly horizontal once a week. Rimless spectacles with lenses of appropriate size according

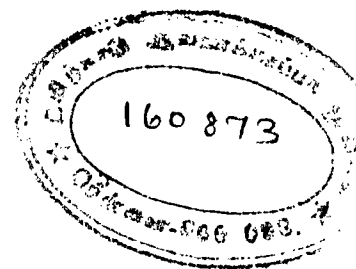
to pupillary distance are the neatest that can be supplied to small and delicate face.

Bi-focals:— For clerical work the lower segment should be 20 x 28 mm, for street wear, evening wear or theaters 22.3 mm round. *Bi-focal lenses should be prescribed either in toric or punktal curvatures* as they give greater comfort and a wider useful field extending upto fifty six degrees instead of twenty six in flat lenses. Toric lenses are appreciated to a marked degree in shooting, billiards, tennis, golf etc. and they could be made much lighter. *In punktal lenses* made by Carl Zeiss each power is made with the particular curve that will give the lens widest possible useful field. The reading segment should be centered from three to five millimeters narrower than the pupillary distance. The segment should be decentered such as to neutralize the prismatic effect during near work, which turns the visual line ten millimeters below the optical centres of lenses.

The best bifocals are punktal monoaxial ultex which eliminates the jump or prismatic displacement or blind spot (found in cheap bi-focals) which occurs millions of time in a day when the eye passes from distance to reading portion, by grinding both distance and reading fields with their centers of curvature on the common axis, making the two curves tangent at the conjunction, which permits the passage of the line of sight at the junction without a sudden jump or displacement. These lenses are made by Carl Zeiss and could not be made in India. The colours which are visible at the junction of cheap bi-

are not perceptible in the ultex bi-focals. *The trifocal lenses are the latest advance in the science. They have three foci the upper for distance, the middle one is for reading lower one is for seeing the ground or steps in enabling the wearer to go up and down the without tripping. Each piece requires optical adjusted according to distance or near work.*

stigmatism the cylindrical and sphero-cylindrical lenses should be prescribed in toric or punkt-curves. In high myopia it is important to the patient that the glasses for reading are not to enable him to see better, but to increase distance for near work, which prevents increase of sight. In high myopia through ignorance the patient uses thick lenses which could be avoided by use of thin lenticular toric and punktall lenses, have fifty-six degrees and more of useful field of vision, over hundred per cent; the cheap flat lenses have only twenty four degrees of the field of vision. The optical centres in myopia should be decentred.



A consideration of the Tuberculous Problem

BY

DR. S. A. RAHMAN, M. B., CH. B., D. T. M. & H. (EDIN).

Civil Surgeon, Osmanabad.

“THAT tuberculosis will disappear from our midst the writer has little doubt, and if the fall in the death-rate continues as it has done, in another thirty years the part contributed by tuberculosis to the general death-rate will be comparatively insignificant.” Thus writes Dr. John Guy, the tuberculosis officer for Edinburgh in his book on “Pulmonary Tuberculosis”. The fact is that mortality due to pulmonary tuberculosis in Great Britain, which not long ago, used to top the list, has rapidly declined during the last thirty years and if this rate continues of which there is every likelihood, then tuberculosis will soon become extinct in the country.

In a recent issue of the Deccan Medical Journal there is a plea for the establishment of a sanatorium for early cases of tuberculosis. Will it not be worth while to have a survey of what has taken place in other countries of the world and to see how far a sanatorium will help in the eradication of the disease from our midst ?

The Historical Aspect of Tuberculosis.

Very different is the outlook which we have to-day as regards tuberculosis in comparison to what was held by the ancients. Tuberculosis in its advanced form was known in the times of Hippocrates (460-377 B. C.). Galen recognised its infective nature. But in those early days all sorts of lung conditions e. g. abscesses, tumours, gangrene, were confused with tuberculosis.

No appreciable change was made in the conception of the disease till the time of Laennec (1781-1826). A native of Brittany, this celebrated physician should rank amongst the greatest medical men of all times. Sir William Osler rightly asserts that Laennec laid the foundation of modern clinical medicine. His excellent book “Traite d'Auscultation Mediate”, which has been translated into English should be read by every medical man. Laennec recognised the unity of the different forms of the tubercle. He recognised the disease in its true form and cleared many of the mysteries with which it was shrouded. Henceforth the word tubercle and tuberculosis began to replace many mysterious names with which the disease was associated.

The works of Laennec were elaborated by his celebrated countryman, Villemin. There was a great deal of confusion even at this time as regards the nature of tubercle. The specific organism was not known and a great deal of confusion was created by the distinguished German pathologist, Virchow, who declared that tubercles were not specific i. e., they could be caused by diseases other than tuberculosis. Villemin's work proved the specificity of the disease and, after much opposition, was finally accepted by the Academy of Medicine of Paris. The effects of Villemin's theses are thus narrated by Sir Dawson Williams:—

“The theses rather took the academicians’ breath away, but after considering the matter for nearly a year, it was seen that its consequences were too big to warrant any decision except after experiment and ample discussion. Accordingly in October 1866 a committee of some of the most distinguished French pathologists of the day was appointed. Its report, presented by Collins a year later, showed that its members were sitting on the fence: they confirmed the accuracy of Villemin’s work but were not prepared to reject the theory that tuberculosis might occur spontaneously”.

It was given to the great German bacteriologist, Koch, to establish the essential cause of tuberculosis by the discovery of the tubercle bacillus. He demonstrated the organism in the diseased lesion and reproduced the disease by injecting the culture of organisms into animals.

But the question is often asked: has there been any change in the method of treatment of the disease and have the results of treatment now employed been any better than they were during the time of Hippocrates? The answer to both these questions is most emphatically in the affirmative.

It is many years now that Dr. George Bodington wrote his famous essay on the treatment and cure of tuberculosis. In this article he attacked the old methods of treatment and advocated the treatment in open air. Like any other pioneer, he was badly criticised and the institution he had erected for the treatment of his patients by the open air methods had to be closed down.

But the work of Bodington found its roots in Germany where Brehmer started his first sanatorium in 1854. The results obtained by this method of treatment of the disease gave rise to wild speculations. All that was supposed to be necessary to stamp out the disease was the formation of a sanatorium where a few months course was supposed to be sufficient to cure the disease in any shape. It did not take, however, very long to realise the limitations of sanatorium treatment, and today, though the sanatoria still have their important place, they are no longer looked upon as the only hope of a tuberculous patient.

As regards the medicinal treatment of the disease one may earnestly ask if any real step forward has been made since the time of Hippocrates. Even today we are not in possession of any specific drug

which will cure the disease. The drugs used in the treatment of the disease are legion. Since Koch discovered the tubercle bacillus, there have been innumerable attempts to find some preparation made by using the organism which will be of some effect in curing the disease. One by one they have been found disappointing. The different forms of tuberculin preparations have seen their days. Recently we have seen sanocrysin and other preparations prove of little value.

In spite of these facts one can say that change in the methods of treatment of the disease has been revolutionary. In many parts of the civilised world, tuberculosis is fighting a losing battle and the day is not distant when the sentence quoted at the head of this article would come true. One is tempted to ask how is it that such happy results are possible seeing that no specific cure for the disease has yet been discovered? The answer to this is the recognition of two important factors and acting accordingly: firstly that tuberculosis is an infective disease in the same sense as influenza is, though not in the same degree; and, secondly, the recognition of the fact that, given favourable physiological conditions the human body offers a very strong resistance to the implantation and growth of the disease inside it.

In an address recently given to the medical Officers of Health at Bath and published in the British Medical Journal of April 28th, Sir Robert Philip discussed the causes of the decline in tuberculosis mortality in Great Britain. This illuminating address should be read by every one interested in

the problem of tuberculosis. Sir Robert, who has himself played such an important part in promoting and bringing into completion the modern scheme of combating the disease, discusses the causes that have led to the accelerating decline in the mortality due to the disease. He points out that the fall in tuberculosis mortality is far in excess to the fall in general mortality. Let us examine this point in detail.

If, say in the case of England, we compare successively the death rates of each of the years 1881, 1891, 1901, 1911 and 1921, with those of ten years before, the 1881 death rate in England shows a drop of 14%, 1891 death rate shows a drop of 15%, 1901 a drop of 21%, and 1921 death rate a drop of 20%. It will thus be seen that the average drop in the death rate due to tuberculosis for ten years is greater than the drop for the corresponding previous ten years. The same holds good for Scotland and Ireland.

One may argue that the fall in death rate due to tuberculosis is only in keeping with the fall in general death rate which has taken place during the last 30 years. A glance at the following tables will show that this is not the case. The fall in death rate for tuberculosis has been far in excess compared to the general fall.

Death Rates per 100,000 of the population.
(Numbers are five-yearly means centring on the year
named).

Year.	All Causes.	Tuberculosis			Pulmonary Tuberculosis		
	Both Sexes	Both Sexes	Males	Females	Both Sexes	Males	Females
1871	2210	306	323	290	232	239	226
1881	1992	264	283	247	189	199	180
1891	1930	225	249	202	156	173	140
1901	1704	182	210	156	128	150	106
1911	1398	143	164	123	104	121	87
1921	1246	114	128	100	89	101	78

Viewed from another angle, it would be seen that the saving of life due to the fall in tuberculosis mortality has been enormous. It would be apparent from the above table that the saving of life in the year 1921 due to fall in tuberculosis mortality is 111 per 100,000 of the population compared to 1891. In other words 44,400 persons are being saved every year in England who would have died of tuberculosis in 1891.

Interpretation of the Decline.

There can be no doubt, and all medical officers of health are agreed upon this, that the modern improvements in the hygienic conditions of the country have been important contributing factors in the decline in tuberculosis mortality. The improved system of sewage disposal, the better housing conditions, the greater interest now prevailing as regards sports and out-door games, the National Health Insurance Act, the system of medical examination of school children, have all resulted in the improved health of the nation and the consequent resistance to combat tuberculosis. But, as Sir Robert Phillip contends, this is not all. Because in cities and countries where anti-tuberculosis scheme has not been instituted the fall in tuberculosis death-rate has not been so marked. Whereas in places where such a scheme has been instituted the fall in death-rate has been more precipitate. Thus in Paris, prior to the war, the death-rate ran about 400 per 100,000 of the population. Vienna too had the same death-rate. After the war France "began to look into the matter", and in the past few years there has, gradu-

ally, been instituted an anti-tuberculosis scheme. In 1921 the death-rate for Paris was 286 per 100,000 of the population, and the death-rate for Vienna, where medical labour was much disorganised, was reported as 405 per 100,000 of the population.

What can, then, be this anti-tuberculosis scheme? It is based on the recognition of two facts viz., that tuberculosis is a highly curable disease in its early stages, and that it is infectious in true sense.

Amongst the laity, and even amongst some medical men, the idea is widely prevalent that pulmonary tuberculosis, when once established, means a death warrant to the patient.

It has been recorded that out of every one patient that dies of tuberculosis ten recover if the treatment is systematically and thoroughly carried out. It is difficult to arrive at actual figures, but whatever figures can be obtained point to this result. In the city of Edinburgh in 1920, there were recorded 287 deaths from pulmonary tuberculosis. Taking the proportion of ten patients to one death, it would show that there would be 2870 patients. From the register of notification it was found that there were actually 2000 cases of pulmonary tuberculosis known in the city at the time. This would be minimum figures, as a considerable figure (i. e. about 500 to 700) were not yet notified. It would, therefore, be seen that a rough ratio of deaths to the sufferers from the disease would be 1:10.

The Prevalence of Infection.

But this is not all. We know that there are many cases which, one time or another, had been attacked

by tubercle bacillus but, either the attack was so feeble or that they had such strong resistance against the disease, that the attack was promptly warded off and, before they could be aware of their illness, they were cured. These cases were thus never notified. There are two methods by which an estimate of this kind can be made:—

(1) Post mortem findings, (2) Tuberculin test.

(1) Post mortem findings:—It has long been observed that healed tubercular lesions were found in the lungs of persons who had died of some other disease than tuberculosis. After 500 p. m. examinations Nageli found that 71% showed pathological changes due to tuberculosis. He also found that in cases over 18 years of age no fewer than 98% were infected but below that age only 25% were infected. Similar results have been obtained by other observers. Thus Opie, in his series of 50 cases, found that all the cases over 18 years showed evidence of tuberculosis.

Hamburger gives the following figures as a result of 848 autopsies in children.

Age	Number	Tuberculosis Present		
			Per cent	
3 Months	105	4	—	4
3- 6 „	73	13	—	18
6-12 „	140	32	—	23
1- 2 Years	179	74	—	40
2- 4 „	175	102	—	60
4- 6 „	67	38	—	56
6-10 „	65	41	—	63
10-14 „	44	31	—	70
	848	335	—	40

Recently Todd has come to similar conclusions as a result of several hundred autopsies performed in the Edinburgh Royal Infirmary.

From the above observations two very important conclusions are drawn viz.

- (1) that the percentage of infection is very high and
- (2) that infection increases rapidly as age advances until almost every body is infected in the early adult life.

(2) *Tuberculin test*:—The specificity of the cutaneous tuberculin reaction is well established. The results obtained by this test are quite in harmony with those found by the post mortem method. Von Pirquet of Vienna summarises the results of 988 cases as below.

Age	Positive Reaction	Age	Positive Reaction
0—3 months	0 Percent	4—6 Years	53 percent
3—6 „	5 „	6—10 „	57 „
6—12 „	15 „	10—14 „	68 „
1—2 Years	24 „	Over 14 „	90 „
2—4 „	37 „		

Other observers have come to similar high results.

As far as I know, no reliable statistics exist as regards the rate of infection in India, but considering the high mortality due to tuberculosis which is obtained in most of the Indian cities, it may be surmised that the percentage of infection would also be very high. Thus we see that, though almost every adult is attacked by the tubercle bacillus at one time of his life or other, comparatively few develop the disease and die of it. This, naturally, suggests that the tendency of tuberculosis is to cure itself.

Tuberculosis is an infectious disease. One need not dilate on this point. Any scheme, therefore, which aims at prevention of tuberculosis must base its foundation upon this factor. Of course all gene-

ral factors which tend to increase the standard of living of the community, together with the improvements of the hygienic conditions, will increase the resistance of the community to the disease and will tend to decrease the incidences of the disease. But we are not concerned with them here. Let us consider the direct methods specially chosen to check the growth of the disease. Certain factors will have to be considered:—

- (1) As the disease is very amenable to treatment in early stages it is imperative that arrangements should be made for the detection of the disease in early stages.
- (2) As the other inmates of the house in which a tuberculous patient resides are liable to contract the infection, arrangements should be made for periodical examination of such inmates so as to detect early signs of the disease in them and get them treated at this stage, and also to increase their resistance to the disease by improving their housing and feeding conditions if that is needed.
- (3) As the disease in all cases runs a chronic course, teach the patient to live a rational mode of life and to take precautions so as not to be a source of infection to other people.

It will thus be seen that a sanatorium by itself, though it has an important place in the scheme, will not serve the purpose. It should be remembered that

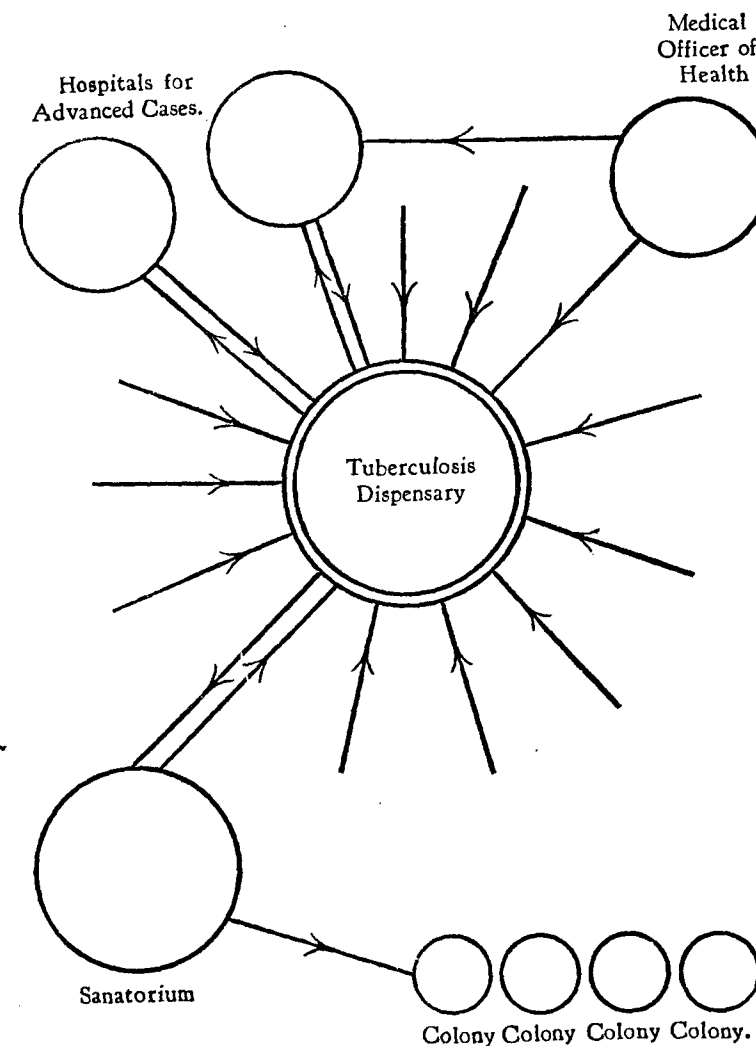
tuberculosis is a very chronic disease, and a case has to be treated for many months. A sanatorium is a very costly institution and can at best accommodate not more than 200 cases at a time. In the city of Hyderabad alone there would be many thousands of cases of pulmonary tuberculosis at this moment. Most of the cases, therefore, would have to be treated at home, and arrangement should be made for such cases to be treated. Besides, every case of tuberculosis is not suitable to be sent to a sanatorium. I still remember the phrase which Sir Robert Philip was never tired of repeating to his class; “and, mind you, do not send your tuberculous patient to a sanatorium to die”. It is a great folly to advise a tuberculous patient who is at the point of death, to go to a sanatorium, whither he goes at enormous expense and succumbs, away from family and friends in strange surroundings. Any one who is acquainted with the principles of sanatorium treatment knows that the death of the patient inside the sanatorium, besides bringing in a bad name for the institution, has very deleterious psychological effects upon the other patients in the sanatorium.

It is, therefore, important to have a Tuberculosis Dispensary situated in the heart of the city and under the charges of experts. The Dispensary should be well furnished with all the necessary articles for diagnostic purposes. It must have a small laboratory for bacteriological work and an X-rays installation. Here suspected cases should be sent by practitioners for confirmation of diagnosis or otherwise. This institution should also keep a staff of

trained nurses to visit the houses of patients and instruct the inmates as regards the benefits of fresh air, and also to keep an eye on them to see if they develop any signs of tuberculosis and, if so, to bring the matter at once to the notice of Tuberculosis Officer. The tuberculosis dispensary should also be a place where cases are selected for sanatorium treatment, or for treatment in a tuberculosis hospital if such a thing exists in the country, or for home treatment.

As an example of a good scheme, one may take the one in operation at Edinburgh. This scheme, which was brought into being as the result of the indomitable energy of Professor Sir R. W. Phillip, consists of a tuberculosis dispensary as the base, a sanatorium with farm colonies, and two hospitals for advanced cases. The whole scheme is under the supervision of Dr. John Guy, the Tuberculosis Officer and Deputy Medical Officer of Health for Edinburgh. The scheme is represented in fig No. 1.

As indicated in the figure, the Dispensary is the centre of the scheme. Here cases are sent from all sides from private practitioners, from general hospitals etc. If the patient is not found to be suffering from tuberculosis, he is sent away. If there is a suspicion of tuberculosis, he is asked to attend the Dispensary every week till the suspicion is dispelled. If he is found to be suffering from a slight attack of the disease, he is either treated at home or sent to a sanatorium as the circumstances warrant. If the case is found to be in an advanced state, he is sent to the tuberculosis hospital. The sana-



Plan of the Edinburgh Tuberculosis Scheme.

torium has at its disposal a certain number of farm-colonies. When a patient is so far improved in a sanatorium that he can perform out-door work with benefit to his health, he is sent to a colony where he can earn his livelihood till he can find a suitable job outside.

We in Hyderabad are neither so financially situated nor in such a fortunate position as to embark on extensive schemes of the sort as mentioned above. We are too much hampered by curious customs and superstitions which pervade the minds of our masses. Our women-folk, who form the bulk of our tuberculous patients, are shut up behind the purdah and often deprived of proper medical attention—let alone supplying us with well qualified medical women and nurses. However, it is very gratifying to see that our government is taking a keen interest in the medical problems which confront us. We have already got the idea of a sanatorium taking a definite shape. At the same time one may suggest the establishment of a tuberculosis dispensary on a moderate scale as very appropriate and very important.

Clinical Notes.

1. TREATMENT OF A CASE OF HYDROPHOBIA WITH SCOPOLAMINE: RECOVERY.

BY

DR. S. MALLANNAH, M. D., D. P. H.

Patient named Mallan Bee aged 27 years residing at Goshamahal was brought to the Laboratory for the treatment of Hydrophobia.

The patient was bitten by a pup two months ago and the pup died subsequently. This dog was neither examined by a Veterinary Surgeon nor its carcass when dead was sent to the Laboratory for the diagnosis of rabies. The patient was bitten on the first phalanx of the middle finger of her right hand and the wound healed within a few days without any trouble. But eight days after the bite, the finger got inflamed and swollen and she became feverish. On finger being opened by a local practitioner a certain amount of pus came out and the incision made healed completely within eight days. But on 24th July 1928 she began to feel pain in the bitten finger and on 27th July 1928 she suffered from restlessness and had convulsions which recurred very often. She felt her legs very heavy and benumbed and had

disturbed sleep. On 28th July 1928 when she came to the Laboratory, on examination she was found weak, prostrated and was unable to walk without support. There were general nervousness and hyperesthesia present with abnormal reaction to impressions of all kinds causing reflex spasms. On making her drink some water, severe spasms were induced. There was no sign of emotional excitement present. There was a slight rise of temperature about 100° F. The pulse was full and bounding about 120 per minute. Respiration was shallow and rapid about 36 per minute. There were absence of trismus, risus sardonicus, barking and absence of attempts to bite. There was no complaint of choking sensation in throat. The spasms were severe and quite distressing accompanied by intense dyspnea. It was decidedly not a case of Tetanus as there were no trismus and risus sardonicus present and the incubation period being too long for Tetanus. It was decidedly not a case of Hysteria as there were no signs of globus hystericus, barking and attempts to bite. There were no other signs of hysterical stigmata present; on the other hand there were signs of weakness, extreme prostration present and also a rise of temperature. It was decidedly a case of genuine rabies as the incubation period, the death of the animal which bit her, the premonitory symptoms, the occurrence of severe spasms after taking water and the great prostration indicate a true case of Rabies. I have had some experience of genuine Hydrophobia as I treated several cases at the Laboratory with various drugs without any success. I found that the only remedy which had some effect

in reducing the spasms was the antirabic vaccine but it did not cure the complaint even when given in large doses. As phenol solution when given intramuscularly produces good results in cases of mild tetanus and as decoction of the leaves of *Datura* has been recommended from time immemorial in India as an internal remedy for the prevention of Hydrophobia and as *Datura* contains Hyoscyamine, I tried the combination of phenol solution and scopolamine in the present case and found the result remarkable.

On 28th July 1928 at 12-30 p. m. a subcutaneous injection of antirabic vaccine (5 cc) was given and later at 1-30 p. m. 2 p. c. of carbolic acid solution (10 cc) was given intramuscularly followed by subcutaneous injection of scopolamine hyoscyne hydrobromide gr. 1/100 when she became drowsy and the spasms ceased. At 8 p. m. she had a second injection of scopolamine gr. 1/100 and 5 cc. of carbolic solution when she became drowsy again and slept soundly. She had spasms at 11-30 p. m. and these continued every ten minutes up to 12 p. m. although she was under the influence of Hyoscyne.

Next morning although she had no spasms she was restless and very weak and felt very heavy and benumbed in the legs. Her temperature was 99° 2 and respiration 30 per minute and pulse 76 per minute. The urine was scanty but frequent and was not of low specific gravity. It was straw coloured and not smoky and contained albumen and epithelial casts. At 2 p. m. a third injection of 2 p. c. carbolic solution (5 cc) and scopolamine gr. 1/200 was given.

On 30th July 1928 as she was not quite fit she was given fourth injection of scopolamine gr. 1|200 and 5 cc. of carbolic solution.

On 31st July 1928 the patient's condition was much improved, she was not weak, could walk without support but complained of pain in the bitten finger. In all other respects she seemed quite well. The pain in the finger was not on the surface but deep in the bone. The urine became quite normal and free from albumin and casts. In this case as the spasms subsided so rapidly there was a doubt as regards the diagnosis but the occurrence of spasms under the influence of Hyoscine and sleep, the presence of temperature and the condition of the patient dispel any doubt as regards the diagnosis.

On 2nd August she became restless in the evening and perspired freely and at 9-30 p. m. she had slight spasms thrice every ten minutes but on giving her fifth injection of 2 p. c. carbolic solution (5 cc) and scopolamine gr 1|200 the spasms ceased completely. Since then she had no more spasms and is quite well.

Hyderabad—Deccan.

11th August 1928.

2. STRANGULATED HERNIA IN A CASE OF GENERALISED TUBERCULOUS DISEASE OF THE INTESTINE AND PERITONEUM

Operated on

BY

R. N. COORLAWALLA, F. R. C. S. (ENG.)

D. P. H. (CAMB). ETC.

Name—Yelliah, age 22, caste—Hindu Sex—Male, Unmarried.

Occupation—Coolie, Residence—Miralam Mundi.

Admitted on 29—1—28 at 11-15 a. m.

Patient's chief complaint—Patient was admitted on 29—1—28 at 11-15 a. m. with acute distention of the abdomen together with pain and constipation for the past 20 days.

History of the present disease—20 days back the patient an hour after taking his usual morning meal felt pain in the right iliac region radiating all over the abdomen. An hour after the pain he vomited and the pain increased which was coming on and off intermittantly with an interval of 10 minutes or $\frac{1}{2}$ hour and sometimes even an hour. The next day he found his bowels constipated which continued until the patient sought admission in this hospital.

History of previous health. Patient says that he enjoyed good health and gives no history of having had either Gonorrhoea or Syphilis.

Social history. Lives in an unhygienic condition. Smokes cigars and occasionally drinks country liquor and toddy.

Family history. Patient is an orphan and says that he has no brothers or sisters and his father died of T. B. in his old age, and mother from old age.

Condition on examination.—

GENERAL CONDITION. Patient is a young man of moderate constitution with an anxious look. Pulse 94 per minute, temp: sub normal. Resp: purely thoracic. The patient, due to pain, drew his legs up and was restless and passes urine with difficulty.

ALIMENTARY SYSTEM. Teeth dirty, tongue thickly coated with fur, digestion impaired, discomfort and vomiting after taking food and bowels constipated.

Local Condition—Inspection. Abdomen distended 4" or 5" beyond the Xiphi-sternum. Transverse and oblique ridges were seen on the abdomen, together with peristaltic wave of the ladder type.

In the right inguinal region there was a protruding mass the size of which was that of an orange. The sperm. c. on the right side swollen, testicle pushed down; and above the testis there was a fairly hard small mass the size of a guava.

Percussion. Only tympanitis could be elicited especially more marked on the upper portion of the abdomen.

Palpitation. The abdomen was soft and hot to touch with small hard mass felt here and there. The spleen and liver were not palpable. The cord was found thickened, doughy, and painful and there was no impulse on coughing. The mass could not be moved and it extended upwards from the testis along the cord through the external abdominal ring into the abdomen.

Treatment adopted:—

29—1—28. Soon after the admission the patient was given soap water enema with no effect only fluid came out. The patient did not sleep the whole of that night and he was very restless. Had no motions. There was peristalsis and he used to feel catching pain in the right iliac region radiating outwards. Pulse fairly good and temperature 100. He was operated on at 1-15 p. m.

OPERATION. An oblique incision about $3\frac{1}{2}$ " was taken in the right iliac region parallel to the inguinal ligament. The fascia and ligament were retracted and the peritonium was cut through when the omentum was found with tuberculous adhesions and the intestines with tuberculous caseated nodules varying in size from small marbles downwards to pin points, plentifully, even where a loop of small intestine was found to be strangulated in a part of its circumference. All the adhesions together with caseating T. B. mass were excised together with the strangulated portion of the intestine. Lateral anastomosis performed. Hot saline fomentations were given and the neck of the hernia ligatured with silk-worm-gut sutures. The cord was separated

and the bed was made by suturing the inguinal ligament with the conjoint tendon of obliques internus abdominis and transversalis. The wound was closed with silk-worm-gut sutures and the skin by horse-hair sutures—dressing applied and the patient sent back to bed.

30—1—28 at 2 p.m. After the operation, saline Oz. X with Oz. 1 of glucose given (injection) per rectum every 4th hour.

At 6 p.m. Pulse 120 p.m., very weak, practically imperceptible. Temp. 99°, Resp. 30; had two motions and vomited faecal matter once which was very foul-smelling.

At 10-30 a.m. Pulse 132 p.m., regular in rhythm, but weak.

31—1—28 6 a.m. Pulse thready 108 p.m. had one motion. Saline drip-enema given.

4. p. m. Pulse 130, weak thready; temp. 100°, had one motion.

1st Feb. Pulse 109, weak temp. 98° had two motions in the night and passed urine this morning without difficulty.

2nd Feb. Patient had good sleep, passed one motion in the night Pulse 90 Resp. 26 p.m. No distension of abdomen.

4th Feb. Patient is comfortable, had sleep last night, passed motion once, pulse weak but regular 84 p.m. Temp. normal.

5th Feb. Patient feels much better, but weak, pulse 84 p. m. temp. 97° Resp. 25 p. m.

11th Feb. Bowels free, temp. normal, pulse 65 p.m. Resp. 24 p.m. Patient feels quite comfortable. No abdominal distension.

Patient made an uninterrupted recovery after the hernial wound had healed. He was put on anti-tuberculous treatment and now seven months after the operation, he has gained in weight and digestion is good. There is no abdominal discomfort whatever and he is serving in the hospital wards as an active orderly.

3. A CASE OF HODGKIN'S DISEASE.

Date of admission: 7th June 1928.

Name: Damji. Age 40; From Parbhani.

Farmer by Profession.

Patient was admitted with enlargement of the glands in the axilla, neck and groin.

Duration $2\frac{1}{2}$ months.

$2\frac{1}{2}$ months ago the patient had a sudden rise of temperature, for a week with severe diarrhoea with pruritic dermatosis. Later were noticed Lymphadenomata all over the body. The characteristic features of these glands were: (1) noninflamed, (2) freely mobile on their pedicles, (3) encapsuled, (4) hard to the feel, (5) grown to the size of an egg at the time of the admission. They were situated in the following regions: (1) single enlarged gland ovoid in shape $3'' \times 2''$ in the right axilla, behind the anterior axillary fold, (2) one in the left axilla of the shape and size of a mango $4'' \times 2\frac{1}{4}''$ (3) two in the right inguinal region, one above the Poupart's ligament, and the other in the scarpa's triangle, (4) two in the left inguinal region symmetrically situated as on the other side. These were of the size of an egg. Multiple small glands of the size of peas and nuts were situated all along the posterior margin of the sternocleido mastoideus scattered discrete all over the posterior triangles of the neck on both sides. (6) A small gland was in the supra scapular region below the left shoulder of the size of a walnut.

The spleen was also enlarged two fingers breadth below the costal margin with smooth rounded off edges. The blood picture showed the following:

- | | |
|--|----------------------|
| (1) Total R. B. C. | 4,140,000 per c. mm. |
| (2) Haemoglobin | 55%. |
| (3) Colour index | 0.665 |
| (4) Total leucocytic count | 6,250 per c. mm. |
| (5) Differential count of white cells. | |
| (a) Polymorph | 64% |
| (b) Large Lymphocytes | 2% |
| (c) Small Lymphocytes | 13% |
| (d) Eosinophiles | 27% |

Urine shows no albumen or sugar.

Differential Diagnosis:—

From T-B.

(1) Presence of prodromal manifestations of *pruritis* and diarrhoea.

(2) Concomitant presence of tuberculosis of the other parts of the body coexisting with the glandular enlargements.

(3) Incidence of T. B. glands more often in children in a generalised form.

(4) Method of grouping up of glands, clustering and matting of glands in T. B. Discrete Lymphadenitis in Hodgkin's disease, (5) Tendency to become adherent in T. B. (6) No softening and sinus forming which happen as a rule in T. B. (7) T. B. glands will not reach such enormous size (8) The recurrent and remittent temperature is absent

in T. B. where it is hectic, (9) The blood phenomena Eosinophilia very prominent with a leucopenia whereas Lymphocytosis is marked in T. B. (10) Oedema of the glands is rare in T. B. whereas in Hodgkins with each rise of temperature not only a new gland enlarges but the original gland gets highly inflamed (11) The Tubercularcutis, namely Scrofuloderma which is easily distinguished from Urticaria like rash with severe pruritis of Hodgkin's (12) The T. B. glands tend to caseate, whereas Hodgkin's get more indurated. (13) Microscopic examination shows more of granulation tissue in Hodgkin's.

(2) From Syphilis: leutic glands of the 2nd stage:

(1) small, discrete, shotty, few in number; regions affected are groin, supracondylar region of the elbow, anterior triangle of the neck, rarely forming pockets of any size, not at all generalised. Wasserman positive;—microscopic examination: absence of enormous epithelioid cells; presence of giant cells of Langhan's type.

(3) From non-specific Lymphadenoma.

Unilateral in distribution; cervical or sub-maxillary or sub-lingual—sometimes in the axilla or the groin. These are subsequent to other causes as ulcers in the mouth, bad teeth, affections of the tonsils and other accessory sinuses, or trauma of the leg or hand.

These are firm, tender and break down easily; attended with temperature upto 100° to 101° only. Blood picture—Polymorpho—Leucocytosis present. [Microscopic: Lymphoid Hyperplasia.]

Removal of the offending focus ends in complete cure and recovery. No enlargement of spleen.

Diseases of Blood Dyscrasis.

(4) *Leukaemia*: Starts in single group of glands. Blood Picture: Leucocytosis overwhelming, enormous increase in Lymphocytes (see also chronic myeloid Leukaemia). Characteristic enlargement of spleen.

(5) *Lymphosarcoma*: A hard, atypical growth, monotonous in existence; involvement of gastro-intestinal tract though present is of a nonstenosing type; variagated cell complex of Hodgkin is absent—Presence of nucleated R. B. C.

(6) *Splenomegaly*: No diffuse—Lymphadenopathy. (Note) Banti's disease. Absence of Ascitic change.

Haemolytic icterus or acholuric variety (Jaundice present). No Lymphadenoma; increased fragility of the R. B. C. Liver is also enlarged with spleen.

(7) *Gauchers disease*: A familial history is constantly present. Greyish-yellow or brownish-yellow discolouration of the skin—runs a very chronic course histologically—strands of groups of the large epithelial and endothelial cells present. Diffuse Haemochromatosis.

(8) *Jakschs Anaemia* (anaemia pseudo leukaemia infantum; huge big spleen—no glands in infants. Blood picture—Secondary anaemia—Megaloblasts present—Normoblasts in abundance.

Treatment and Progress:

9th June 1928. Injection of Quinine gr. 10 intramuscularly as the patient was having rigors.

Re

Liquor Arsenicalis M XXX

Mixt. Bark Ammonia OZ VI

10th No temp. Pt. improving—no changes in the size of the glands.

19th Pt. had a sudden rise of temperature to 102° Spleen enormously enlarged—glands swollen—new glands appeared in the posterior triangle of the neck.

21st Neosalvarsan .6 gram given intra-venously; Pt. had a rise of temp. next day after the injection. All the tumours of the body became highly inflamed—specially of the neck—swollen.

26th Saline and purgatives were administered—temp. came down—glands assumed half the original size.

29th Pt. complained of severe pruritis—given a hot bath with Lysol and Vineger—no relief—complains of pain behind the manubrium—sterni of a dull aching character—No tumour found in supra sternal notch.

30th Neosalvarsan .9 gram given.

1st July Pt. had rise of temp. 102° —Face, eyes, lips oedematous and flushed—complains of severe itching all over the body.

3rd Temperature 100° . Pain in the mediastinum—Worse—all the glands of the body looking larger.

4th Same condition continued—Pt. worse.

5th 8 A. M. Pt. semi-conscious—laboured difficult breathing—pulse, full 96 p. m. All the glands of the body became unusually soft and attained $1\frac{1}{8}$ th of their original size. There was fullness in supra sternal region—It was dull to percussion; tenderness could be elicited—percussion or handling of this part increased the breathing difficulty. Administered milk with brandy. Pt. could not gulp it down. Struggles during the effort, behaves as if he is choked face getting blue—Pt. died at 6. 50. p. m.

This was the last exacerbation of similar previous attacks. The appearance of a new gland causing mechanical pressure on food and air passages was the ultimate cause of death.

V. N. DORASWAMY, L. M. S.,

Assistant Surgeon.

The Deccan Medical Journal September 1928.

TUBERCULOUS INTOXICATIONS AND TREATMENT WITH IMMUNE BLOOD.

DR. Joseph Hollos has published recently a book on Tuberculous Intoxications with a view to bring before the medical world his new conception of tuberculosis. In the majority of cases, he says Tuberculosis does not appear in its customary form, but remains concealed and has the appearance of Anaemia, Neurasthenia, Thyrosis, Hysteria, Epilepsy, Neurosis, Rheumatism, Dysmenorrhoea, Neuralgia, etc. Antonin Poncet gave the name of "*little tuberculosis*" to such cases.

Hamburger found tuberculosis in 617 Autopsies of children in whom tuberculosis was not the cause of death.

Von Pirquet got positive reaction in 613 seemingly healthy children.

Infection is exceedingly prevalent, but only a small percentage of those infected become manifest-

ly tuberculous. The fate of a person infected depends upon the number of bacilli, upon the frequency of infection and the virulence of the bacilli and also upon the relative immunity of the patient.

Dr. Joseph Hollos says that we must abandon the old idea that descendants of consumptives inherit, if not the sickness itself, a certain tendency towards it and replace it with the opposite principle "Descendants of Consumptives inherit a certain degree of immunity". Therefore under the same circumstances descendants of consumptive parents incur the infection less easily than descendants of families free of tuberculosis. This view as Antonin Poncet says in his preface to the 1st edition of Dr. Hollos's book will astonish many of us; it will shock others; it will convince some. At a meeting of the Hyderabad Medical Association held recently, where a lecture was given on Tuberculosis by Dr. Parasuram of the Madras Tuberculosis Hospital, this view regarding inheritance was brought to the notice of the lecturer. The lecturer could not accept that view. He stated that in France, children of tuberculous parents have been isolated and the death rate amongst them has been less than that amongst the non-isolated ones. This comparison does not disprove Major Hollos's statement. Children constantly exposed to infection in the City must suffer more than those who are isolated. What we have to see is whether under similar circumstances, children of Tuberculous parents suffer more from tuberculosis than children of non-tuberculous parents. The latter are not isolated at all and therefore the comparison must be between the two sets of children living in a town,

both under similar conditions of environment, risk of infection, etc. The immune bodies, as Major Hollos points out, so far as developed in the body of the tuberculous subjects, are to a certain degree transmitted to their descendants. One must expect, therefore, a certain amount of immunity in descendants of consumptive parents.

Acquired immunity is produced by absorption of toxin from the primary focus. Two kinds of immunity develop: anti-toxic and lytic. The latter liberates endotoxines and a certain amount of hypersensitiveness is caused and as a result most varied functional disorders and subjective symptoms develop which often trouble the patient for years without his ever having any manifest symptoms of tuberculosis. These symptoms are partly due to disturbances in the individual organs, but mainly caused indirectly through injuries affecting the endocrine glands. Irritation and eventually decreased function of these glands secondarily influence metabolism, growth of organism, and the functions of organs.

The more the immunity increases, the more the symptoms of intoxication develop and become chronic. Meanwhile the tuberculous process itself progresses very slowly or does not progress at all, due to the immunity. The sickness is not diagnosed as Tuberculosis but as Anaemia, Neurasthenia, Hysteria, Neurosis, Rheumatism, etc. In tuberculous families many of this type are found. Dr. Hollos says: "Hereditary immunity plays a large part in decreasing the intensity of the tuberculosis afflicting generation after generation". One parent might have

chronic Phthisis; one or two children might also have manifest tuberculosis, majority being neurasthenic or anaemic, whereas the grand children may show only forms of attenuated tuberculosis, such as thyrosis, rheumatism, etc. Patients with such an intoxication or hypersensitiveness, or lytical immunity will show different reaction to renewed infection from those shown by tuberculous patients without immunity or by healthy individuals.

Repeated and more intensive infections finally stop the production of immune bodies, and the tuberculous process manifests itself but in the same degree the symptoms of intoxication disappear.

If infection reaches one who has not previously acquired a natural immunity nothing hinders the progress, no symptoms of intoxication appear or accompany or are found only in rudimentary forms. Haemoptysis, fever, cough, rales over apex, bacilli in sputum, etc., the common manifest signs of the disease are the first signs of the infection. Sudden appearance of these symptoms and lack of reaction are striking in persons inclined to tuberculosis. Major Hollos says: there is actually a tendency towards tuberculosis in every one descending from parents free from Tuberculosis. Persons especially predisposed are those whose blood cells are incapable of producing immune bodies or have a notably decreasing capacity, such as the descendants of alcohol addicts, and Dr. Hollos states that increase of consumption parallels the spread of alcoholism.

The recognition and evaluation of the symptoms of tuberculous intoxication are important; for the sickness, Dr. Hollos says, may be healed by means of specific therapy relatively easily and definitely and in that way we may have the best prophylaxis against consumption. Anaemia, Hysteria, Neurosis, etc., must be properly understood and cured. Endocrinal and sympathetic systems are disturbed and symptoms such as headache or dysmenorrhoea or sleeplessness appear with other minor symptoms. That tuberculosis causes and sustains those symptoms is proved, Dr. Hollos says, by:

- (1) Physical Examination (including X Ray, etc.)
- (2) Specific Therapy—injections of tuberculins, Spengler's Immune Blood which relieve the patient of the symptoms.
- (3) Provoking or increasing the symptoms by using non-corresponding tuberculins or giving larger doses of Immune Blood. Stop this and we see improvement.

- (4) Post-mortem examination.

Dr. Hollo's rightly concludes that the recognition of latent and disguised tuberculosis is of the greatest practical importance. He asserts that Tuberculins and especially Spengler's immune blood properly administered are at least as speedy remedies as Salvarsan for Syphilis and that by recognizing and curing latent Tuberculosis not only are the persons suffering from the varied symptoms of what Antonin

Poncet called little tuberculosis relieved but the best prophylaxis, against consumption is thus provided. The whole conception put forward by Dr. Hollos is worth consideration and his book on Tuberculous Intoxications is worth studying.

Foot Note. Immune Blood - Cultivate type human & type humano-bovine from sputum. Take a Symbiotic culture from these. Inject intramuscularly in rabbit which becomes feverish and recovers after a period of three months. Haemolyse the washed red cells of this animal, free from albumins - concentrate sour with lactic acid - dilute. The lysins & antibodies act as dissociated specific electrons.

Post Graduate Notes.

CARDIAC ARRHYTHMIAS (*Contd.*) AURICULAR FLUTTER.

THIS is one of the forms of Tachycardias. Tachycardia means an abnormal acceleration of the heart-beats without reference either to the cause or to the rhythm. There are two chief varieties; Paroxysmal and simple non-paroxysmal. In paroxysmal tachycardia we have sudden crises always beginning with a single thump and often ending in the same manner. Heart rate is nearly below 140—often 200 or 300. In simple Non-paroxysmal tachycardia there is not this sudden onset—begins less abruptly—always in response to a known cause such as walking, emotion, etc. Rate usually not more than 150.

There are two clinical types of the paroxysmal tachycardia.

- I. The total regular paroxysmal tachycardia of Bouveret. In this the auricles and ventricles are accelerated in the same manner, they beat in the same rhythm which is usually regular. It may persist long without complications.
- II. This is the form known as Auricular Flutter. It is partial tachycardia called also auricular tachysystole.

In this auricles are affected particularly. Ventricular rhythm is less accelerated and may be regular or irregular. This is a more serious disorder than the former.

Auricular Flutter appears at any age. It occurs in the form of paroxysms—starts suddenly without apparent cause or after exertion or emotion. It differs from the total regular paroxysmal tachycardia by the fact that the pulse rate may not exceed 100 or even may appear to remain normal and the pulse though usually irregular is not always so. In the other form the pulse rate is 200 to 300. All paroxysmal tachycardias tend to end in auricular fibrillation (complete arrhythmia) but whereas this may be long deferred or fail to appear in total paroxysmal tachycardia it is inevitable in auricular flutter and often occurs early. An abnormal focus within the auricle gives rise to rapid regular, pathologic impulses which cause the auricle to contract at a rate, 200 to 350 per minute. This almost invariably interferes with the conductivity and the ventricular rate is very often half the auricular rate so that auricular flutter, we may say, is 2 to 1 heart block. The Electrocardiogram will show an auricular rate of 200 or more. The pulse rate will be 100 or more due to the heart block produced. A persistent pulse rate of 120 in an old person should lead one to suspect auricular flutter. The rate does not alter on change of position nor upon exercise. According to Lewis if a rapid pulse of 180 or more suddenly becomes half in rate auricular flutter may be suspected. Usually there are no profound constitutional symptoms—may have

only fatigue. Electrocardiogram determines the diagnosis.

Besides the total paroxysmal tachycardia, auricular flutter has to be distinguished from three other tachycardias; (1) Ordinary tachycardia of the neurotics, commonly the result of sympathetic irritation of the pacemaker or caused by vagal depression. Nerve sedatives or rest or sleep reduce the rate. The pulse in such persons of emotional nature is called labile pulse for it exhibits sudden changes in rate due to emotional disturbances. (2) In Hyperthyroidism we have a tachycardia which is gradual in onset and gradual in decline. Other evidence such as enlarged thyroid, tremors etc. distinguishes it from auricular flutter. (3) In auricular fibrillation we may have at the beginning a very rapid pulse. The three cardinal signs; very irregular pulse, disordered ventricular action, and pulse deficit will show that it is not auricular flutter.

As regards etiology of auricular flutter syphilis, acute poly-articular rheumatism, diphtheria and grippe have been found to be antecedent causes. Graves' disease is also Associated with it. Ovarian disorders may have some influence in causing it.

The normal rhythm of the heart depends on two factors, neurogenic and myogenic and we may say that the nervous system and the myocardium, each in their way, contribute to the genesis of paroxysms of tachycardia.

Treatment:—

Full doses of digitalis change auricular flutter into auricular fibrillation and then normal rhythm is resumed. Absolute rest is required.

Notes and News.

A Meeting of the Hyderabad Medical Association was held in the Osmania General Hospital on Saturday the 28th July 1928 when a very interesting lecture on Tuberculosis was delivered by Dr. Parasuram of the Madras Tuberculosis Hospital.

On the 3rd of August 1928 a meeting of the Hyderabad Branch of the British Medical Association was held in the Residency Hospital. Captain Allagan F. R. C. S. E., read a very instructive paper on Thomas Splint. He also showed many X-Ray films of fractures before and after treatment.

It was announced at the meeting by Col. Anderson the Secretary of the Hyderabad Branch that it was intended to form an Indian Medical Association for the whole of India. The proposal was agreed to by the meeting.

Dr. S. W. Hardikar, M. D., M. R. C. P. (Edin)., is appointed a whole time Professor of Physiology at the Osmania (University) Medical College.

Dr. Brij Mohan Lal, M. B. B. S., (Bombay) is appointed a whole time Professor of Anatomy in the Osmania (University) Medical College.

INTERNATIONAL MEDICAL CONGRESS.

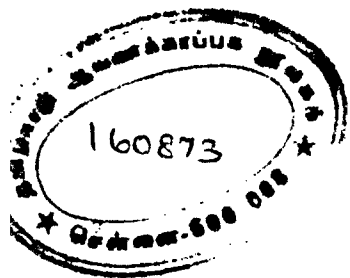
In honour of the centenary celebrations of the Medical Faculty, University of Cairo, an International Congress for Tropical Medicine and Hygiene will be held from December 15th to 22nd.

FROM THE MEDICAL PROFESSION IN GERMANY.

Dr. Fedor Haenisch, Professor for Radiology of the Hamburg University, was unanimously appointed honorary member of the American College of Radiology.

The Royal Society of Medicine, Otology Section, London has appointed Dr. Alfred Denker, Professor, Director of the Clinic for Ear, Nose and Throat diseases of the Halle University as a correspondent member.

Dr. Paul Schuster, Professor, Director of the Neurological section of the Hufeland-Hospital, Berlin, was appointed honorary member of the Societa Italian Oto-Neuro-Ophthalmologica.



244

Review of Books.

WE have received from Messrs. Butterworth & Co., of Calcutta, a copy of Tuberculous Intoxications by Joseph Hollos, M. D. published by Messrs. E. S. Livingstone of Edinburgh 16 & 17 Teviot Place—price Rs. 7-14-0 net. The book is worth reading. It is so very interesting and the matter contained so important that it has been thought fit to give it a prominent place by dealing with the subject in the editorial columns of this issue of the Journal. Readers will do well to go over the editorial note in this number on Tuberculous Intoxications and treatment with immune blood. The views held by Dr. Hollos are fully dealt with there. This very interesting and instructive book deserves to be read by all medical men. Messrs. Butterworth & Co., 6 Hastings Street Calcutta are the agents for this book and copies are available with them.

245

Far Eastern Association of Tropical Medicine

SEVENTH CONGRESS

Patron : H. E. THE VICEROY AND GOVERNOR-GENERAL OF INDIA

Head Office : PASTEUR INSTITUTE OF INDIA

Kasauli, Punjab, British India

President :

Major General T. H. SYMONS,
C.S.I., O.B.E., K.H.S., I.M.S.
Director-General, Indian Medical
Service

Honorary Secretary-Treasurer:

F. E. A. T. M. For India
Address : HEAD OFFICE.

Vice-Presidents:

Lt. Col. J. D. GRAHAM,
C.I. E., I. M. S.
Public Health Commissioner
Lt. Col. S. R. CHRISTOPHERS,
C.I.E., O.B.E., F R.S., I.M.S.,
Director, Central Research Institute

General Organizing Secretary :

Lt. Col. J. CUNNINGHAM I.M.S.
Address : HEAD OFFICE.

No. 9076/38

The 7th January 1928.

Messrs. BENGAL IMMUNITY Co., Ltd.,

153, Dharmtollah Street,

CALCUTTA.

Dear Sirs,

On behalf of our Local Committee, I beg to thank your firm for their assistance during the Far Eastern Association of Tropical Medicine, 7th Congress just concluded. The demonstrations at your laboratories were very much appreciated by the members who attended, who had an opportunity of seeing what local enterprise could do in biological research and production.

Yours faithfully,

Major-General, I. M. S.,
Surgeon General with the Government of
Bengal.

The Hyderabad Medical Association.

THE membership is open to all persons holding medical and Surgical qualifications according to the Western System and the chief object of the Association is to promote Medical and Surgical knowledge by reading of papers, demonstration of cases and discussions, in monthly meetings.

The Office of the Association is in the Osmania Medical College, Afzulgunj, and the meetings are ordinarily held in the Osmania General Hospital

President—R. N. COORLAWALA, F. R. C. S., (ENG.), D. P. H., ETC.

Vice-President—MAJOR MOHAMED ASHR-AFF, M. B., CH. B.

Secretary and Treasurer—MAJOR FARHAT ALI, B. A., M. B., CH. B.

Editor of the Journal—V. R. GORAKSHAKAR, B. A., M. B., CH. B.

Managing Committee—The above Office-bearers and

KHURSHEID HUSSAIN, M. B., CH. B.,

H. J. CHINOY, L. R. C. P. & S.,

LATEEF SAYEED, M. B., CH. B.,

CAPT. K. N. WAGHARAY, M. B., B. S.,

B. S. RAJ, L. R. C. P. & S.,

MISS K. S. KANGA, L. R. C. P. & S.

Every member has to pay an annual subscription of O. S. Rs. 12.

Only the Sub-Assistant Surgeons will pay half the above rate but the subscription will, in any case, be payable for the whole year in advance and every member will receive free a copy of the Quarterly Journal of the Association.

The Deccan Medical Journal.

PUBLISHED quarterly by the Hyderabad Medical Association. The only journal of its kind in His Exalted Highness the Nizam's Dominions and consequently the best medium of advertisement for Chemical, Pharmaceutical and Surgical Manufacturers. Articles of special interest to the profession from experts appear in every issue.

Editorial Committee :—

Editor—V. R. GORAKSHAKAR, B. A., M. B.,
CH. B.

Assistant Editor—S. RAGHAVENDER RAO,
L. C. P. & S.

The members of the Committee—The above and
CAPT. K. N. WAGHARAY, M. B., B. S.,
S. E. DAVID, M. R. C. P., L. M.,
MISS A. SHAW, M. B., B. S., D. T. M. & H.

Rates of advertisement :—

	Rs.	a.	p.
Full page ordinary	30	0	0
Half page ordinary	15	0	0
Quarter page ordinary	8	0	0
Back cover outside	50	per cent.	extra.
Front cover inside	60	per cent.	extra.
For four issues prepaid	10	per cent.	discount
Back cover inside	25	per cent.	extra.
For two issues prepaid	5	do	do

For further particulars apply to

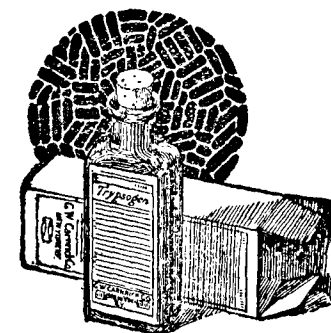
THE EDITOR,
THE DECCAN MEDICAL JOURNAL,
B 1195 Near King Koti,
HYDERABAD-DECCAN.

DIABETES MELLITUS

PANCREAS THERAPY has made diabetes mellitus a curable as well as a controllable disease. It is necessary, however, to use all the active principles of the pancreas to cure diabetes.

TRYPSOGEN

contains all of the active elements of the pancreas. It, therefore, is capable of correcting the defective digestion and absorption as well.



Bottles of 100, 500, 1,000 Tablets

On sale by all the Leading Chemists.



G. W. CARNRICK CO.

Dependable Gland Products

224 Mt. Pleasant Avenue

Newark, N. J.

U. S. A.

[Write for
a
Clinical Sample]



On a
Night
like this!

Yes, Doctor, we have Antiphlogistin
in the house, thank goodness!

All right, Mrs. Brown, heat the
Antiphlogistine and apply a thick
poultice over the throat and up-
per chest. Cover with cotton and
gauze.

I'll call the first thing in the
morning.

DOCTOR, have your patients keep
Antiphlogistine in the home—ready
for emergencies.



**THE DENVER CHEMICAL MFG.
COMPANY** NEW YORK, U. S. A.

Laboratories: London, Sydney, Berlin, Paris, Buenos Aires, Barcelona,
Montreal, Mexico City



"DOWN AND OUT"

Many of these cases result from endocrinal disturbances of the sex glands. Nature must be
tided over the rough places by hormonal assistance.

Ovacoids ^{For}
Women

containing the hormones or autacoids of the ovary and anterior pituitary, and

Testacoids ^{For}
Men

containing the hormones or autacoids of the testicle and prostate, each with a little organic
phosphorus, will render the service necessary to enable Nature to complete the work of
rehabilitation.

Some physicians desire an aqueous solution for subcutaneous injection
to supplement the oral administration of Ovacoids and Testacoids.

Ampacoids

for weekly or semi-weekly injection are prepared for that purpose.

These sterile solutions include

AMPACOIDS, Ovary, each representing 15 grains of fresh ovary,

AMPACOIDS, Testicle, each representing 30 grains of fresh testicle,

AMPACOIDS, Prostate, each representing 10 grain fresh prostate.

Ovacoids, Testacoids, and Ampacoids offer physicians the most effec-
tive treatment for gonadal dysfunctions.



REED & CARNRICK, Jersey City, N. J., U. S. A.

OVACOIDS, TESTACOIDS AND AMPACOIDS are obtainable from all Chemists, or through

MULLER AND PHIPPS (ASIA) LIMITED

Hong Kong, Prince's Building

Colombo, 46 Keyzer Street

Cairo, P. O. Box 1764

MULLER AND PHIPPS (MANILA) LIMITED

Manila, Pacific Building

MULLER AND PHIPPS (CHINA) LIMITED

Shanghai, No. 24 The Bund

COATES & COOPER, 41, Great Tower St., London, E. C. 3, England

MULLER AND PHIPPS (HAWAII) LIMITED

Honolulu, 1015 Fort Street

MULLER AND PHIPPS (INDIA) LIMITED

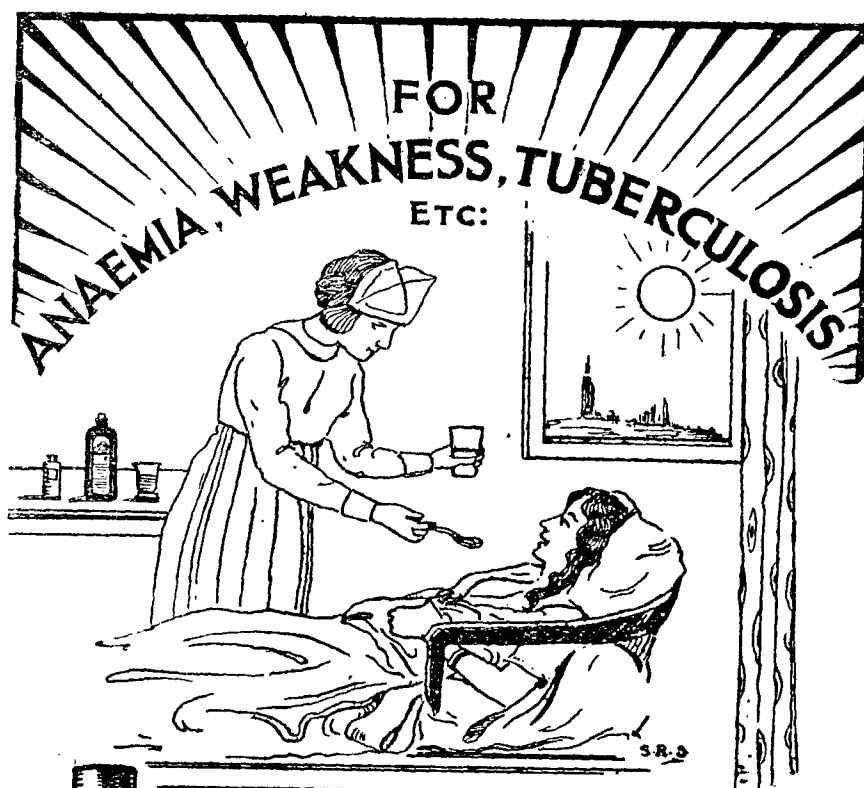
Calcutta, 21 Old Court House Street

Bombay, 14-16 Green Street

Madras, 21 Sunkurama Chetty Street

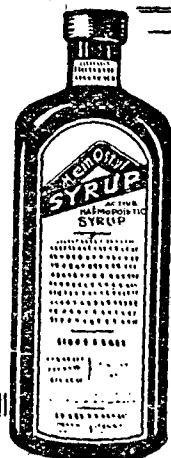
Karachi, 726 Napier Road

Rangoon, 4-5 Shafraz Road



CURE YOURSELF
BY THE MOST REMARKABLE DISCOVERY:
DR. ROUSSEL'S
HEMOSTYL

A SCIENTIFIC FRENCH PREPARATION, HIGHLY RECOMMENDED & LARGELY PRESCRIBED BY ALL LEADING DOCTORS THROUGHOUT THE WORLD. AGREEABLE TO THE TASTE. PARTICULARLY EFFICACIOUS FOR DEBILITY FOLLOWING MALARIA, INFLUENZA, CHILDBIRTH, Etc & ALL RUNDOWN CONDITIONS



AGENTS FOR INDIA.

KAHN & KAHN

Jehangir Wadia Buildings, Esplanade Road BOMBAY,
 14, Clive Street ... CALCUTTA.

Stockists at Madras:—

Messrs. Sri Krishna Bros, Post Box. 166, MADRAS.

Please Note:—The genuine package bears the RED LABEL,

"Hemostyl Specially Prepared for Tropical Countries."

BEWARE of IMITATIONS without such Labels

"TREPARSOL"

New French Discovery. SURE CURE for
SYPHILIS & AMOEBIASIS

In Tablets

No Injection Necessary

Sole Agents for India.—

KAHN & KAHN,

Jehangir Wadia Building,
 14, Clive Street,

P. O. Box. 105, Bombay.

P. O. Box. 315, Calcutta.

Stockists at Madras:—

Messrs. Sri Krishna Brothers, Post Box 166. Madras.

The Patna Journal of
Medicine

(The Journal of the Patna Medical Association).

Edited by

H. HYDERALIKHAN, F. R. C. S. E.,

BANKIPORE, PATNA.

ONE OF THE MOST UP-TO-DATE JOURNALS
 IN INDIA.

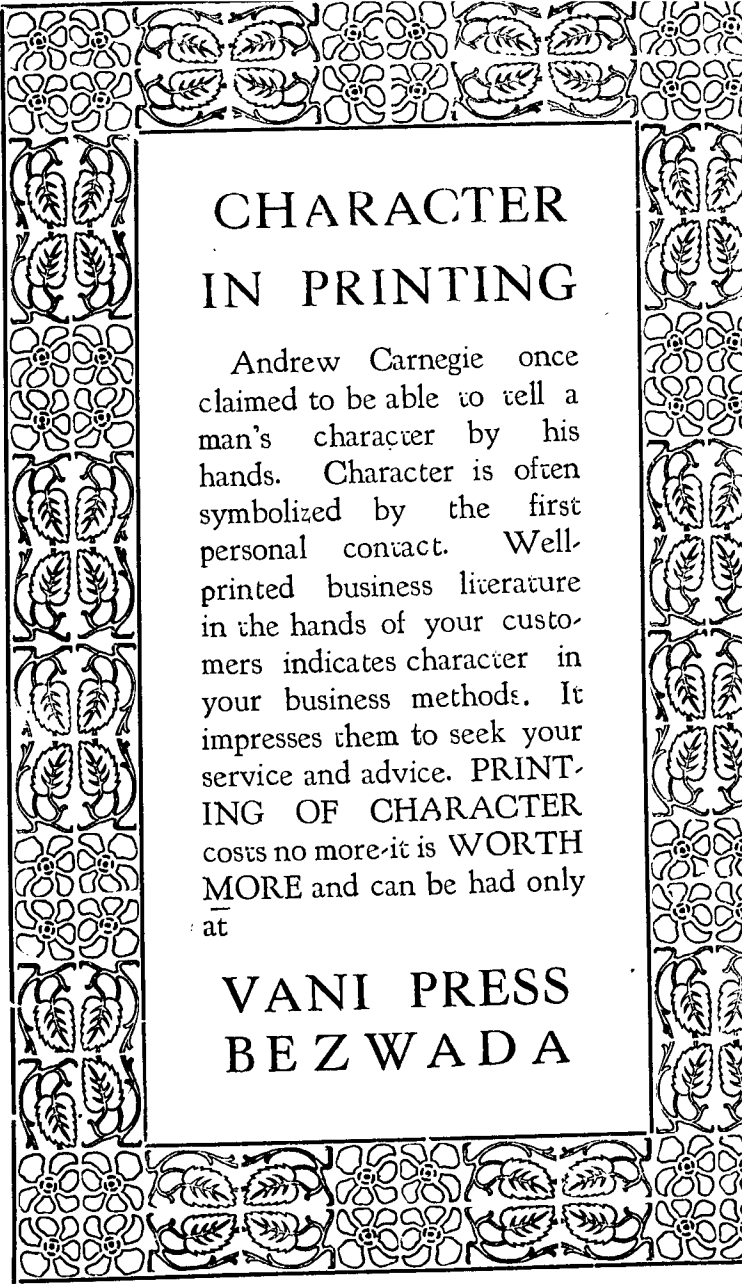
Articles by Experts.

January 1927—Special Endocrinology Number.

July 1927—Special Educational Number.

Price Re. 1/4. Annual Rs. 4/6.

Post free from the Editor.



CHARACTER IN PRINTING

Andrew Carnegie once claimed to be able to tell a man's character by his hands. Character is often symbolized by the first personal contact. Well-printed business literature in the hands of your customers indicates character in your business methods. It impresses them to seek your service and advice. PRINTING OF CHARACTER costs no more-it is WORTH MORE and can be had only at

VANI PRESS
BEZWADA