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Metrorrhagia,
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Formula : Lexin contains Acid Trichloride of Gold 1/100000; HiC 1/10000 Methyl Violet 1/500; Camphor 1 gr. per c.c., Rectified Spirit and milk-sugar.

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THE MISCELLANY

OF THE

TRICHINOPOLY DISTRICT MEDICAL ASSOCIATION

BRANCH OF THE INDIAN MEDICAL ASSOCIATION (Regd.)

VOL. XIII] OCTOBER 1945 [NO. 1

GONORRHOEA—MODERN TREND IN ITS TREATMENT

By

R. GANESAN, M.B., B.S., *General Hospital, Madras*

IT would not be out of place to mention a few words about prophylaxis of this disease which is much more common than Syphilis and which should be controlled just like any other contagious disease.

While continence would be the golden rule, in its absence mechanical prophylaxis, with use of a reliable condom affords a great measure of safety for both sexes.

In cases where condom has not been used, chemical prophylaxis has to be relied upon. In brief, chemical prophylaxis consists of (i) thorough cleansing of the external genitalia, public region and the inner side of the thighs with soap and warm water, (ii) about 6 c.c. of a non-irritating protein silver solution should be injected into the urethra and held there for 5 minutes, the substance that can safely be used being Protargol 1%. (iii) After the Protein Silver solution has been allowed to escape from the urethra, the external genitalia, the public region and the inner side of the upper portions of the thighs should be anointed with 33⅓% Calomel ointment as a safety measure against syphilis—the ointment should be well rubbed into the skin around the glans and the prepuce. The ointment is allowed to remain for some hours. It would be common knowledge that chemical prophylaxis in woman is difficult and uncertain and that the use of a contraceptive by man is the best prophylaxis for the woman.

Firstly we come to the administration of Sulphathiazole before and after an exposure as a measure of prophylaxis. Nothing definite could be said either against or in favour of this method of prophylaxis. We have to await more statistics before condemning it.

Treatment proper can be discussed under three headings viz., (i) Chemotherapy (ii) treatment with Penicillin (iii) local treatment and fever therapy.

Chemotherapy. Sulphathiazole by mouth is the drug of choice for Gonorrhoea. One gramme or two 7½ gr. tablets of Sulphathiazole should be administered 4 times daily (every six hours) consecutively for five days.

Precautions to be taken. i. Patients under this treatment should drink at least 10 glasses of fluids in 24 hours. The danger of renal tubal deposit of Sulphathiazole is minimised to a very great deal as a result of this procedure.

ii. Patient's lencocyte count should be determined before the onset of the treatment since the development of agranulocytosis after the administration of this drug is not unknown. As a matter of fact, two cases have come under my purview within a short space of 6 months of my professional career, with a marked leucopenia. The drug finds no place in the treatment.

iii. Patients should be instructed to report to the attending physician as soon as any of the toxic manifestations of the drug appear, such as fever, rash or vomiting. In the presence of any of the above mentioned toxic manifestations, the drug should be withdrawn immediately and the patient's intake of fluid increased by a great extent. It will not be out of place to mention certain symptoms arising out of the intake of the drug which are mild and which do not require the withdrawal of the drug. They are nausea, malaise, vertigo, headache and insomnia.

iv. It would be a truism to say we would be amply rewarded if we go into the details as to whether the patient had previously been prescribed the Sulphanamides in some other connection and if so whether the drug had any untoward effect. If by this elicitation of this history, we could find out that a particular person is idiosyncratic to Sulphathiazole, we could straightaway start him on penicillin.

When the above plan is adopted, majority of patients get cured. It is however very essential that these patients should be kept under observation for 3 months after the apparent cure to make sure that there is no recurrence. I am sure that it will not be impertinence to point out that for labelling a patient as cured by the above line of treatment, one does not merely depend upon the disappearance of the subjective and objective symptoms but relies mostly on the laboratory methods of determining the cure viz., (i) gram stain of the urethral smear (ii) culture more reliable especially after Sulphanamide theraphy. There are few in whom sulphathiazole theraphy fails to effect a cure. These are the cases that might be subjected to Penicillin therapy or to fever therapy or to the older methods of local treatment.

Penicillin therapy: One might wonder as to why I had not mentioned this in preference to Chemotherapy taking into consideration its recent advent into the field and the numerous praises to its credit.

Having the economic status of our patients in the background, one cannot straightaway venture on this costly, though very effective drug, especially when there is a cheap and yet reliable cure in Sulphathiazole. I should think that until Penicillin ceases to be as costly as it is, its use should be restricted to those sulphanamide resistant cases and to those that can well afford a costly treatment, and to the treatment of complications of Gonorrhoea.

Mode of administration of Penicillin. The schedule treatment usually followed is 20,000 units intramuscularly every three hours till the total dose of 100,000 units is reached. This would result in a high percentage of cures. If it is found that there is no improvement by the third day after the commencement of this line of treatment the schedule mentioned above is once again repeated. If the second course too does not bring about any tangible result, the patient should be subjected to a third and more intensive course of Penicillin—200,000 units intramusculary every three hours till total dosage of 300,000 units

is reached. Individuals who fail to benefit even with the third course, should be put on Sulphathiazole—8 tablets 1st day, and 6 tablets daily subsequently for five days. This invariably meets with success. It will be right to stress here that complication of Gonorrhoea respond well to Penicillin.

It will be very interesting to note that a single injection treatment of Gonorrhoea is under trial. This is the injection of 1,00,000 Oxford Units of Penicillin contained in 2 or 3 c.c. of the bees-wax-pea-nut oil. This has for its advantage the minimum inconvenience to the patient and this mixture is supposed to prolong the effective level of the Penicillin in the blood and delay its excretion. As far as statistics go this has much to recommend instead of the so many three-hourly injections.

Oral administration of Penicillin with Soda Bicarb to neutralise the gastric acidity has been tried but not with much success. But it is pointed out in literature that when Penicillin was administered, orally, to pernicious anaemic patients, effective blood and urine levels were obtained. This mode of treatment is under trial in some quarters and we await with eagerness, the final verdict.

THE USE OF PROCAINE HYDROCHLORIDE WITH THE INTRAMUSCULAR ADMINISTRATION OF PENICILLIN SODIUM

100,000 units of penicillin were dissolved in 20 ml. of normal saline. To 4 ml. of this solution, ¼ ml. of 2% procaine hydrochloride was added immediately before injection. This addition eliminated the pain, often following the intramuscular injection of penicillin. No effect on the potency of the penicillin by the addition of procaine could be observed either in vitro or clinically (all patients were cured). (W. F. Shannon et al. Abstracted from the Biological Abstracts, Vol. 19, No. 4. Sect. B. April, 1945, Item 5502).

PROLONGATION OF PENICILLIN ACTIVITY BY MEANS OF ADRENALINE

Because of the vasoconstricting properties of adrenaline, the authors have investigated whether adrenaline solutions of penicillin would prolong effective blood concentration levels of this antibiotic.

Tests in vitro were carried out to determine the stability of penicillin in adrenaline solutions at different temperatures, and animal experiments were done to observe the effect of adrenaline on the rate of penicillin absorption as measured by blood concentrations obtained following subcutaneous or intramuscular injections.

Calcium penicillin which assayed at 500 units per mg. and which was prepared from surface fermentation cultures of penicillin notatum was used in all animal experiments. Solutions containing 500 units of calcium penicillin per c.c. and adrenaline in concentrations not exceeding 1-16,000 showed no loss of activity, compared with aqueous control solutions, when kept for twenty-four hours at 37°C., 5°C or at room temperature. The assays for penicillin stability were carried out by the cylinder plate method using Bacillus subtilis as the test organism.

Rabbits were used in the animal experiments. They were injected alternately with experimental preparations and aqueous control solutions, the injections being made subcutaneously or intramuscularly. Blood samples were collected from the ear veins. Penicillin assays were carried out on plasma by the broth dilution method of titration, using a culture of streptococcus pyogenes as the test organism.

The injection of aqueous solutions of penicillin resulted in blood concentrations which showed maximum bacteriostasis for about twenty minutes, with little or no activity remaining in plasma collected after 1 or 1½ hours. In all experiments a significant change in the blood concentrations was produced by the addition of adrenaline to penicillin solutions. Compared with control tests, lesser concentrations were found in the first few blood samples, but the drug was still present in samples collected 1½ to 3½ hours after injection. This occurred when the material was administered subcutaneously or intramuscularly. *Small amounts of adrenaline added to aqueous solutions of penicillin usually doubled the time during which a bacteriostatic concentration could be detected in blood samples.*

The results of these experiments suggested the clinical use of adrenaline in penicillin therapy and preliminary trials indicate that humans may be expected to respond in a manner similar to the experimental animals employed. The effect of adrenaline was tested in seven subjects who received intramuscularly 50,000 units of sodium penicillin dissolved in 4 c.c. of 1:50,000 adrenaline, and in two patients who received 20,000 units in 2c.c. of 1:25,000 adrenaline. Six control subjects were injected by the same method with saline solutions of penicillin. A method similar to that of Rammelkamp was used for the blood level titrations. *The prolongation of bacteriostatic serum levels produced by adrenaline was sufficiently great to indicate further investigation with this vasoconstrictor.* Until the most efficient adrenaline and penicillin mixtures can be estimated, it would appear from observations made in the present study that the use of small amounts of adrenaline in conjunction with the penicillin may find immediate application in the usual method of administering this antibiotic by repeated intramuscular injections. (R. T. Fisk et al. abstracted from Science Vol. 101, No. 2614, 2nd February 1945, p. 124.)

THIOURACIL IN THYROTOXICOSIS

Observations in the treatment of Thirty-two Patients

In the relatively short period of time since Astwood first reported on the action of the thyroid inhibitors, thiourea and thiouracil, numerous reports generally confirming the original observations, have appeared. Most of the experience has been with thiouracil, and few instances of resistance to the drug have been recorded. Unfavourable reactions have been encountered in approximately 10 per cent. of those treated, the most alarming disturbance being agranulocytosis. Despite this obstacle investigations are continuing and a sizable and revealing clinical experience is gradually being acquired.

The following points appear significant from the clinical experience in the treatment of 32 patients.

An initial daily dose of 0.6 gm. in three doses of 0.2 gm. each appears adequate for all ordinary purposes. As clinical improvement sets in and the basal metabolic rate falls, the dose

may be reduced to 0. 2 gm. twice daily (twelve hours apart). When the basal metabolic rate is stabilized between plus 5 per cent. and minus 10 per cent. a maintenance dose of 0. 1 to 0. 3 gm. is sufficient to keep the patient in remission. Observations should be made every two weeks at first and then every four weeks. Patients may be ambulatory.

Improvement occurred on an average in three weeks in patients with toxic diffuse goiters and in approximately nine weeks in those with toxic adenomas. Previous iodization delayed improvement in both types with a more prolonged delay in those with toxic adenomas. Also in the previously iodized patients a rise in the basal metabolic rate is likely to occur during early thiouracil therapy because of loss of iodine effect.

Twenty-nine patients have responded favourably, 2 have not been treated long enough, and 1 is resistant to the drug. Of 5 patients in whom an attempt was made to stop treatment, 3 have relapsed, 1 is threatening to relapse and only 1 has remained in remission for five months. At present it is difficult to predict when and in whom to stop the drug.

Where thyroid enlargement was noted, the gland tended to increase in size and become softer in the first few weeks of treatment. Thereafter recession in size became more pronounced and occurred more rapidly in the toxic diffuse goiters than in the toxic adenomas.

Only 1 instance of drug sensitization was encountered in this series. Five patients developed nausea and epigastric distress early in therapy, and this promptly disappeared after discontinuing the drug for a few days and then resuming at a lower dosage level.

Patients who are iodine fast or resistant can be brought to remission with thiouracil. Those with recurrent hyperthyroidism, responding quite promptly.

In the mild forms of hyperthyroidism or in the borderline cases, thiouracil may prove extremely useful both therapeutically and diagnostically. It would appear preferable to adopt as the standard normal a basal metabolic rate of plus 5 per cent. to minus 20 per cent.

Myxocdema developed in only 1 patient in the series and was promptly controlled. Frequent observations and an awareness of this possibility should keep this risk at a low level.

Fibrillation and cardiac decompensation in the thyrocordiac may be promptly controlled with thiouracil.

An unexplained instance of resistance to thiouracil occurred in this series.

From the data presented, and from that which is rapidly accumulating, thiouracil appears to be the agent of choice in inducing and maintaining a state of remission in thyrotoxicosis. (William S. Reveno, M.D. Abstracted from J. A. M. A. June 9, 1945, Volume 128, No. 6, Page 419).

EDITORIAL

WISDOM HAS DAWNED

WITH this month's issue the *Miscellany* enters into Volume No. XIII—a number dreaded only by the superstitious English as unlucky.

The opening of the New Volume is much like the beginning of a New Year, prompting one into a mood of retrospective survey and also conjuring up visions of future progress.

The mechanical and external aspect of keeping the *Miscellany* going looks considerably rosier than during the past gloomy years of war. Now that the war is over, Paper Controls have been considerably relaxed. Nevertheless, it will take some time more before supply can adequately cope up with the demand, with regard to paper, which has suddenly swollen into gigantic proportions.

The *Miscellany* can look back with pride and satisfaction on the way in which it has carried on during these difficult years. It has faithfully mirrored the feelings and voiced forth the aspirations of the medical profession, not in the least deflected from the righteous path from fear of wounding unhealthy susceptibilities or of provoking the ire of vested interests.

Of all the Medico-Political questions discussed in these columns, the readers will remember, in particular, the unflinching fight for the amalgamation of the A. I. M. L. A. with the I. M. A. which the *Miscellany* kept up all these three years and more. In any fight strong punches and full-blooded blows are given and taken. Our readers might say that in this fight there was a great deal of giving but precious little of receiving. This was so because the crusade carried on by the *Miscellany* was, and is, for a cause about which no one can have any doubt. And the method in which this worthy crusade was carried on, was clean, candid, and, like Caesar's wife above suspicion. The readers knew that the *Miscellany* said what it meant and meant what it said.

In this connection we congratulate the I. M. J. for having at long last declared itself unambiguously for unity in the Medical Profession—for amalgamation of the A. I. M. L. A. with the I. M. A. Ostensibly the inspiration for vivid realisation of the imperative need for unity has come to this Journal from far off America, all the way across the Atlantic or Pacific. Under the title, "A Timely Warning", the I. M. J., to our immense pleasure, pleading for unity and amalgamation, leads off with a quotation from the Jan. 1944 issue of *The Medical Times* of New York. We would only observe that far earlier than Jan. 1944 and infinitely nearer than New York, but in far humbler quarters, the same inspiration was available in the *Miscellany* of Trichinopoly from 1942.

From 1942 the *Miscellany* has been tirelessly and fearlessly sounding this "*Timely Warning*" and exhorting and beseeching the leaders of the Medical Profession, and the various organisations, particularly the A. I. M. L. A. and its leaders, to pay heed and to effect the amalgamation. The I. M. J. which has just now awakened to the necessity for this timely warning deserves our congratulations although the awakening is belated.

Our Editorial of Dec. 1942 was entitled "**Will Wisdom Dawn**". It is now a great pleasure for us to note that at long last "***Wisdom Has Dawned***".

NEWS

PENICILLIN BOOKLET

A booklet entitled "A BRITISH TRIUMPH—The discovery and development of PENICILLIN", and published jointly by Imperial Chemical (Pharmaceuticals) Limited and the member companies of the Therapeutic Research Corporation of Great Britain Limited (Boots Pure Drug Co., Ltd., The British Drug Houses Limited, Glaxo Laboratories Limited, May & Baker Limited and the Wellcome Foundation Limited) will be sent free of cost to interested clinicians on request by May & Baker (India) Limited, Bombay.

The pooling of the resources of the member companies of T. R. C. Limited in association with I. C. I. Limited, in the interests of Penicillin research has had its logical outcome in the timely publication of this booklet which aims to set out the facts relating to an outstanding British discovery in concise form and to give the medical practitioner particulars regarding the known therapeutic applications of Penicillin, in readiness for the time when the rapidly expanding production will enable supplies to be freely available in this country for extensive use in medical practice.

MEDICAL SCRAPBOOK

Henry McLemore reports from the still civilized city of New Orleans: "Here is America's last stronghold against vitamin. It is the one town left where the cooking is based on taste, and not on whether it is so healthful that it will make you feel able to lick your weight in wildcats. Vitamins A, B, C, D, E, F and G give New Orleans a wide berth, because word has gone out as to what happens to them there. Chiefs of other cities treat the vitamin as if he were a royal prince with a weak heart. He is not boiled enough to hurt him, and they never let the poor fellow get fried. Not so, 'way down South. The chiefs give vitamin a going-over that makes a police third degree seem like a christening. They slap him in the face with sauces. They frizzle, fry, and fricase him. When he yelps 'uncle' they shut him up with a chunk of butter, a cupful of cream, and a dash of cognac."

CINCINNATI M. J.

I asked an old friend and fellow GP what decided him to take up medicine. He smiled ruefully before replying. "Well, it's rather funny, and in a way rather pathetic," he said. "As you know I was always pretty idle as a boy—I did not like to work much. So I thought I's choose a job where I could take a holiday whenever I felt like it. And I picked on this."

LANCET.

The ROOKIE, asked by the medical officer, "How are your bowels?" replied that he had not been issued any. Trying again, the M. O. asked, "I mean, are you constipated." Again the rookie, "Naw, I enlisted." Finally in utter desperation, the medical officer said, "Are you crazy? Don't you know the King's English?" The rookie rang the bell, by replying, "Oh, is he?"

J. SOUTH CAROLINA, M. A.

The MODERN MOTHER of the card table cocktail stratum of society needs neither encouragement nor excuse to escape the duties of motherhood. In fact, she seems to think that her breasts are for the sole purpose of making a sweater intriguing.

NORTH CAROLINA M. J.

The FINANCIALLY POOR, the financially unfortunate appear to have been with us throughout recorded history. The common saying is: "The poor will always be with us." May-be so, at least in a relative sense—for there is also poverty in foresight and poverty in individual endeavour. In so far as this is due to poverty in heredity, common sense seems to say that as knowledge grows, we must apply new measures to decrease the production of chicks that chirp but cannot or will not scratch.

CARLSON, SCIENCE.

A FAVORITE ACCOUCHEUR of a century ago was a man "midwife" from the Santa Monica area who wore skirts so as not to embarrass or frighten his "labor cases".

M. WOMAN'S J.

MILITARY PHYSICIANS under Caesar were underpaid. They received only about $ 50 and board per annum. Under Domitian (reigned A.D. 81-96) they received $ 66, and under the liberal Septimius Severus about $ 110.

ARCH. OPHTH.

Nowadays, it seems that there are only two classes of patients: those who are benefited by the sulfonamides, and those who need a doctor who can make a diagnosis.

NORTH CAROLINA M. J.

A newly inducted private wrote his family some few days after he had arrived in camp: "I have gained sixty pounds since I came here—two pounds of flesh and fifty-eight pounds of equipment."

SOUTH MED. & SURG.

The person entitled to deep, profound, sincere, honest-to-goodness, one hundred per cent. abiding sympathy with no restrictions, modifications, or dilutions is the poor unfortunate guy who, for the first time, is trying to chew gum with a set of recently acquired false teeth.

ILLINOIS M. J.

If the trend toward centralization continues at the same rate, what will become of State Governments? Will they become merely historical vestiges like the urachus or the obliterated hypogastric arteries?

VIRGINIA M. MONTHLY.

Medicine is the most powerful, politically, of any scientific activity. If it follows education into the political maw there will be little to prevent all other intellectual activities and freedoms from following. It is imperative, therefore, that freedom of scientific action, speech, and criticism be insisted upon quickly by all scientists, both for medicine and for themselves. The mind is greater than the body. Habeas Corpus was one milestone in human freedom; Habeas Mentem must be made the second.

BOURNE BRIT M. J.

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Editor: D. SRINIVASAN, L.M.P.

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BRANCH OF THE INDIAN MEDICAL ASSOCIATION (Regd.)

VOL. XIII] NOVEMBER 1945 [NO. 2

*TREATMENT IN DERMATOLOGY

By DR. S. RAJAGOPALAN, L.M.S., F.D.S., Madras.

I HAVE a big field to cover. I know, I won't be able to deal with all the dermatological conditions. I am going to mention some points regarding, the treatment in dermatology in general, and treatment in some of the dermatological conditions in particular.

To begin with the beginning, we all know the fundamental understanding, about using lotions and creams for acute conditions, pastes for sub-acute conditions and ointments for chronic conditions.

The following points, though extraordinarily simple, I will never be tired of repeated mentioning.

We must please remember that a skin condition does not need as much antiseptic precautions as a surgical condition. These precautions when taken only help to aggravate the condition.

It definitely hurts to wash a skin lesion with lysol or dettol. It is an unnecessary and injurious practice to clean skin lesions with spirit.

Washing skin lesions extra frequently and thoroughly with soap is only asking for trouble.

I know of poor patients borrowing money to buy a cake of carbolic soap to wash their skin conditions with. It is just buying trouble. These antiseptic measures are done with such good intentions by the patients, that, they refuse to believe that they could ever retard the healing, and they don't think it is necessary to tell the doctor. That is why it is an useful and very necessary question to ask the patient what he is doing with himself. It is not uncommon to hear a patient say, he cleans the part with spirit to remove the old application, dips the part in a fairly strong lysol bath and gives it a good wash with good carbolic soap as a finishing touch !!

It is worthwhile to ascertain from the patient how he puts the ointment on, how long he keeps it on, and how he removes it.

There is such a fondness for rubbing in the stuff. The poor, almost imperceptible innocent lesion, starts weeping

* (Paper Read at the Provincial Conference of the Indian Medical Association, South Indian Branch, at Trichinopoly, 28th October, 1945)

by the time the rubbing is over. The cream or ointment must be applied thin and left over for at least six hours—it will be best if left over-night.

We should never think it is unnecessary to repeatedly tell the patients, to be gentle about the cleaning in the morning. Dried up areas must be soaked in oil or warm water and then cleaned. If you only get a chance to see the way the lesion is cleaned, you almost feel like slapping the patient. In those two minutes, enough damage is done, not only to undo the over-night's healing, but, to delay the cure by a few days. I think I will sum it up by saying a skin lesion needs rest, needs to be severely left alone. This is more so because the majority of skin conditions you get for treatment are conditions suffering from over-treatment.

I am not exaggerating when I say that you do 80% good by asking the patient to stop what all he is doing. This, plus, some soothing external application and probably fomentations do a world of good.

It is not sufficiently realised that looking after the general condition is an important part of the skin treatment. Sometimes it is the only thing necessary.

Treatment in dermatology depends on the stage of infection of the condition whatever the diagnosis. You may diagnose ten cases as ten different things but might have prescribed cremor zinci to all of them.

I think we have to just treat more cases to settle down to using milder external applications, smaller doses of the internal medicaments, and a very short list of applications used.

I have felt many times that any skin condition could be treated and managed with zinc cream and silver 4% in Spts. Ether nitrosi and probably gentian viole 1% in Rectified spirit—silver for the hurting, zinc cream for the soothing effect. We have to hurt to do good—but, when and how much are entirely left to the discretion of the doctor.

TREATMENT OF INFANTS—For any condition, maximum benefit in quickest time is derived from constant nursing, to prevent scratching and to avoid hurting any part by any means. Fomentations, boric baths or tub baths and any bland external application will suffice. Nearer the healing, the parts could be bandaged lightly with the cream where possible and the bandage changed every six hours. A ¼% gentian violet in Eucerinum or Albert David's sionamide are sometimes useful.

ULTRA-VIOLET EXPOSURES—There is difference of opinion about its efficacy in acne seborrhoeic dermatitis. I find it is not indicated in either of them. Short exposures over large areas have a salubrious tonic effect. Generalised chronic impetigo, and scabies, impetiginised, during the dry stage derive great benefit.

X-RAY—I am not fond of superficial x-ray exposures. I will only have it as the last resort, if use it I must—of course, in certain cases directly it is indicated. Thorium when it comes into use may have a great future. It is to be used as an ointment, containing 1000 Electrostatic units in one oz. of Eucerinum. Where a patient is to have x-ray and W.V.L., after the x-ray exposures there must be an interval of at least 25 days before the W.V.L. is started. After the x-ray exposure it is good not to expose the part to sun very much for a few days. This results in Talengiectasis and consequent troubles.

I am afraid I am telling you all very elementary things. In a subject like dermatology which is refreshingly vague and where experimentation is rampant, it is so very easy to make a

paper sound learned. Any English knowing person could read up something new from some journal and try it. You will have to be wading in the mire for quite a few years, to realise the importance of these fundamentals.

Treatment of Individual Conditions

SCABIES—I always felt that scabies was one of relieving factors in dermatology. One condition which is caused by a definite parasite and one of the very few conditions with a specific treatment. It was always such relief to get scabies for treatment in our practice. Recently, in Madras, we have had a good bout of scabies. It is much better now, but, not yet over. There had been a very liberal flow of suggestions regarding treatment and there were attempts made to give scabies a new ætiology altogether. I think scabies remains the same—the cause is the same and Ung-Danish is still the best ointment for the condition. Benzyle benzoas does not deserve the high place that people are trying to give it. It is costly and more often produces a dermatitis. A 25% water emulsion is very popular.

Three points to be emphasized in the treatment of scabies:—

1. Preliminary scrub:—idea being to open up the burrows, Mellanby's recent treatise on scabies tries to do away with the preliminary scrubbing altogether. There is'nt general agreement on this point.
2. Sufficient quantity of ointment, to ensure a liberal and thorough application, which is very necessary. Affected and non-affected portions also, must be applied, carriers without the regular itching, are capable of inffecting from 4 to 6 weeks.
3. Treat contacts—family.

The majority of cases of scabies you get are infected, inflamed and very generalised, so that, all you need do, is only to treat the inflammation and secondary infection. The general condition is usually poor. Boric fomentations or bath, zinc cream for external application and give something for the general condition e. g., calcium, iron, liver and vitamins. Soluseptasine or cibazol could be used for the temperature and inflammation. When the inflammation is better the patient thrives on an ointment containing cod liver oil and sulphonamide.

When the lesions are dry and itching persists milkan sulphur lotion applied thin gives a good finishing touch.

Of the treatments tried in the army, derris root seems to be the cheapest, quickest and the best.

Any condition with scabies treat the scabies first.

Staphylococcal Infections

To mention the common—A good ointment for *furunculosis* is *Siccolam* (a patent containing Titanium compound.) We must please remember, that repeated generalised furunculosis denotes a general condition below par, and this should be treated accordingly.

The most useful application to abort the progress of an early furuncle is repeated painting with Tr. iodine.

STAPHYLOCOCCAL IMPETIGO—Bockhart-Supl. X-ray seems the only treatment for Bockhart Impetigo. But I will certainly try a few external applications before launching on the X-ray exposures.

1% Scarlet Red in Eucerinium or 1 to 2% $CuSO_4$ in eucerinium I have found very useful. Autovaccine needs a trial. Autohemotherapy comes in handy sometimes.

SYCOSIS—As you all know this condition is quite capable of making one's life miserable. All that is done for Bockhart could be tried for this

condition. Quinolar ointment has been able to do things, which other ointments have failed to do. I will certainly avoid superficial x-ray as much as possible.

Streptococcal Infections

Impetigo Contagiosa — Unguentum Hyd. Am.-B. P. is still the best. A good patent is Cusi-Anti-Impetiginous. *Impetigo in an infant* could be very terrifying at times. They need repeated fomentations, a very bland external application and prevention from irritation. A small dose of cibazol and calcium helps.

Fortunately, acute pemphigus is rare —only one case so far in my practice —and one of the worst of acute infections. The onslaught, unabated, ends with only death. The usual remedies for the toxaemia seem apparently ineffectual.

Chronic pemphigus is bad enough but responds to treatment to a certain extent. Treatment is mainly against the toxaemia. Large doses of Vitamin C, Calcium gluconate and glucose intravenously are our mainstay. Permanganate bowel wash helps. Parenteral and oral administration of liver is very useful. Externally anything bland either zinc cream or linimentum calaminae.

Herpes

If I may talk about it here, we need take notice of only the "Zoster." Zoster is alarming if it is severe over the facial region. Soak the patient with Vitamin B_1. Pituitrin, with all its vagueness about how it acts is more often useful. If need be it could be given even 2 or 3 times a day. In the second stage when the vesicles are just becoming seropurulent it is always better to give soluseptasine intravenously. Sometimes the intractable post-herpetic neuritis needs deep x-ray exposures to quieten down.

For external application, the zinc cream or linimentum calaminae or any ointment bland and thin with a liquid paraffin base is much better than the much mentioned Collodion Flexile. During the healing stage or even before, gentian violet in rectified spirit 1/ is very useful.

Fungus-Tinea Marginatum

Where chrysarobin is indicated Unna's Chrysarobin ointment is most useful. Just to remind you.

Protect the eyes, clothes and kidney.

Chrysarobin :—

1. Should not be used for an inflamed or impetiginised fungus.
2. Not to be used for a very generalised fungus.
3. Not to be used for the lesions anywhere near the face.
4. Not to be used for infants and children up to 3 or 4 years.

When the ointment has not done its function, the same ointment plus sulphur Prec: 10 to 30 grs. very often does it. Derobin and cignolin, derivatives of chrysarobin, are fairly good.

When a fungus is inflamed and impetiginised, the following will be the order of things used :—

In the acute stage—Fomentations, zinc cream cibazol or soluseptasine internally.

When better—Gentian violet and zinc cream.

When still better—Unguentum Hyd. Am.

When still more better—$AgNO_3$ and zinc cream.

Next stage—Whitfield.

Next stage—Chryarobin.

I agree with those who say that fungus nail is the most suitable condition for sending to your rival practitioner! If I am given the chance I could add a few more to the list.

I have my sympathy for patients with their hands affected with fungus. The festering finger fungus—In this

case the last thing I will do will be to send them for a superficial x-ray. This recalcitrant type is very troublesome but is certainly curable. This condition is sometimes a neglected cheiropompholyx. You do a lot towards the cure if you succeed in making the patient rest his hand. When I say rest I mean rest in every way—the more thoroughly this is done the quicker the cure.

I have depended on and they never failed me—

Zinc Cream.

Gentian Violet 1% in rectified spirit.

$AgNO_3$ 20 grs. to 1 oz. of Spiritus Aetheris Nitrosii and Mercurochrom 1 or 2% solution in water.

During the acute inflamed stage—Boric baths, zinc cream.

When better—Could use gentian violet and zinc cream, boric bath to be continued.

When still better—$AgNO_3$ and zinc cream, mercurochrom could be used at any stage.

Calcium, soluseptasine and liver through the needle help as adjuvants to the external treatment.

Epidermophytosis Feet and Tinea Cruris

In addition to the usual ointments, dusting powder is useful,—makes the patient feel more comfortable. But it is a golden rule to remember to avoid dusting powder when any condition is oozing and inflamed.

Somehow *fungus scalp* is not very common here. The treatment for this will be superficial x-ray.

Kerion (Localised fungus scalp)—this condition should not be incised though there is a great temptation to do so. Zinc cream with 5 grs. Hyd. Ox. Flav. is very helpful, and fomentations.

That fungus has not yet been successfully cultured is a great handicap. That one vaccine of Fonceca ampouled in graded doses has not been very useful.

For a very old, restricted lichenified patch giving trouble certainly superficial x-ray does a good deal of good.

For the generalised *Trichophid* and *Microsporid*, reactions, treatment will be same as for any allergic reaction, with a bland external application.

Regarding the very common tinia versicolor, this is one fungus which subsides with sulphur. Sodium thiosulphate 20% solution smeared frequently over the part is all that is necessary; where it is resistant a 3% tartaric acid smeared over the thiosulphate hastens the cure.

There are a few good patents for dry itching fungus:—

Mersagal (Glaxo) is sometimes very effective.

Upjohn's Benzoic Salycylic compound is indicated where there is a certain amount of keratinisation.

Mycozol could be tried where the above mentioned compound was not sufficiently strong.

"Madras Rot"—The treatment for this will be identically the same as for a patch of dry fungus on the palm.

Psoriasis—is a much discussed malady. The recurrence being the rule, you are lucky if the subsidence of the attack coincides with the end of your treatment! A psoriatic must be under treatment and observation, for a long time. You can't sort of put the lid on straightaway. During the course of the treatment there are a few recurrences. But if the treatment is persisted in, you do succeed in making the attacks fewer and farther between and less their virulence, till they practically get alright. Put the patient on a protein low, CH high, vitamin high diet, plenty of fluids,

The mainstay in the treatment is arsenic, calcium and liver. I have uniformly used T. A. B. curative with very good results.

External application—tar dermament (P. D.) and benzoic salicylic compound of Upjohn are very useful. Practically any emmolient will suffice. Silvikrin hair tonic lotion is good for the scalp irritation.

Lichen planus: Treatment same as for psoriasis, practically. Sometimes, joint pains in psoriasis is sufficiently troublesome to need special attention.

Pigmentary changes—Any infection of the skin if it had been there for some results in hyperpigmentation. When there is an obvious infection, treatment for the same, cures the condition. Otherwise, it is advisable to test the blood for Wassermann and Kahn, in all cases of Melano—dermia and leucodermia. If the blood is positive the prognosis is better. I have found, for external application for hyperpigmentation, Bismuth oxychloride with 5 to 10 grs. of acid salicylic in Eucerinum 1 oz., useful. Bismuth oxycarb could be used as well. Massive doses of Vitamin C helps. Sometimes injections of adrenaline in very small doses also help.

Leucodermis—Though it is beyond the range of my paper, with your permission I want to draw your attention to one fact. I don't think we have sufficiently realised the magnitude of the havoc done to society by the misnomer—White leprosy—and its equivalent Tamil term, வெள்ளை குஷ்டம். It is very necessary that we must all take it as part of our daily duties to impress on as many persons as possible the absolutely non-infectious, harmless and innocent nature of the leucodermia patch. They don't mind a dark patch, they don't mind a thick fungus patch years old. Why should they have such obnoxious sentiments about leucodermia! We have to only see—I daresay, many of you have seen—the pitiable plight of the mother or the father with their son or daughter having a leucodermia patch. Their mental agony is beyond proportion and the way they shrink from society and the way they long to be acceptable to society is tragic! It must be dinned into as many ears as possible about the innocence of leucodermia, so that at least in years to come, they will come to view it as something that needs no notice or comment.

In a localised patch of leucodermia the best thing to do is intradermal oleum bouchi—one or two drops into each puncture, the punctures to be about a centimetre apart. You don't get results in cent per cent. of cases; but where you get them it is permanent. The usefulness of arsenic and gold and other treatments I needn't mention.

Alopecia—is a much vexed question. Treatment of alopecia in patients below 25 years, more particularly girls, will mean, treating the general condition in every detail. Anaemia, focal sepsis, constipation and refractory errors are factors that need lot of looking after. Sometimes these are all that is needed with a little extra attention to the toilet of the scalp.

The majority of the cases need treatment for the seborrhoia. It is a good rule to examine the scalp for every lesion on the face, for boys and girls between 14 and 25 years.

Intradermal milk for a localised alopecia patch I have seen getting new sprouts of hair in very quick time.

The other common things tried I need not mention.

Acne is derived from the Greek terminology Acme. If we would for the time being keep this in mind, the essentials of treatment are contained in the four letters—*A* for Vit. A and for anaemia, *C* for vitamin C and constipation, *M.* for massage, local massage with olive oil and *E* for exercises. The other reasonable details I am not going into. To this I may add plenty fluid intake at normal temperature.

HCl by mouth has many advocates. Hormonal therapy is worth a trial. Sulphur is an important requisite in external applications. The patent Milkan Sulphur Lotion I find very useful.

I will finish with my experience of penicillin.

I started using penicillin with great hopes. I must confess I was totally let down.

I found penicillin very good for furunculosis, the usual dose of 20,000 units every three hours was given, I had very good results almost over-night. The patients I had tried it for, had a very severe crop of the furuncle. They were feeling ill, the furuncles on the forehead causing oedema round the eye etc. 5 injections did the trick and another five made them as good as normal. I had good results with Ecthyma and a severe type of sycosis, probably an Ecto-endothorix infection. The rest of my experiments were one series of disappointments. Bockhart impetigo, staphylycoccal infection, I thought would be amenable to the drug. But there was practically no improvement at all, one of the few cases I tried, the patient had 6,00,000 units.

The other conditions for which I tried penicillin with indifferent results are impetigo, allergic dermatitis eczematized at places, very generalised foiliculitis, chronic pemphigns.

Penicillin externally for impetigo does some good. I have not tried the ointment. The strength of ointment they say is 1,00,000 units in 1 oz. of base. Even half this strength does equally well. Penicillin unguentum 400 units, calcium penicillin in an emulsifying base made up of equal parts of, Synt. Tar, Lanettr. wax and water. I had indifferent results using penicillin externally for an eczematized inflamed fungus. In addition to the external application I infiltrated the margins with the solution.

Sycosis, external penicillin plus injections—very good results.

I know I had chosen a very big subject; when I started writing the paper I realised this fact all the more; when I heard from Dr. Kalamegam that I had to finish in 20 minutes the same fact was brought home to me more poignantly. Obviously, I could not go into the details of treatment, and, I could not refer to all the conditions either. I beg of you all to be reasonable.

ROLE OF SYRINGES IN THE TRANSMISSION OF JAUNDICE

IT is now recognised that the hepatitis which may follow months after the injection of measles or mumps convalescent serum or of yellow-fever vaccine containing human serum is due to ictarogenic factors in the serum.

This hepatitis is indistinguishable from that which occasionally follows arsenotherapy, and it has been suggested that postarsphenamine jaundice may result from the comtamination with blood of the syringes and needles used in venereal disease clinics. If this explanation is correct, jaundice should occur in other clinics in which therapeutic injections are habitually given, and also to have occurred in anæmia and diabetic clinics. Similar reactions are believed to have occurred after injections during the induction of hyperthermia, and a series of cases at a tuberculosis sanatorium were attributed by Sheehan to transmissions by the syringes used after withdrawing blood

for determinations of sedimentation rates.

Attempts to transmit this homologous serum jaundice and postarsphenamine jaundice to animals failed and the suspicion that injections play a part in the spread of jaundice can at present only be supported from field observations or human experiments. This form of hepatitis has a latent period of 8 to 12 weeks, and should not be confused with Milian's syndrome, which occasionally appears after the first or second injection of an arsenical preparation, nor with the jaundice occurring as an immediate sequel to hypertherm treatment, which is related to the liver necrosis following severe burns, nor with the early jaundice reported after T.A.B. hyperpyrexia.

As regards arsphenamine jaundice, there are various theories concerning its ætiology, (1) that the hepatitis is directly due to syphilis, (2) that the hepatitis is due to an intercurrent infection spreading spontaneously among persons made increasingly susceptible by the toxic effects of syphilis and arsenic, (3) that the hepatitis results from the transmission of an infective agent on syringes and needles.

If chemical poisoning can be entirely discounted, and this view is supported by Soffer's observation that arsenotherapy can be continued in jaundiced patients without ill effects, then the syringe and needle transmission of an infection provides the best explanation of the epidemiological pattern, since there is no evidence to suggest that the agent originates within the ampoules containing the arsenical preparations.

Experimental control of postarsphenamine jaundice has been attempted by altering the syringe technique employed has been successful. In one clinic the changed technique involved dry-heat sterilisation at 150 to 160°C for an hour of all-glass syringes with needles attached, the use of a new supply of distilled water for making up each injection of the drug and handwashing by those who dealt with the syringes, between injections.

In another clinic the low incidence of jaundice was attributed to the fact that syringes were sterilised by boiling between each case.

Hepatitis following injection has also been seen in diabetic clinics, after bismuth therapy, after acriflavine therapy, after venipuncture for determinations of blood sedimentation-rate, after hypertherm therapy and after gold therapy.

The nature and relationship of the agents causing homologous serum jaundice and epidemic hepatitis are unknown, but it has been shown that they have a high degree of resistance to destructive agents. The power to infect remains after repeated Seitz filtration, storage for many months in the frozen and dried state with subsequent reconstitution and re-freezing, storage for 4 months at 20°C, heating for an hour at 56°C, exposure for months to 0.5% of an equal mixture of phenol and ether or to 0.2% tricresol, extraction with ether and exposure to ultraviolet light.

The comparatively mild methods used to disinfect syringes are, therefore, unlikely to destroy the agent or agents of hepatitis.

Experiments have shown that it is impossible to rid, syringes of all traces of blood merely by swilling and so there is great need for the revision of the existing injection technique.

A Memorandum by Medical Officers of the Ministry of Health. (*Abstracted from the Lancet, Vol. 2, July, 28th, 1945, Page 116*).

The Role of Injudicious Endocrine Therapy In the Delayed Diagnosis of Uterine Cancer

By L. C. SCHEFFEY, Sc.D., M.D.,
D. M. FARELL, M.D. and G. A. HAHN, M.D.

(Abstracted from the *Journal of the American Medical Association*, Vol. CXXVII, 13th January, 1945, p. 76)

IT is unfortunately true that only too often the histories of uterine cancer patients show glaring errors of omission or commission in their primary management. Pelvic examination has often been omitted entirely or inadequately performed. Sometimes postponement has been suggested 'until the bleeding stops'. Patients have even been told not to worry—that the condition is one due merely to 'change of life'—and that an examination can be made 'later on'. Of a score of patients coming into our clinic because of abnormal bleeding, the records show that 15 of them had received oral medication without examination, while 5 had been given either 'electrical treatments' or cauterizations or simply told to use a vaginal douche. Biopsy, currettage or reference to a gynæcologist or clinic was never even mentioned. Facts like these are not new; they are well-known to the profession at large.

In recent years a new hazard has gradually become evident. The current popularity and ease of administration of glandular preparations has resulted in their indiscriminate and injudicious use in an attempt to control abnormal uterine bleeding. Rapid advances have been made in the preparation and variety of potent endocrine products, both natural and synthetic in character. The use of such products should be based on a sound knowledge of their respective physiologic properties. Adherence to scientific principles, accompanied by honesty of purpose and fineness of judgment, is absolutely essential if good instead of harm is to result from their use.

In no sense do we wish to disparage the possible benefits of carefully controlled endocrine medication. It is quite permissible to attempt to manage the functional bleeding of adolescence and the early reproductive period with endocrine therapy, including thyroid, together with adequate general measures, provided a careful physical survey of these younger women, including pelvic examination, has eliminated organic disease and that logical consideration has likewise been given to the physiologic reasons for using this or that endocrine preparation. Even so, the possibility that such therapy may disturb the delicate endocrine balance of the individual should always be borne in mind.

When abnormal bleeding is present during the late reproductive, menopausal or postmenopausal periods, there is much less justification for prolonged and experimental endocrine therapy. Well recognized radiologic and surgical measures are available in such cases, not only for the relief of organic pelvic disease, but even for the correction of proved functional bleeding—measures that are surer and far less time consuming than prolonged and often indecisive endocrine therapy.

Attention should also be called to the uterine bleeding that may result from excessive and continued dosage with estrogenic substances primarily prescribed to combat the vasomotor disturbances incident to cessation of periods and the menopause. This type of bleeding is bound to be confusing, for the question immediately arises as to whether this substitution therapy

is entirely responsible for the post-menopausal bleeding as an estrogenic 'withdrawal' phenomenen or whether it is due to organic pelvic disease, particularly fundal cancer. Only a diagnostic curettage can settle definitely the problem thus created. Furthermore, the possibility of a carcinogenic effect on the postmenopausal genitalia or breast, particularly where susceptibility or a familial history of cancer exists, and entirely apart from a pre-existing cancer, must also be taken into consideration. For the same reason it would seem inadvisable to administer endocrine therapy for the control of vasomotor symptoms occurring after the use of radium or X-rays for either benign or malignant pelvic conditions.

As a matter of fact, many women exhibit little or no disturbance during the menopausal epoch. Quite a number of those who do complain of disagreeable vasomotor symptoms may be made relatively comfortable by a rational explanation of the physiologic changes responsible for their annonyance, pluls appropriate sedation and the reassurance of a negative pelvic examination. Too often, however, the menopausal patient is led to believe that courses of 'injections' continued over a long period of time are essential to her health and happiness. She may even be told to expect disagreeable phenomena with the advent of the 'change of life' and such suggestions may come, not only from her intimates, but from her medical adviser as well.

When, after thoughtful consideration, estrogenic therapy is believed to be essential for the control of distressing menopousal phenomena that do not yield to the measures mentioned, it should be administered in the lowest possible dosage. Furthermore, 'rest periods' of a week or so should be prescribed between courses of therapy, as advocated by Hepp and others. Whenever so-called 'withdrawal bleeding' occurs, its possible significance should be promptly appreciated.

The Use and Abuse of Nasal Vasoconstrictor Medications

By B. M. KULLY

(Abstracted from the *Journal of the American Medical Association*, Vol. CXXVII, 10th Feb. 1945, p. 307)

NO class of drugs is more widely distributed and used than are nasal vasoconstrictors. This is due to advertising of 'patent' nostrums in press and radio, to exploitation of new compounds to the profession by pharmaceutical houses and to wide prescription of these drugs by physicians. Tabulation reveals that there are nationally distributed at least 240 nasal vasoconstrictor compounds in the form of drops, sprays, inhalants and ointments. It is timely to question whether the increased use of vasoconstrictors is justifiable and whether there are not disadvantages inherent in these drugs which demand a reappraisal of the indications for their use.

The action of sympathomimetic drugs on the nasal mucosa is directed chiefly to the blood vessels, though the secretory function also is affected. Primarily the effect on the blood vessels is vasoconstriction. The subepithelial capillaries and arterioles as well as the venous sinuses of the erectile tissues are constricted. Nasal secretion is diminished in contrast to the increased

secretion that occurs when vasoconstriction results from chilling of the body surfaces.

Sympathomimetic drugs vary in the intensity and the duration of the primary constricting effect and in the severity of their secondary dilating effect. Epinephrine and amphetamine are examples of drugs causing severe reactions, ephedrine and neosynephrin represent those producing a milder reaction. The amount of secondary congestion is proportionate to the intensity of the vasoconstriction, the frequency with which the drug is employed and the period of its use.

In recent years there has been a tendency to incorporate antiseptics with vasoconstrictors. This is particularly true of the sulfonamides, which have been added to almost every type of vasoconstrictor. The rationale of the use of antiseptics is questionable. They are in contact with limited areas of the nasal mucosa and then for brief periods of five to fifteen minutes. As shown by Walsh and Cannon, they do not penetrate into the subepithelial tissues where the infecting organisms thrive. They increase irritation and reaction.

The use of vasoconstrictors in the form of inhalants has become popular in recent years. Of these, amphetamine evokes the most vicious reaction because of its powerful pressor action and the ease of self-administration. Reactions equally severe are caused by some of the 'patent' inhalers.

In nasal surgery, vasoconstrictor medication is a requisite. Bleeding is controlled, the field of vision widened and absorption of the anæsthetic delayed. The use of a drastic vasoconstrictor, epinephrine, is justified, though post-operative swelling may be due more to the drug than to the surgery. Vasoconstriction is necessary in many manipulative procedures, such as sinus irrigations. In the displacement method of Proetz it is invaluable for therapy or visualization. Yet there has been observed damaging after-congestion with involvement of previously uninvolved sinuses, following too frequent displacement treatment or the use of drastic medication.

The value of vasoconstrictor therapy for acute rhinitis is questionable. The distress of the patient is temporarily relieved, justifying, in some instances, careful and minimal use of a mild decongestive drug. Unfortunately, such care is rarely exercised and the result is a disturbance in the nasal defence mechanism.

It is not implied that nasal vasoconstrictors are contra-indicated in the treatment of acute sinusitis. To shrink carefully the swollen mucosa about the orifice of an acutely infected sinus is a rational procedure. However, the margin between therapeutic shrinking and that of after-delatation worse than the original condition is not a wide one and demands conservative judgment.

To Let

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NOTICE

The First Indian Congress of Radiology will be held at Madras from the 13th to 16th February 1946 under the Presidentship of Dr. M. D. Joshi, M.B.B.S. (Bom.), D.M.R.E. (Cam.), F.C.P.S. (Bom.), J.P., Bombay.

Four Sections dealing with X-Ray Diagnosis, Radio-Therapy, Radiation Physics and Radio-Biology will be a feature of this Congress under the Chairmanship of Dr. S, C. Sen (Delhi), Dr. K. P. Mody (Bombay), Dr. R. Naidu (Bombay), Dr. V. R. Khanolkar (Bombay) or Dr. Bhaskara Menon (Vizagapatam) respectively. These sections will be consecutively held at the general sessions of the Conference. Each Section will open with an address by its Chairman who will give his opening address. Papers will then be read, discussion will follow and the Sectional Chairman will wind up their respective Sections. The President of the Congress will deliver his Presidential Address at the inauguration meeting and will wind up the whole Session with his concluding remarks. This Congress is held under the auspices of the Indian Radiological Association.

There will also be a Scientific Exhibition which will include interesting radiographs with case notes and surgical or postmortem findings thereon and will be exhibited on viewing boxes. Therapy Charts, follow-up-results, and radiographs of normal and abnormal postmortem specimens will also be exhibited.

Those who are interested in attending this Conference are kindly requested to get in touch with the General Secretary, Dr. P. Rama Rau, 155-157, Poonamallee High Road, Kilpauk, Madras.

P. RAMA RAU,
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THE MISCELLANY

OF THE

TRICHINOPOLY DISTRICT MEDICAL ASSOCIATION

BRANCH OF THE INDIAN MEDICAL ASSOCIATION (Regd.)

VOL. XIII] DECEMBER 1945 [NO. 3

THE USE OF EXPECTORANTS

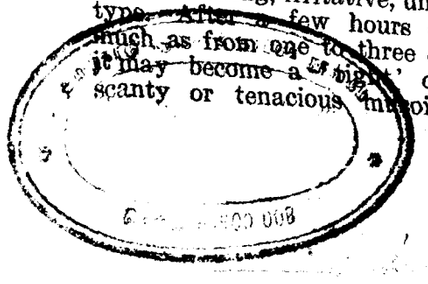
AN expectorant may be defined as a medicine which aids in the removal of mucus or exudate from the lungs, bronchi and trachea. This action may be accomplished by causing a more active secretion, or by making the sputum liquid or less tenacious. Another means of removal of sputum would be to stimulate the act of coughing, but this is seldom necessary or wise except in unusual states of debility in which large accumulations of sputum may actually imperil the patient. Often such a method would result in an expenditure of precious energy, and if possible aspiration should be employed instead. Coughing is nature's most efficient method of raising and ejecting sputum, and in some instances in which coughing is excessive, therapy must aim at controlling this act to allow the patient physical and mental rest and allow coughing at a time when it can be most efficacious.

To cough is to expel air, mucus or exudate from the lungs or air passages in a noisy, violent manner. When the respiratory mucosa is irritated by congestion, exudate or for some other reason, the nerve fibres transmit the impulse to the respiratory centre and the rather complex act of coughing is excited. Deep inspiration occurs, the glottis closes, and forced expiration is made. When the pressure becomes great enough to open the glottis, the sudden change in pressure is attended by the expulsion of a blast of air which characterizes the cough. If mucus or exudate is present in the lower respiratory tract it may be ejected with the air and the cough is 'productive.' If little or no exudate is present, or no sputum can be raised because of tenaciousness or for other reasons, the cough is said to be 'dry' or 'unproductive.'

In respiratory tract disease in which bronchial obstruction, diffuse or localized, is a part of the picture, there is a derangement of intrapulmonary and intrapleural, pressures, the extreme of which is found in pulmonary emphysema. Mucus or exudate may cause partial bronchial obstruction to both inspiration and expiration. The forces of expiration are not as great as those of inspiration, and emphysema results from the accumulation of air in the alveoli and overdistention of their walls. Efforts to inspire air past the obstruction may be attended by increased negative intrapleural pressure becomes elevated positively. In coughing, the forced expiration is accompanied by increased intrapulmonary pressure and elevated intrapleural pressure, simulating transiently the pressure changes

found in emphysema, and, therefore, frequent prolonged unproductive coughing may be harmful. Since obstruction due to bronchial spasm or accumulation of sputum may respond to medication, these factors should be carefully evaluated in the selection of expectorants.

Indications for expectorants most often arise in inflammatory conditions of the lungs and larger air passages, and since the same expectorants may not be efficient or advisable in the different stages of the disease, the proper selection depends on a thorough understanding of the underlying pathological condition. In allergic manifestations, such as bronchial asthma and asthmatic bronchitis, the degree of bronchial spasm and the character of the accumulated secretion serve as excellent guides in the choice of therapy. The clinical interpretation of the pathologic process is aided greatly by the close observation of the type of cough and expectoration. Furthermore, the art and science of the prescribing of expectorants is dependent on appraisal of the type of cough, the character of the sputum, and the correlation with the stages and clinical features of the causative disease. Four rather distinct types of cough may be recognized: the hacking irritative, unproductive cough, the 'tight' cough with scanty or tenacious sputum, the wheezy, squeaking cough, which may be either dry or productive, and the 'loose' cough with abundant sputum. In consideration of the subject, under discussion, sputum has three main constituents, water, mucus and purulent exudate, and in the individual case it is necessary to evaluate the relative proportions of these components. In the early congestive stage of acute tracheitis, and bronchitis, the cough is of the hacking, irritative, unproductive type. After a few hours or even as much as from one to three days later it may become a 'tight' cough with scanty or tenacious mucoid sputum.



In some cases of acute bronchitis, the squeaking, wheezing cough develops. Later in the disease the sputum becomes more abundant and mucopurulent and the cough loose. Bronchopneumonia may provide a similar change in the cough and sputum. Lobar pneumonia often has a type of cough and sputum characteristic of the disease, but generally the early stage has a tight grunting cough with scanty, more tenacious mucopurulent and rusty-sputum, while in the later stages the cough is loose and there is abundant, more purulent sputum. Chronic bronchitis produces a thicker mucopurulent sputum, which at times is tight, at other times loose, depending on the abundance of the sputum, on the relative amounts of pus and mucus, and on associated bronchial spasm, and at times the cough may have a wheezy character. The cough of congestive heart failure is often rather unproductive until secondary infection in the bronchi or lungs appears; then it simulates that of chronic bronchitis. If pulmonary œdema occurs, the sputum is abundant, watery and frothy, and may be blood tinged. The wheezing, squeaking cough is characteristic of bronchial obstruction and is the type found in asthma and asthmatic bronchitis, and here the sputum is scant at first, later more abundant, and is tenacious and contains varying amounts of mucus and pus, depending on an associated bronchitis. In chronic pulmonary disease a loose cough with abundant purulent sputum usually means pulmonary suppuration with cavity, such as lung abscess, suppurative pneumonitis or bronchiectasis. In the latter conditions, coughing occurs when the exudate reaches the irritable level in the air passages, since the deeper portions of the lungs are rather insensitive to stimulation; thus the reason for postural drainage in such cases. The odour of the sputum may be a very good index as to the prolonged retention in the suppurating area. Although older writings have

described a characteristic cough and sputum of tuberculosis, it is now recognized that almost any of the types mentioned may be found in pulmonary tuberculosis, depending on the type of pathological process present. As a general rule the appearance of gross blood in the sputum of chronic pulmonary disease calls for pulmonary rest.

Since the beginning of medicine the patient with a cough has expected and often demanded a 'cough medicine' as part of the treatment. A review of old authoritative works on therapeutics reveals numerous drugs of one kind and another used for this purpose, a great many of them now obsolete, and provides an interesting historical background in therapy. Indeed, it would seem that the use of expectorants has been more of an art than a science.

Usually an expectorant is classified as 'stimulant' or 'sedative' or 'anodyne.' Perhaps such a classification serves some useful purpose, although it is difficult to list accurately the expectorant drugs under these three headings. There is some confusion in the definition of these terms; for example, one medical dictionary defines a stimulant expectorant as one 'used to expel secretions already formed'; one textbook on therapeutics refers to stimulant expectorants as those 'which are largely excreted in the bronchial mucus and which check the secretion or modify its character in some obscure way'; another defines this class of expectorants as 'aromatic bodies that owe their virtue to elimination from the bronchial mucus membrane. Given in sufficient dosage, they possibly tend to favour healing by producing a curative hyperaemia.' A practical correlation and clinical guidance is as follows:

Sedative Expectorants: They are intended to soothe the acute inflammation mainly by stimulating the secretion of protective mucus. Stimulant Expectorants: These are intended to irritate the mucus membranes in such way as to stimulate repair. They also tend to diminish excessive secretion. Some of these are also called aromatic expectorants. Terpin hydrate creosote, (Potassium guaiacol sulphonate) belong to this group. Anodyne Expectorants: These are intended to depress the excessive cough reflex. These tend usually to diminish secretion. Codeine, Ethyl morphine hydrochloride belong to this class.

The stimulant sedatives are most useful in the chronic inflammatory conditions. They tend to lessen the mucus and exudate and the hyperemia caused by them may aid the healing process. They should not be used in the acute stage because of the tendency to produce hyperemia. Creosote compounds, guaiacol and terpin hydrate, are the representatives of this group which will be discussed here.

Terpin hydrate is indicated in the chronic cough with abundant sputum and is said to be helpful especially against an excessive liquid sputum. It is commonly used in the form of elixir of terpin hydrate which contains an insufficient quantity of terpin hydrate to give the best effect. Elixir of terpin hydrate serves as a suitable vehicle for the anodyne expectorants (ethyl morphine hydrochloride, codeine etc.).

The anodyne expectorants, so called, hardly need any comment, except to caution against their use in cases in which there is abundant purulent sputum. The purpose of the cough is to get rid of this exudate, and suppression of the cough reflex may be hazarduous. Nevertheless, they are useful in giving the patient rest if coughing in such cases has tended to cause exhaustion. These drugs act by allaying the cough reflex, and the dose and frequency of administration are an individual problem. Morphine should be avoided in treatment of the chronic cough because of the danger of addiction. However, there are occasions

when good clinical judgment may dictate its use for temporary relief.

Diffuse partial bronchial obstruction as exemplified in bronchial asthma and asthmatic bronchitis presents a special problem in the use of expectorants. Both bronchial construction and plugging by tenacious mucus enter into this mechanism. Solution of adrenaline 1: 1,000, in doses of from 3 to 12 minims (0·2 to 0·7 c.c.) given intramuscularly, is the most effective remedy for the bronchial spasm. Ephedrine hydrochloride and sulphate have a more prolonged effect and have the advantage of oral administration.

Most of the therapeutic demands can be satisfied by skilful employment of a few representative drugs of the three types of expectorants such as terpin hydrate, ephedrine, creosote, guaiacol etc. (*Brown, J. A. M. A., 24th July, 1937, p. 268—Abstracted from the I. M. G. March 1938, p. 174*).

PARTIAL STARVATION AND ITS TREATMENT

(*Abstracted from the Lancet, 24th March, 1945, p. 375*)

DISCUSSING scarcity of food and effects of under-nourishment in parts of Europe, the article states:—

Straight starvation has been investigated in animals and man, as Magee reminded the Nutrition Society last year. Many have assumed that once hunger pains have disappeared, as they do about the fifth day, death from starvation is a gentle fading away, not entirely unpleasant: but unfortunately this may not be so. Magee pointed out that the body conserves the strength and weight of the nervous system, the skeleton, endocrines, and reproductive organs, and the losses fall on the skin, the muscles, and the digestive organs. The most noteworthy effects are on the alimentary system: the hydrochloric acid of the stomach decreases, the columnar cells are flattened, absorption is lessened, and intestinal ulcers develop, especially in the large intestine. These findings have been observed in man as well as animals and probably account for the diarrhœa simulating dysentery described in cases of severe malnutrition. It is perhaps worth noting that immunity reactions are lost by the starving, and it may be necessary to vaccinate them afresh if smallpox is about.

The nutritional œdema already mentioned in reports from the Continent is caused by having insufficient protein in a diet low in calories. The limited amounts of protein which would suffice if the calories were adequate are diverted to produce energy; the plasma thus becomes deficient in proteins, its osmotic pressure falls, and fluid leaks into the tissues and much salt in the diet is likely to increase this leakage. Children do not develop typical œdema, but are pale and doughly-looking. They become thin—that is, less waterlogged—on being fed. When this œdema is combined with gastro-intestinal trouble the patient is in grave danger. Minor features, recalling nicotinic-acid deficiency and scurvy, are a red desquamated tongue and swollen inflamed gums. Major symptoms are dilatation of the stomach and a profuse watery diarrhœa, with frequent evacuations, often mistaken for dysentery. There are severe pains in the stomach and lower gut and the diarrhœa leads to dehydration. Judging by recent reports nutritional œdema was seen among the French and Belgians more commonly

during the first two years of occupation than it is now. After the early days these people supplemented their diet from an extensive black market, and so avoided the worst effects of the official ration. Neurological symptoms suggestive of vitamin deficiencies have not been generally described though Simonart claims to have found neuritic signs which were relieved by injections of aneurin. Clinically his cases had more in common with nutritional œdema than with beri-beri.

The treatment of partial starvation was reviewed by Goodman in an address to the Medical Women's Federation a year ago. Mild cases will promptly respond to a diet of easily digested foods—particularly milk, eggs, meat, fresh ripe fruit, and cereals. (In view of transport difficulties, dried milk, even dried skimmed milk, dehydrated fish, and dried eggs will probably be used, and they should prove beneficial.) Much fat is contra-indicated, because of the diarrhœa. After a fortnight the patient should be able to take any ordinary diet but absolute rest in bed for at least two weeks is highly desirable. Intermediate cases require hospital treatment and good nursing. Feeding should be cautious, beginning with milk and dairy products, and avoiding excess of fat. Pepsin and hydrochloric acid may be needed to help digestion, and mild diuretics to get rid of the œdema. Mercurial diuretics have been found dangerous: Evans and Perry thought that occasional deaths following the use of such drugs for cardiac or renal œdema might be connected with lowering of plasma protein; and this factor would of course operate also in the starving. Serious cases must have hospital care, good nursing, warmth and good food if they are to have any chance at all. They need frequent feeds of milk, gruels and lean meat, with pepsin and hydrochloric acid. Magee referred to the value of intravenous injections of glucose and of opium to control diarrhœa. The prognosis is good in mild cases except when the patient is very old; in intermediate cases it is good for those between 20 and 40 years of age, but bad for the very young and very old; in serious cases it is bad for all ages, but those between 20 and 40 have the best chance. As so often, women have a better chance of recovery than men.

Of late years a new method of saving these severely ill patients has come into our hands: they can be nourished directly with protein digested into its component amino-acids, given intravenously with glucose. Severe inanition, nutritional œdema, and dehydration have responded to this measure, which was used during the famine in Bengal, and it has also given successful results with infants suffering from intractable diarrhœa, and with premature babies. Possibly the metabolic functions of the liver are helped by such hydrolysates. In Bengal the mortality among cases uncomplicated by pneumonia or malaria, treated in this way, is said to have been only 8 per cent, whereas control cases treated with glucose saline showed a mortality of 67 per cent. Cases of dysentery with intestinal ulceration are stated to have benefited considerably. Unfortunately, however, amino-acid preparations suitable for intravenous injection are still scarce. A single preparation ('Amigen') in America is said to be safe; other English and American preparations may produce febrile reactions. Nor can amigen be readily prepared in large amounts. Serum and plasma, though not as good nutritionally as protein hydrolysates, have some food value, and also reduce œdema by restoring plasma protein; and though they carry a risk of infective hepatitis, they may well be used to save life. The important point is that the starving patient who cannot eat is no longer necessarily a lost man: we have found a new way of saving him, and must develop it.

PENICILLIN FOR HUMAN FOOT AND MOUTH DISEASE

MARTIN FRIEDMANN, M.D. (Hdbg.)
Yercaud, (Salem District).

I HAVE not been able to find any hint in the literature that Penicillin has been used in the human form of foot-and-mouth disease. I am, therefore, publishing this paper to direct its possible use in future, as the following facts will show there is a good indication of its curative value.

As in the case of a lady aged 42. Past history irrelevant. She had mild fever, (the temperature wasn't taken as the sensation in the mouth prevented this), redness between the toes, irritation at the vulva, and malaise three days previous to my first visit. No gastro-intestinal catarrh. Her main complaints were: intense pain in the mouth. She refused solid food, and even liquids could only be taken with difficulty. Patient had no contact with infected cattle, sheep, goats, or young pigs. Foot and mouth disease in animals has not become known in the patient's surroundings for a long time. The milk used had always been sufficiently boiled, no cheese was eaten. There was no report of similar cases at this place. The patient has not left this place 4-8 days (incubation-time) before the onset of her illness.

Status præsens:—16-8-1945.-Now no findings between toes, or fingers, or at the nail-folds. Only the cavum oris was attacked. The mouth could not be opened wide enough to inspect the whole oral cavity and throat. As far as it could be seen the mucous membranes of the cheeks, especially left, the soft gum were reddened, bearing here and there white epidermis shreds. The tongue was whitish and edematous, the gingiva nearly free. Saliva flew permanently. Small ulcerations covered the lower lip. According to the complaints the affection seemed to have extended down to the tonsils and pharynx. Every movement of mouth and tongue was accompanied by severe aching. These pains in combination with the permanent salivation and the swelling of the tongue rendered speaking difficult. The speech was, therefore, slurred and languid. Patient made spare of every word. The glands, particularly those beneath the angulus mandibulæ, were slightly enlarged and tender. There was no rise in temperature. Smear of exudate from the lesions and membranes was negative for: Oidium albicans, usospirochætal infection, and bacilli diptheriæ. Inoculations with the exudate or saliva on the sole of guinea-pig or other animals susceptible to foot and mouth disease were not performed.

The diagnosis of the disease as human foot-and-mouth disease (Syn. fievre aphtheuse of the French, aphthæ, epitooticae, stomatitis epidemica (கால்வாய் வீக்கம்) was based on the preceding fever, on the affection of toes and genitale even if it has not been definitely proved by experiments on animal. Excluded were the following diseases: stomatitis aphthosa, stomatitis ulcerosa, moniliasis oris, diphtheria, and cauterisation of the mouth.

Management:—Human foot-and-mouth disease takes usually a turn for better with a good prognosis, but it is an illness which causes severe suffering, reduces the patient, and which may have a duration of 2-4 weeks and occasionally even longer. As a specific

and quickly effective treatment against this affection has not been known up to date. I decided to dare a trial with Penicillin. Although it is generally stated that viruses are usually insensitive to Penicillin reports are recently presented about the effectiveness on the viruses of psittacosis and ornithosis.

Penicillin treatment was immediately started in doses of 20,000 units of Penicillin Sodium intramuscularly every three hours to a total of 100,000 units. A prompt improvement followed this administration and immediately after the second injection subjective discomfort was decidedly alleviated. Within 2 days after starting the Penicillin treatment signs of new epithelisations were present, and the condition had so far improved to allow patient to eat better and without aching. Only red patches could now be seen, and on the 6th day the eruptions were practically cured. Her loss of about 10 lbs. of body weight was equalized in the shortest time. Patient was given locally 10% Borax Glycerine, and against the pain 2% Benzocaine oil.

As a comparative observation to the above mentioned case a patient may serve whom I treated in the pre-Penicillin era.

CASE 2:—A planter aged 68. Start of illness 3 weeks ago, giddiness (fall from bed), headache, dryness of mouth, sleeplessness, cough with little phlegm, and morning temperatures up to 102°F. Spent 5 days in the hospital without improvement. The first two days under my care no definite signs, but moderate temperatures could be observed. Urine, inner organs, nervous system etc., were alright. The third day patches on the tonsils appeared. In the course of the three following days nearly the whole mucous membrane of the mouth, including tonsils and pharynx, got affected with blisters which burst quickly leaving behind red rough spots with rests of the blister-wall, accompanied by abundant oozing of saliva. Severe pains prevented him from eating and swallowing even liquids. No blisters on toes or fingers. A condition of extreme weakness developed. Microscopically no pathogenic organisms could be found. In spite of local application of Benzocaine oil, Borax Glycerine, paintings with methylviolet, and the administration of Vitamin A, B, C and D the malady progressed with the consequence that patient sought refuge at a Madras Hospital where he had to stay for some weeks. Although contact with diseased animals could not be proved stomatitis epidemica was diagnosed by exclusionism.

Conclusions:—Although no attempts were made to substantiate the diagnosis of human foot-and-mouth disease by experiments on animal, I believe that both patients represented cases of this specific disease. The comparison between the two cases is interesting and instructive. No treatment, neither at the local hospital, nor by me, nor at Madras could free the second case from this troublesome suffering in a short time, and it seems the disease came to an end only by self-healing. It is an established fact that foot and mouth disease in men requires at least two weeks for cure, whereas the first case was healed in 6 days, and already alleviated after the second Penicillin injection. It is suggestive that Penicillin was the effective agent in this case. This favourable result, of course, permits in no way binding conclusions, that we have got in Penicillin a specific remedy also against stomatitis epidemica. The experience in a single case is naturally no proof of post hoc or propter hoc. The previous conception that Penicillin is ineffective against virus-diseases seems not to be valid in its absolute sense. It may be that this drug is of value against the rare virus-diseases which are transmitted from animals, such as psittacosis, ornithosis, and foot-and-mouth disease. I have

not been also to meet reports on trials in rabies.

I am reporting this positive case to encourage others to use Penicillin in order that larger series of cases may be accumulated from where definite conclusions may be drawn.

Should it prove true that the human foot-and-mouth disease can be favourably influenced by Penicillin, prospects are brightening of the curability of this devastating disease amongst the indispensable animals.

Summary:—1. After the administration of Penicillin Sodium one case of human foot and mouth disease was cured within six days.

2. One case is not sufficient to establish the fact that Penicillin is a specificum against this malady too. The real evaluation must be done in larger rows of trials.

3. In case the human foot and mouth disease is sensitive to Penicillin, the foot-and-mouth disease of the animal kingdom may also be sensitive to it.

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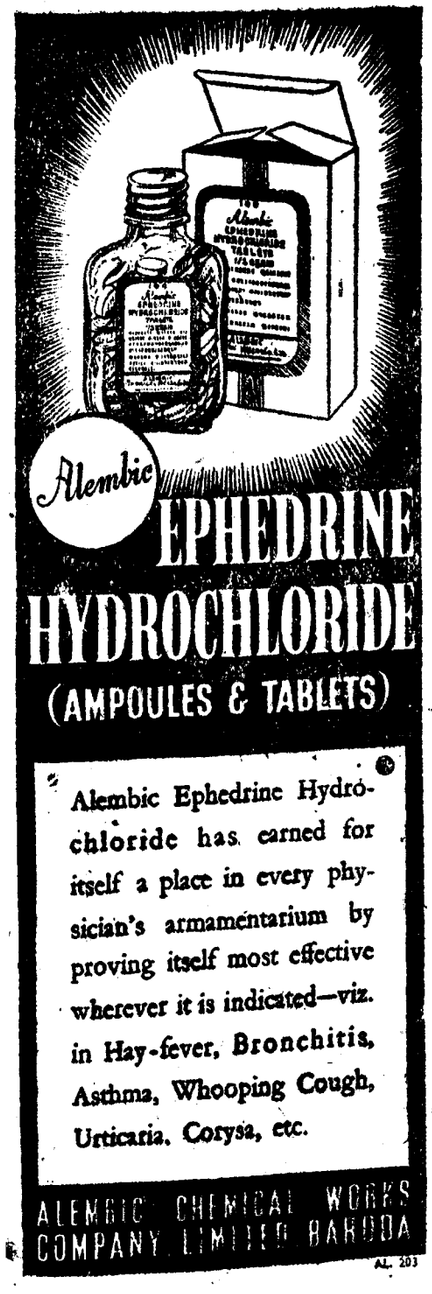

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