stomach, the fundus would become large and translucent. In some cases this is very marked and gives a striking picture; in other cases it is not so striking. Dr. Hope Fowler demonstrated the appearances in this case, but they were only fairly well marked.

The next case illustrates a combination of hypochlorhydria and air swallowing persisting after removal of the appendix.

CASE VI.

Mr. W. C., aged 34, a mercantile marine officer, had been at sea for fourteen years, and consulted me on September 6th. His complaints were obstinate constipation, the bowels never moving without a purgative, and frequent, almost daily, vomiting. The vomiting had become more frequent, and sometimes occurred two or three times a day. His appendix had been removed in Bombay eighteen months before I saw him, but without any relief to his symptoms.

On questioning him it was ascertained that he had a feeling of weight and heaviness half an hour after food—"a feeling like lead" in the lower half of the abdomen. There was no pain. He often felt sick before breakfast, and if he did he might vomit a quarter of an hour to half an hour after breakfast. The vomiting occurred especially if he took anything hot, cold not being so bad in this respect. He might vomit again after the midday meal. He never vomited after 4 p.m. The vomiting was preceded by some degree of nausea, but it did not appear to be great. The motions were dry and lumpy.

Examination.—He was rather pale and flabby looking, but stout. He had never had malaria or other fever in the East. The scar of the appendix operation was good. The fundus of the stomach was enlarged. The descending and pelvic colon were felt small and contracted. The urine contained neither sugar nor albumin. The brachial systolic pressure was 135 mm. Hg. The apex of the heart was slightly to the left of its normal position. From the foregoing facts it looked as if it were only necessary to find a suitable laxative to secure the removal of the symptoms. With this object in view I prescribed a pill containing 2 grains each of extract of cascara and extract of taraxacum with $\frac{1}{2}$ grain of extract of belladonna to be taken at night.

He returned to me on September 26th, when he informed me that half a pill gave him a free motion every day, but that there was no improvement in other symptoms; that he vomited daily, sometimes two or three times; and had much flatulence after taking food, feeling "blown up" with it, and that he got relief when he got it up. From the account he gave it seemed clear that he was an air swallower. He was examined by x rays and watched by the screen. The screen picture was not satisfactory, but the fact of air swallowing was established by his sense of distension after the bismuth was swallowed, and by the visible and marked projection of the stomach, the projection disappearing after he belched up wind. I asked him to return to see me the following day, September 27th, and to bring his vomit for examination. On September 28th he brought me another specimen. On both occasions the vomit consisted mainly of disintegrated cereal food, some milk curd, etc. On both occasions it contained no free acid. I prescribed dilute acid, strychnine, and gentian; stopped milk and farinaceous puddings; put him on meat and fish, to be eaten with savoury sauces, and stewed fruits. He reported himself on October 2nd. He stated that the first dose of the mixture I had prescribed had relieved him, that he had no more vomiting or nausea, and practically no flatulence. He felt quite well and stated that the bowels were regulated by one-fourth of the pill I had ordered for him. He was naturally much gratified at the complete removal of symptoms, which he had suffered from more or less for the fourteen years he had been at sea. An interesting and important observation made this day was that the brachial pressure instead of being 135 mm. was only 115 mm. Hg. I saw him again on October 8th and was assured that complete relief was maintained.

Remarks.

The points of special interest in this case were (1) the air swallowing, which stopped when the hypochlorhydria was successfully treated; (2) that it was not a case of "appendicular dyspepsia," which presumably was the diagnosis which led to the removal of the appendix; and (3) the fall of 20 mm. Hg when the gastric condition was rectified.

Many years ago I published my first paper on hypochlorhydria, and since then have lectured on it many times, and also dealt with it many times in the wards in the course of bedside teaching. This is the first time I have lectured on hypochlorhydria and air swallowing, although I have long taught these subjects in the wards; and I hope that I have aroused your interest in this other phase of gastric and digestive disturbance.

THE latest official statistics show that the total mortality from tuberculosis in Italy decreased from 1887 to 1914, but in varying degrees in different regions. On the other hand, in Sardinia it increased. For all tuberculous diseases the diminution was about one-third, but for pulmonary tuberculosis it was only one-fifth.

INDOLENT SORES ON THE FINGERS.

BY

ROBERT W. MACKENNA, M.A., M.D.,

HONORARY DERMATOLOGIST TO THE DAVID LEWIS NORTHERN HOSPITAL,
LIVERPOOL.

AN indolent sore on the finger of a nurse, a dental surgeon, or a doctor is all too often the precursor of a systemic spirochaetal infection, and, as time is a factor of paramount importance, the purpose of this note is to emphasize the necessity of having serum from such a sore examined early, and if need be often, for the micro organism of syphilis. The clinical appearances of a primary chancre at the seat of election are sufficiently well known. What is not so generally recognized is that the appearance of such a sore upon the fingers may present few if any of the accepted characteristics of a Hunterian chancre.

That unique clinical observer, Sir Jonathan Hutchinson, described the evolution of a syphilitic chancre as follows:

If the virus of syphilis in a pure form be inoculated, it rarely produces any irritation at first. A period of from three to five weeks will elapse before anything is observed. At the end of that time a little red spot will be noticed, which itches more or less, and which, extending from day to day, soon becomes a papule, and by the end of a week or ten days is probably a little indurated disc or button. The induration is usually very marked and its margins definite.

This is an accurate description of a primary sore in the usual site on the male patient. It differs markedly, it may differ by the whole width of heaven, from the usual appearance of a chancre on the finger, which rarely shows characteristic induration. As induration has come to be regarded as the one pathognomonic clinical feature of a primary sore, the absence of that cartilaginous resilient hardness which training leads one to expect may prove misleading, and lull the sufferer, if he be a medical man, into a false sense of security. It is because of the frequent absence of this hardness that so many doctors who have unfortunately been inoculated on the finger fail to seek treatment until a general systemic invasion has occurred.

Diagnosis.

There are no definite and inseparable characteristics appertaining to a chancre on the finger. It varies according as it is due to a specific infection superadded to an already existing simple sore, or is the result of a pure infection *de novo* through an abraded epidermis, or is due to an infection coincident with the implantation of one or other of the ordinary micro-organisms of suppuration. Within the compass of such a note as this it is impossible to describe the varying evolution and appearances of a specific sore arising under these three different conditions; but in my experience the chief features of a chancre on the finger are:

1. Its indolent character.
2. Its slow but progressive increase in area.
3. Its shallowness.
4. Its scanty discharge.
5. Its comparative painlessness.
6. The early involvement of the nearest lymphatic glands.

Any one or all of these features may be masked by some coincident infection. The one constant characteristic by which it can be recognized, and ought to be recognized at an early date, is the presence, revealed by microscopical examination, of the infecting spirochaete. At this stage a blood test is of little or no avail. Indeed it may give a sense of security which the subsequent progress of the disease shatters rudely. A positive Wassermann reaction is rarely if ever given before the seventeenth day of a chancre's existence. More than once I have been assured by a medical man that the sore on his finger could not be specific, because he had had a blood test done, with a negative result, while all the time the industrious spirochaete was multiplying abundantly in the sore, and only waiting to be revealed by dark-ground illumination, or by Burri's Indian-ink method.

Tubercle of the lungs is nowadays proven early by the discovery of the tubercle bacillus in the sputum, and the examination of the sputum is a routine procedure in every suspected case. It were well if a similar routine were followed in the case of all indolent sores on the fingers. All such sores should be regarded with grave suspicion.

from the first, and we should keep our suspicion alive until repeated examinations for the spirochaete have yielded a succession of negative results. Theoretically the spirochaete ought to be discoverable from the time of inoculation. Practically it is readily discovered in an untreated sore within a day or two of its appearance. Even in a sore that has been dressed constantly with antiseptics, patience and repeated examinations will sooner or later reveal it. As the time factor is of incalculable importance in the treatment of syphilis, much misery, serious ill health, and possibly tragedy, may be avoided if the diagnosis is established early.

Method of Taking Serum for Examination.

Wherever possible the serum should be taken by the pathologist who is to examine it. But if this cannot be done the procedure to be adopted is as follows:

Cleanse the sore with a pledget of wool soaked in normal saline. Then gently abrade the edge of the sore with the edge, not the point, of a bayonet-shaped needle. Rub the abraded edge briskly with a pledget of wool soaked in methylated spirit. After a short interval serum will be found exuding from the abraded surface. This serum may be wiped away, and if there is no further flow, it may be excited by a further application of spirit. This second issue of serum should be collected in capillary tubes, and sent at once to a laboratory for examination. If the report is negative, a further sample should be examined forty-eight hours later. Care should be taken to send clear serum, and not that which is copiously admixed with blood corpuscles. Three consecutive negative reports are not likely to be contradicted by the subsequent history of the case; but anything short of three negative examinations should not be regarded as sufficient to put syphilis out of court.

Cases.

I will quote three cases:

I.

A nursing sister on overseas duty in Malta developed a sore on the back of the proximal phalanx of the left thumb in the beginning of the third week of May, 1916. The sore was diagnosed as a poisoned sand-fly bite and dressed with an antiseptic dressing. She proceeded on duty to Salonica, reaching her destination on June 6th. On arrival she reported sick with a sore throat. She was isolated on the suspicion that she was suffering from diphtheria, but swabs were taken and yielded negative results both as to the presence of the Klebs-Loeffler bacillus, and the spirillum of Vincent's angina. The following week she developed an abscess in the neck in front of the sterno-mastoid on the right side. This would lead one to imagine that the mischief in her throat at this stage, if specific at all, was complicated by a mixed infection, as suppuration in the neck is an extremely rare outcome of syphilitic tonsillitis in the secondary stage. The abscess was opened on June 20th, 1916. At this time there was no eruption on her body, and, so far as she can remember, she did not call the attention of anyone at Salonica to the sore on the thumb.

At the end of June she was transferred to Malta to convalesce after the operation, and either on the voyage or immediately after her arrival in Malta she broke out in a copious eruption. This was diagnosed as multiple sand-fly bites, and was treated with zinc ointment and a tonic. She was feeling weak and ill, and on reporting this she was admitted into hospital as a case of debility due to sand-fly bites. So far as she is aware, not one of the five medical officers who saw her in Malta suspected syphilis, and she received no treatment for that disease. As she did not improve she was boarded, and sent home on six weeks' sick leave. On arriving in London she was again boarded, as is the custom in the Army Nursing Service, and at this board, for the first time, one of the medical officers suggested the possibility of syphilis. A blood test was made, and yielded a strongly positive reaction, and she came under antisyphilitic treatment for the first time at the end of September. She has not yet recovered her full health, and her left eye is irreparably damaged. One cannot but think that the course of her illness would have been more satisfactory if the original sore on the thumb had been examined for the spirochaete in May, 1916.

II.

In the first week of June, 1919, a dental surgeon developed a small sore on the left index finger, just beyond the base of the nail. It steadily and progressively increased in size, but remained shallow, and at no stage in its evolution showed induration. The sore was carefully treated by a doctor, who very early suspected syphilis, but who hesitated to commit himself to the diagnosis of a specific infection in the absence of any induration. But as he was dissatisfied with the progress of the case he took his patient to a surgeon, who suggested that a blood test be made. Blood was taken for that purpose, but while the result was being waited for a faint macular eruption appeared on the patient's trunk, and his doctor referred him to me.

I found that he had an indolent sore a little larger than a sixpenny piece on the left index finger, general adenitis of a typical character, and a very faint roseolar rash was beginning to appear on his body. Although on clinical evidences alone there could now be no doubt as to the diagnosis, for my own

satisfaction I had some of the serum from the sore examined by dark-ground illumination, and in spite of the fact that the chancre had all along been dressed with an antiseptic dressing, typical spirochaetes were found without difficulty.

III.

The third case is that of a medical man who developed an abrasion over the middle phalanx of the left little finger early in August of this year, and about the same time a second abrasion on the web between the bases of the ring and little fingers of that hand. He believes that he pricked himself with a needle in the course of an operation. However that may be, these sores were at that time, or soon afterwards, inoculated with the spirochaete, but at the same time with a somewhat virulent pus organism, probably a streptococcus, which set up violent inflammation in the finger and severe lymphangitis, which extended up to the glands in the left axilla. The mixed infection effectually masked the true nature of the condition. After some weeks of treatment the inflammation in the finger and the lymphangitis in the arm began to subside, but the sore on the finger showed no signs of healing.

On October 4th he consulted Mr. Paul, who kindly sent him to me. I found the finger greatly swollen and inflamed, the skin over it tight and glazed, and the digit presenting the appearance of an over-filled sausage. Over the middle of the second phalanx was an open sore about the size of a sixpence, shallow, definitely margined, covered with weak-looking granulations, and with only a small quantity of discharge. No induration could be felt. Running up the forearm, and extending half-way to the elbow, was a red line of inflamed lymphatics. The epitrochlear gland and the glands in the left axilla were swollen, as were also the glands behind both sterno-mastoid muscles. In spite of the fact that the finger had been constantly dressed with antiseptics, serum taken from the abraded edge of the sore and examined by Burri's method showed many spirochaetes. Eight hours after I first saw him a roseolar eruption broke out on the body and limbs.

Here, again, valuable time had been lost, and the mischief had reached the threshold of the secondary stage before the cause was discovered. It is in the hope of making such unfortunate delays less frequent that I have written this note, and, in conclusion, I would reiterate this opinion, that a syphilitic primary sore on the finger rarely, if ever, shows "characteristic" induration, and never if it is secondarily infected. The path of wisdom is an early examination for the spirochaete.

SEVERE DERMATITIS DURING TREATMENT WITH NOVARSENOBILLON.

BY

L. G. LEONARD, M.R.C.S., L.R.C.P.,

DERMATOLOGIST ATTACHED NEW BRIDGE STREET MILITARY HOSPITAL;
CONSULTING DERMATOLOGIST, NELL LANE MILITARY HOSPITAL,
MANCHESTER.

THE following case is instructive as an illustration of the risks attending the use of novarsenobillon:

Pte. J. M., aged 23, was admitted to New Bridge Street Military Hospital, Manchester, on July 24th, 1919, suffering from secondary syphilis; the secondary lesions were a well developed macular syphilide and general adenitis. The Wassermann reaction was strongly positive. The primary sore, contracted four months previously, had partially healed. The skin was normal and there was no history of skin disease.

Treatment was commenced the following day, and three injections of 0.45 gram novarsenobillon intravenously and 1 grain of mercury intramuscularly were given at weekly intervals. All the injections were well tolerated; there was no reaction, and a gain in weight of 2 lb. was recorded. All primary and secondary lesions cleared up, and he was made an out-patient, the usual fortnight's rest being allowed.

On August 23rd 0.6 gram novarsenobillon and 1 grain of mercury were given. There was no immediate reaction either complained of or noted. On August 25th, two days after the last injection, he reported sick, with shivering, headache, pain in the back, and diarrhoea. The temperature was 99.2°. These symptoms continued, and on August 27th the temperature was 102.2°. Sodium salicylate and quinine were given, and by August 31st all symptoms, including the rise in temperature, had subsided and the patient was apparently well again.

On September 1st, nine days after the last injection, the temperature suddenly rose in the evening to 105°, with a return of headache and backache. The next day the temperature was 104.4°, and he was covered with "an erythematous rash of an urticarial character over the whole body" (extract from notes by M.O.). No change in rash or general condition was noted on September 3rd, and next day he was transferred to New Bridge Street Military Hospital, where and when I first saw him. The temperature was 105°, pulse 130. The tongue was coated with a thick brown fur, and there was frequent retching with vomiting of bile-stained fluid. He complained of severe headache, backache, epigastric pain, intense burning of the skin, and of feeling very ill generally. The face, neck, scalp, and forearms were thickly covered with a maculo-papular eruption,