in a state of profound septicaemia, delirious, with a pulse of 120, dry tongue, and no appetite except for bits of ice or sips of water. If he can be induced to swallow diluted alcohol in some form or other, backing this up with serum injections and nutrient enemata, given previous sound surgical intervention, our feeling is "We shall win."

During the convalescent stage of any acute disease, while I am no partisan of the continued use of spirits, I have such a profound belief in the benefit of the daily administration of stout, beer, or wine with meals, and after the remarkable and rapid improvement which I have seen, times out of number, following its initiation, I can, in all truth, state that, "To doubt would be disloyalty, to falter would be sin."

Drop-Foot.

I cannot conclude without reference to a condition which affords us considerable trouble. Case after case of some joint or bone lesion of leg, treated for some time elsewhere, comes into hospital complicated with a drop-foot; usually, inquiry reveals that these patients have been for months in plaster or splints, and that the doctor in charge never thought of keeping the foot at a right angle, or impressing upon the patient the necessity of moving his ankle-joint once or twice daily. In some of these cases I have observed that trophic changes have taken place, with the result that when one attempts to correct this deformity, the slightest pressure of a pillow, splint or bandage wipes the skin off the foot, leaving a most intractable sore on instep or heel. This in itself constitutes a pretty delicate problem, not to mention the serious handicap such a condition of things entails as far as any rectification of the primary lesion is concerned.

Active Movement in Tuberculous Arthritis.

In the publication referred to at the commencement of this article I also observed that passive motion, under extension, has been suggested in tuberculous disease of the knee-joint, associated with the name of a very eminent surgeon whose personal results I do not doubt, and for whose work in general I have very great respect. With all deference, in this instance I must beg to differ in so far as to state that, even in the most dexterous hands, passive ("the damnation" ⁶) movement of joints should be consigned to the past tense, and that active movement should not be permitted until the x rays show a normal osteal condition, and *tumor* and *calor* have visibly and palpably ceased to exist in the affected joint.

After some experience in the treatment of this lesion, which has invariably taken the form of one to two years' absolute rest in a splint, with nutritious diet and continuous life outdoors, I can vouch that the result will be cure with normal articular movement in 90 per cent. of the cases who seek attention before disorganization of the joint structures takes place or advanced caseation and sinuses have formed.

In thirty years' hospital work I cannot recall a single instance in which a tuberculous hip- or knee-joint (that has been got in time) has become ankylosed after a treatment of two years' rest in splints. And, moreover, I have been frequently astonished to find what a remarkably slight tendency there is to the formation of adhesions, and short duration of same, even in cases in which the x rays, on admission, had demonstrated marked caries. The day after this article was passed to my typist the following coincidence arose:

A patient, aged 21, was admitted to hospital on September 13th, 1918, suffering from early, but well defined, tuberculous disease of the right knee-joint, for which he was treated out of doors by absolute rest in splints until August 20th, 1920. As the limb had now resumed its normal contour, and there was no extra heat on comparative palpation (verified by three different pairs of hands) I asked him (for the first time since admission) to move the joint. This he willingly complied with, and without the least hesitation moved the knee, painlessly, through a visible angle. Apparently no adhesions had formed, and the absence of even initial temporary stiffness after twenty-three months' fixation points an instructive moral. I saw him again, three days later, on a wheel chair in the garden, proudly demonstrating the increase in his range of daily active movement. The x rays showed a normal joint.

I cannot imagine a greater victory for Hilton's teaching than these phenomena.

REFERENCES.

- ¹ *Lancet*, July 10th, 1920.
- ² Traumatic Lesions of Knee-joint, *Medical Press and Circular*, 1896.
- ³ Treatment of Wound Infection, *Ann. of Surg.*, April, 1917.
- ⁴ Skin Asepsis in Surgery, *Ann. of Surg.*, April, 1918.
- ⁵ Dietetic Value of Alcohol, *Lancet*, March 13th, 1920.
- ⁶ Fixation of Simple Fractures, *Ann. of Surg.*, January, 1915.
- ⁷ Treatment of Wound Infection, *BRITISH MEDICAL JOURNAL*, December 2nd, 1916.

A CASE OF JEJUNO-COLIC FISTULA FOLLOWING GASTRO-ENTEROSTOMY.

BY

CLAUDE FRANKAU, C.B.E., D.S.O., M.S. LOND.,

F.R.C.S. ENG.,

SENIOR ASSISTANT SURGEON, ST. GEORGE'S HOSPITAL.

JEJUNO-COLIC FISTULA following gastro-enterostomy appears to be sufficiently uncommon to warrant record of the following case in detail. The patient was a man, aged 33, who was admitted into St. George's Hospital under my care in July, 1919, for abdominal pain and vomiting.

Previous History.

In 1914 he was operated on in a London hospital for duodenal ulcer, which had produced symptoms for two years and was demonstrated at operation. A posterior no-loop gastro-enterostomy was performed, as a result of which his symptoms disappeared and he regained his normal health. Pain, however, recurred some nine months later and continued in spite of medical treatment. He was accordingly readmitted into the same hospital in December, 1916, and submitted to further operation. During the operation difficulties arose with the anaesthetic and the investigation had to be abandoned; it was reported to the man's doctor that hard glands were present in the mesentery and that there were nodules in the peritoneum and the liver. He derived no benefit from this second operation, and for over two years had had persistently recurring attacks of pain in the right hypochondrium, with occasional vomiting. The pain had little or no relation to food unless anything solid was taken, when a severe attack came on in about an hour. On five occasions during 1918 and 1919 he had had attacks of haematemesis and melaena—the last attack in May, 1919, being of a severe character. He had been steadily losing weight and was unable to take anything but liquid food.

Condition on Admission.

He was a slightly built man, extremely poorly nourished and haggard from pain. The abdomen showed two soundly healed scars; there was no evidence of any enlargement of the stomach nor tenderness over it. Over the duodenum pain was elicited on light palpation and there was constant muscular rigidity. X-ray examination showed that the stomach emptied quickly and completely, the barium passing out both by the pylorus and the stoma. There was no x-ray evidence of an ulcer. The gastric juice contained 0.26 per cent. HCl.

Operation.

On July 9th, 1919, I reopened his abdomen and found as follows: The original anastomosis was quite satisfactory with no signs of ulceration in the stomach at the site of the anastomosis or in the jejunum; the liver and gall bladder were normal. On the antero-internal aspect of the second part of the duodenum there was a scar of an old ulcer, puckered and adherent to the pancreas. Half an inch proximal to this and rather more anterior in situation there was a second small active ulcer with considerable induration and hyperaemia around it. As the local treatment of the ulcers appeared to be impossible, the pylorus was clamped and divided, the two ends being closed with silk stitches. The abdominal wall was then sutured in layers.

The immediate result was satisfactory, and he was discharged from hospital four weeks later free of all symptoms. He was given careful instructions as to his diet, and in addition had an alkaline mixture to take after meals for three months. He remained well and without pain or vomiting for about fourteen months, during which time he increased considerably in weight. In October, 1920, after a surfeit of periwinkles, he had a sudden attack of severe abdominal pain followed by vomiting and diarrhoea. The pain subsided after a few days, but the diarrhoea, to the extent of eight to twelve evacuations a day, with occasional attacks of vomiting and eructations of foul gas, continued. He steadily lost weight, and eventually in May, 1921, applied for further treatment at St. George's.

Condition on Readmission.

He was greatly emaciated (weight 6 st. 5 lb.); his skin was earthy in colour; the pulse was small, thready and rapid, and a considerable degree of anaemia was present (haemoglobin 55 per cent.; red blood cells 3,500,000). Local examination of the abdomen was negative, except for some slight fullness above and to the left of the umbilicus. X-ray examination, after a barium meal, showed that a portion of the meal passed, after a very short delay, into the transverse colon. He was kept under observation for ten days, during which time his bowels acted, on an average, ten times a day, and he vomited from ten to thirty ounces in each twenty-four hours. The vomit and the material evacuated from the bowel were identical in appearance, consisting of a lemon-yellow, frothy fluid, of the consistence of thin porridge, acid in reaction, and with a smell which was usually sour, but at times slightly faecal. The condition being evidently one of gastro-colic or jejuno-colic fistula, operative interference offered the only chance of saving the man's life,

Operation.

A mass of adhesions were found about the pylorus, preventing any investigation of this region. The gastro-enterostomy stoma was in good order, with no thickening or sign of ulceration; the efferent loop was dilated and hypertrophied, and about three inches from the stoma the jejunum and transverse colon were intimately adherent, this evidently being the site of the fistula, a fact which was confirmed by opening the jejunum distal to the adherent portion and introducing a finger, which passed through the fistula into the colon. Separation of the two pieces of gut, which were greatly thickened at the site of apposition, was carried out with some difficulty, and after being effected the hard edges of the old ulcerated areas were excised, and the openings into the two pieces of gut were closed by means of two layers of catgut stitches, without noticeable lessening of the lumen in either case. As an additional precaution an omental graft was applied to each suture line. The abdomen was then closed.

His condition was precarious for forty-eight hours, after which time he made a rapid recovery; the vomiting ceased immediately after operation, and the diarrhoea, although troublesome for about a fortnight, eventually entirely subsided. He was kept in bed for a month, during which time he gained weight steadily, and on discharge on June 20th weighed 7 st. 6 lb., a gain of 15 lb. since admission. He returned to the care of Dr. Shephard, of Sheerness, who reported that in August, 1921, his weight was 9 st. 10 lb., and that his abdominal condition was quite satisfactory, as it is now in January, 1922.

Conclusions.

1. It seems probable in this case that the causative factor for ulcer formation was some abnormality of the gastric juice.
2. The gastro-enterostomy performed in 1914 allowed the original ulcer to heal, but a persistence of, or a recrudescence of, the abnormality of the gastric juice caused the formation of a second ulcer.
3. The second ulcer healed after complete diversion of the stream of gastric contents by division of the pylorus; but
4. As a result of this proceeding, and in spite of dietetic and medical treatment, a jejunal ulcer formed from the same causative factor, aided by a dietetic error.
5. The jejunal ulcer was of an acute type, as it is remarkable that no symptoms of jejunal ulceration were noted until the fistula was established.

A SEROLOGICAL INVESTIGATION OF ORIENTAL SORE.

BY

W. H. MCKINSTRY, M.D., D.P.H., M.R.C.P.LOND.,

LATE PATHOLOGIST AND BACTERIOLOGIST, QUEEN ALEXANDRA MILITARY HOSPITAL, MILLBANK.

DURING the last three years a number of cases of oriental sore attended Queen Alexandra Military Hospital for diagnosis and treatment. Most of the cases had multiple sores either of the ulcerative or non-ulcerative type, and in many of the cases both types of sores coexisted. For the reason that the sores were found on exposed parts of the body they frequently presented a more or less symmetrical distribution, which characteristic, coupled with their chronicity, often suggested the question of syphilis. In the majority of cases of oriental sore the clinical history and the finding by the microscope of Leishman-Donovan bodies quickly decide the diagnosis. But in some cases, more particularly those of the ulcerative type where Leishman-Donovan bodies cannot be found, the question of diagnosis between syphilis and oriental sore becomes one of great importance and very great difficulty. And this difficulty may be enhanced in some cases by the occurrence of a solitary sore involving such a situation as the lip or eyelid.

The diagnosis of oriental sore from syphilis has been hampered by writers on tropical diseases stating that the blood in some cases of oriental sore has been found to give a positive Wassermann reaction. Professor Hewlett,¹ for instance, in his well-known *Manual of Bacteriology*, writes: "The reaction (W.R.) is not confined to syphilis. It may also be obtained (with the antigen employed for syphilis) in leishmaniasis." Stitt² states that "Rabello noted that a positive Wassermann may be present in cutaneous leishmaniasis." Daniels,³ and Castellani and Chambers,⁴ while recognizing the difficulty of differentiating oriental sore from syphilis, fail to mention the Wassermann test as an aid to the diagnosis. The same may be said of Manson.⁵ In Daniels's work on *Tropical Medicine* we read: "Syphilis is the disease for which oriental sore is most likely to be mistaken. The

absence of the other symptoms of syphilis and the failure of antisyphilitic treatment should enable a correct diagnosis to be made." Castellani and Chambers write: "The only way to come to a definite diagnosis in difficult cases is the microscopic examination." From these quotations it may be legitimately concluded that a great deal of doubt exists as to the value of the Wassermann reaction as a clinical test for the differential diagnosis of oriental sore from syphilis.

Influenced by these considerations I examined the blood of 28 cases of oriental sore by the complement fixation test according to the Wassermann technique used at the Military Hospital, Rochester Row. In 27 of the cases the diagnosis was established by the microscopic findings of Leishman-Donovan bodies. In one case of the series no Leishman-Donovan bodies were found. This case presented many old cicatrices on both legs and arms, which, from their clinical history and position, were obviously the result of oriental sores.

Of the 28 cases examined by the Wassermann test only one case gave a positive reaction. This case had points of clinical interest which helped to establish the fact that a positive Wassermann reaction is practically never found in oriental sore without concomitant syphilis. The case which proved the exception to the rule was one with an ulcerated oriental sore on the left cheek. Leishman-Donovan bodies were found. The skin on the outer side of the sore presented an irregularly raised dry scaly appearance, not unlike a chronic eczema of the beard, and prevented shaving. This condition of the skin was at first thought to be part of the ulcerated oriental sore, and would most likely clear up after the intravenous injections of sodii antimonial tartrate solution, the line of treatment pursued. In this, however, we were disappointed. The sore on the cheek healed, and the Leishman-Donovan bodies could no longer be found, but the condition of the skin posterior to the sore remained unchanged. The patient's blood was then submitted to the Wassermann test and found strongly positive. A few intravenous injections of "914" with mercurial treatment quickly brought the skin to a satisfactory condition, and confirmed the diagnosis of concomitant syphilis, and further anti-syphilitic treatment changed the Wassermann reaction from a strong positive to a negative.

Although these twenty-eight cases may be considered a small number to dogmatize on, I may be permitted to point out the following facts:

1. The series includes cases in all stages of the disease.
2. All the cases, except the one mentioned with multiple scars, were diagnosed definitely oriental sore by the microscopic findings of Leishman-Donovan bodies.
3. The blood serums from all the cases were examined independently by the Wassermann test at Rochester Row Military Hospital, London.
4. The findings of the Wassermann reaction were negative in all the cases examined except the one recorded with concomitant syphilis.

From these facts it may be confidently concluded that, in the absence of concomitant syphilis, the Wassermann test never gives a positive reaction in cases of oriental sore.

REFERENCES.

- ¹ Hewlett, *Manual of Bacteriology*, seventh edition, 1921, p. 608. ² Stitt, *Diagnostics and Treatment of Tropical Diseases*, third edition, 1919, p. 164. ³ Daniels, *Tropical Medicine and Hygiene*, Part I, 1913, p. 181. ⁴ Castellani and Chambers, *Tropical Diseases*, third edition, 1921, p. 2173. ⁵ Manson's *Tropical Diseases*, seventh edition, 1921, p. 165.

TREATMENT OF RAT-BITE FEVER WITH NOVARSENOBILLON.

BY

NORMAN BRIGGS, M.R.C.S., L.R.C.P.,

CAPTAIN I.M.S.

THE following case presents several points of interest. The severe inflammatory symptoms and fever commenced four days after the bite, whereas the incubation period is usually said to be five weeks to two months. The patient suffered from relapsing fever with intervals of three days. The Wassermann test was at first strongly positive, but became negative after the disappearance of all signs and symptoms which immediately follow the injection of 0.2 gram of novarsenobillon.

A haviidar was admitted to hospital on August 30th, 1921, with the history of having been bitten by a rat on the right forearm fifteen days previously whilst on leave. Five hours after the bite