

the centre and not free as in the first case. The patient commenced to walk on a peg leg five weeks after the operation, when bony union was firm and the wound was soundly healed. He began to walk on an artificial foot seven months after the operation.

Remarks.—1. It will be found that with the incision given the margin of the plantar incision will be about from one to two inches longer than the margin of the dorsal, so that in suturing slight puckering of the plantar flap will be necessary. Any attempt at lengthening the anterior flap at the expense of the plantar offers two disadvantages—danger of sloughing in the dorsal flap, which consists only of skin and is not too well supplied with blood, especially in paralytic limbs, and also a risk of getting the ultimate scar too near the sole. 2. At the completion of the operation the plane of the sole remaining will not be horizontal but tilted forwards and upwards at an angle which corresponds to the position of the os calcis and sole in the normal foot. 3. The tendo Achillis having been divided there is no likelihood of the os calcis becoming displaced backward and lateral displacement is prevented by retaining the malleoli. It is important to remove all cartilage and to get accurate adaptation of the bony surfaces before fixing. 4. The results of the two cases reported offer encouragement to repeat the operation in similar cases. The resulting stump is certainly as good as, if not better than, that produced by any other known amputation at the ankle. The operation should be applicable also to some cases of disease and injury in which it is possible to leave the os calcis. The accompanying illustrations are from Case 1.

Welbeck-street, W.

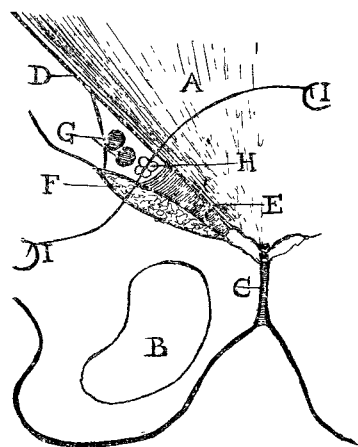
A SUGGESTION FOR THE RADICAL CURE OF FEMORAL HERNIÆ.

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ONE hears on all sides of the unsatisfactory nature of the usual attempts at the radical treatment of femoral herniæ so that the suggestion here made, if it does not appeal to the profession, can receive no worse fate than many others. Briefly, it consists in twisting the isolated sac, transfixing and tying it with No. 4 silk, and leaving the two ends of the silk long. Both ends are then threaded with curved needles. One end, A, is passed twice through Poupart's ligament and then out through Gimbernat's ligament, whilst the other end, B, is buried deep in the pectineus and also brought out through Gimbernat's ligament. The ends are then tightly tied and the opening is found to be securely closed. The tied sac acts as a thick plug at what appears to be the weakest point in other radical cures.

FIG. 1.

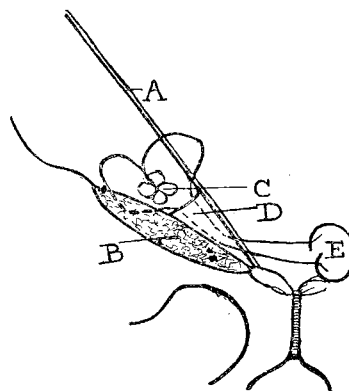


Schema of operation. A, External oblique muscle. B, Obturator foramen. C, Symphysis pubis. D, Poupart's ligament. E, Gimbernat's ligament. F, Pectineus muscle. G, Common femoral vessels. H, Sac of hernia, cut and tied. I, I, Curved needles on long suture transfixing sac.

My opportunities as resident medical officer for performing this operation have naturally been few but through the kindness of Mr. A. E. Kennedy I have operated in the above

manner on two cases in females, aged 30 and 37 years, with femoral herniæ of three and five years' standing respectively. Six months in one case and four months in the other have elapsed since the operations and the wounds are quite sound

FIG. 2.



Schema of operation. A, Poupart's ligament. B, Pectineus muscle with lower suture passed. C, Stump of sac transfixed. D, Gimbernat's ligament with both sutures passed. E, Needles on ends of sutures which are ready for tying. The femoral vessels are omitted for the sake of clearness.

with no sign of recurrence. This, of course, is no commendation for the operation. I merely wish to throw out the suggestion in case it might appeal to other surgeons of greater opportunity and experience. I may mention that this method was very easy in my own cases; I do not know how it would be in cases of strangulation or in very old people with lax tissues.

Sydenham, S.E.

A CASE OF STREPTOCOCCIC SEPTICÆMIA:

TREATMENT BY WRIGHT'S METHOD WITH A VACCINE MADE
OF ORGANISMS OBTAINED FROM THE PATIENT'S BLOOD,
THE INOCULATIONS BEING CONTROLLED BY THE
OPSONIC INDEX; RECOVERY.

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AND

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(From the Bacteriological Department, St. George's Hospital.)

THE patient, a lad, aged 14 years, was first seen by one of us on Feb. 28th, 1907, when the following history was obtained. A year previously he had been operated on for a breaking-down tuberculous gland of the neck. This wound healed and gave no trouble till December, 1906, when some discharge was noticed from the scar and some thickening detected beneath it. On examination some deeply situated tuberculous glands were found on the left side of the neck and a sinus discharging thin pus. Otherwise the boy was apparently in good health. On March 2nd the old scar with the sinus was excised and the wall of the former cavity and the deep glands were dissected out. The latter were more than usually adherent and the internal jugular was in their removal wounded and ligatured above and below the injury. On the 3rd the temperature rose to 102.6° F. The stitches were at once removed and the wound cavity was flushed out with biniodide solution. A gradual improvement took place until the 8th, when for the first time since the operation the temperature fell to normal. On the 12th the temperature rose to 103.4° and considerable discomfort was caused by a violent spasmodic cough, probably due to irritation of the vagus by the ligature. The cough persisted for several days and stopped on the silk ligature coming away. On the 16th the boy complained of pain high up in the right thigh, and on the following night a definite rigor took place. The rigors continued daily and on the 19th the temperature reached 106.2°. The pain in the right thigh continued but no hardness or swelling could be detected.

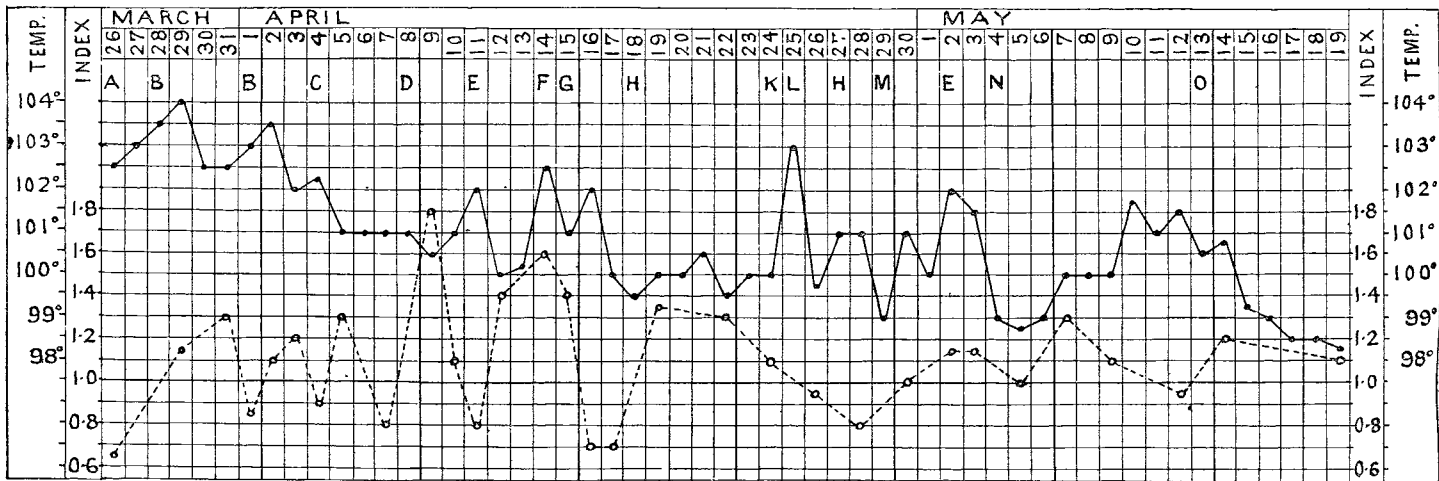
The question of vaccine treatment was now considered and a Wright's capsule of blood from the finger together with

two agar tubes, one inoculated with blood obtained by pricking a cleaned finger and one inoculated with discharge from the wound in the neck, was sent to one of us. The agar tube inoculated from the blood from the finger was found to be contaminated and that inoculated from the discharge from the neck was found to contain staphylococcus pyogenes aureus. The staphylococcic opsonic index was found to be 1.1. Rigors continued daily to the 22nd, when the evening temperature was 103.6°. On the 23rd ten cubic centimetres of blood were withdrawn by venipuncture from the right basilic vein and two broth flasks were inoculated. An inoculation of 10,000,000 staphylococci was also given to the boy in case the infection should prove to be staphylococcal in origin. On the 25th some swelling was detected over the upper part of the right thigh and a free incision was made over the hip-joint and along the femur. Pus was found deep in the thigh in the track of the deep femoral vein at the apex of Scarpa's triangle and large drainage-tubes were inserted. On the same date one of the broth flasks was found to contain a pure culture of streptococcus pyogenes, while the second was found to be sterile. The boy's index against this streptococcus was taken and was found to be 0.66, and a vaccine was therefore prepared according to Sir A. E. Wright's method, and on the 28th the first dose, consisting of 10,000,000 dead streptococci, was given, the temperature then being 103.5° and the index to staphylococcus

the index was 0.7. No vaccine was given on the 17th, as we hoped that the negative phase produced by the auto-inoculation would be followed by the positive phase, but as the index remained low on the 18th 12,500,000 were inoculated and the index rose to 1.45 on the 19th. On the 24th the boy was taken on the sea front in a spinal carriage and on the following day he complained of pain in the leg again and the temperature rose to 103°. Probably the moving to and from the spinal chair or the slight unavoidable jolting produced an auto-inoculation, as on the 26th the index had fallen to 0.95. 12,500,000 streptococci were inoculated on the 27th, but probably it would have been better not to have given it during this negative phase, as the index fell still further to 0.8 on the 28th, and did not rise to the normal line until the 30th, when the index to staphylococcus was also taken and found to be 1.1.

As the marked improvement in the boy's general condition pointed to a local rather than a general condition as now being the cause of the elevated temperature, in order to obtain a freer drainage than was possible from the anterior incision, on April 29th a counter opening was made at the inner side of the thigh below the adductor muscles, and a tube was passed through. Notwithstanding the free drainage the temperature rose on May 2nd to 102°, and 25,000,000 streptococci were inoculated. On the 4th the temperature fell to 99°, where it remained for three days. For the following week the evening

CHART SHOWING PATIENT'S TEMPERATURE AND OPSONIC INDEX.



A Abscess in right leg opened. B, Inoculation with vaccine of 10,000,000 streptococci. C and G, Leg dressed under chloroform and straightened. D, Inoculation with vaccine of 20,000,000 streptococci. E, Inoculation with vaccine of 25,000,000 streptococci. F, Pain in right thigh. H, Inoculation with vaccine of 12,500,000 streptococci. K, Out in spinal carriage. L, Pain in leg. M, Counter-opening made under chloroform. N, Free discharge from counter-opening. O, Inoculation with vaccine of 50,000,000 streptococci. Pain was felt in the left hip from March 31st to April 4th. The upper (continuous) line shows the highest temperature recorded in the 24 hours and is plotted from the lateral columns marked "Temp." The lower (dotted) line shows the opsonic index to the patient's own streptococcus and is plotted from the lateral columns marked "Index." Owing to the blood having to be sent to one of us in London the dose of vaccine was given, as a rule, about 18 hours after the taking of the sample of blood on which the dose of vaccine was regulated.

pyogenes aureus then being 1.2. The condition therefore appeared to be due to a pure streptococcus infection. On the 29th the index to the streptococcus had risen to 1.15 and on the 30th the evening temperature had fallen to 102.5°. On the 31st severe pain and some tenderness were felt in the upper part of the left thigh and half-drachm doses of citric acid were therefore given every four hours, with the result that in five days the left thigh was entirely free from pain or tenderness. On April 1st the index had fallen to 0.85 and the temperature had risen to 103°, and another 10,000,000 streptococci were therefore given, with the result that by the 3rd the index had risen to 1.2 and temperature had fallen to 102°. On the 4th the right leg was straightened out under an anæsthetic and a weight extension was applied to the leg. This evidently produced an auto-inoculation, as on the evening of the 4th the index had fallen to 0.9, to rise on the 5th without a dose of vaccine to 1.3, when the temperature was 101°. On the 7th and 11th the index fell below normal and 20,000,000 and 25,000,000 streptococci were inoculated respectively, with the result that the index rose to 1.8 and 1.6 on the 9th and 13th respectively. On the 14th there was a return of pain in the right leg and on the 15th the leg was again dressed and straightened under an anæsthetic, and there must again have been a considerable auto-inoculation, as on the 16th and 17th

temperature was 100° to 101.8°. On the 12th the index had again fallen to just below normal and on the 13th 50,000,000 streptococci were inoculated with the result that the index rose and the temperature fell to 99.5°. On the 17th the anterior incision had entirely healed and as the discharge from the lateral counter opening had practically stopped the tube was removed. There was no further rise in the temperature and the case progressed steadily to complete recovery.

The chief feature of interest in the case is the non-development of the second threatened focus in the left thigh and this may, we think, be fairly ascribed to the vaccine and the administration of citric acid. There was, moreover, a marked general improvement after each inoculation with the vaccine, which, except in the case of the inoculations on April 27th and May 2nd, in every case was followed by a rise in the index within 24 hours, associated with a fall in the temperature. The boy was throughout kept out of doors from morning till night. The infection evidently took place at the time of the operation, the streptococci no doubt being already present in the discharging sinus and gaining admission through the wound in the vein into the general circulation and setting up rigors and a general septicæmia 15 days after.

We have considered it advisable to record this case, as it

seems to confirm in every particular the conclusions arrived at by Sir James Barr, Dr. W. Blair Bell, and Captain S. R. Douglas, I.M.S., in their report in THE LANCET of Feb. 23rd last, of the first case of streptococcic septicæmia that had been successfully treated by means of a vaccine prepared and controlled by Sir A. E. Wright's method.

In conclusion, we wish to acknowledge our indebtedness to Dr. Charles Slater, bacteriologist to St. George's Hospital, for his kindness in placing the resources of his laboratory at our disposal.

Margate.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

POLYDACTYLISM.

BY WILLIAM J. MORRISH, M.D. LOND., L.R.C.P. LOND.,
M.R.C.S. ENG.

REFERRING to Dr. W. H. W. Attlee's case of supernumerary digits, published in THE LANCET of July 20th, p. 163, I may perhaps record the following.

On Nov. 29th, 1906, I attended a woman in her seventh confinement, the child proving to be a girl. She had previously had two boys and four girls. Both boys were normal, but the girls presented the following peculiarities as regards their hands and feet. Each child had six digits on both hands, the additional digit being situated on the ulnar side, and in the case of the three eldest having bony union with the rest of the hand; while in the two youngest the additional finger was attached by a pedicle of skin and vessels as in Dr. Attlee's case. The mother had had the sixth fingers removed from the first and second girls, but on account of her delicacy the hands of the third had not been operated on and I was thus able to see the extra members. On the right hand the finger possessed a metacarpal bone which was in relation with the carpus, but on the left side the digit was very rudimentary, though having bony connexion with the ulnar side of the little finger. The pedunculated sixth fingers of the fourth and fifth girls were removed after ligaturing their pedicles. The middle and ring fingers of the eldest girl's left hand were also webbed throughout their entire length. Their feet showed even greater variation. The eldest girl had six toes on her left but only five on her right foot, with webbing of the great, second, and third toes of both feet. The second had five toes, with slight webbing of the second and third on each foot. The third had six, with the second and third completely webbed on each foot. The fourth girl presented the greatest abnormality of any, having an apparently spatulate condition of each great toe, which on closer examination gave the appearance of a fusion of two separate toes, while in addition to this on the right foot there were two little toes apparently in relation with the fifth metatarsal, the remaining digits of the left foot being normal. The only abnormality of the feet of the newly-born fifth girl was a very slight degree of webbing of the second and third toes of each side. The father of these children had six digits on each hand and foot, with bilateral webbing of the second and third toes. He was an only child and his father and mother were quite normal as regards their hands and feet. He was not related to his wife prior to their marriage.

This remarkable case is another example of the well-established fact of the hereditary tendency of this sort of deformity, and it is noticeable that the male children should have escaped.

Streatham, S.W.

NOTE ON A CASE OF BELLADONNA POISONING.

BY H. JEAFFRESON BREWER, L.R.C.P. LOND., M.R.C.S. ENG.

It is said that children are able to take belladonna well and do not suffer from any toxic effects, and on looking through Woodman and Tidy's "Toxicology" the only cases of poisoning in children were caused by taking large quantities of the berries. From this point of view I think the

following case of what was obviously belladonna poisoning may be of interest.

To a boy, aged four years and three months, suffering from whooping-cough, I prescribed two minims of tincture of belladonna and two grains of bromide of potassium, to be taken every four hours. Within half an hour of the administration of the first dose, the mother told me, a red flush came out round the child's neck and on his chest. The mouth seemed dried up and the child was slightly delirious, but in about an hour he got much better. A second dose of the mixture was given four hours after the first, and again in half an hour the child suffered in the same way and was violently sick. Then I was sent for. On arrival I found the child almost covered with a scarlatiniform rash, chiefly on the neck and chest; the pulse was rapid (120) and very feeble; the mouth was dry; the pupils were fully dilated, a narrow ring of the iris only being visible; and the temperature was slightly raised (100° F.). The child was only semi-conscious and was with difficulty roused and could not speak. On administering brandy consciousness and speech returned, the pulse slowed, and the pupils began to contract. When I saw the child on the next morning he had quite recovered, except for a very faint rash which entirely disappeared within 24 hours.

Considering the very small dose administered I think this idiosyncrasy worth recording.

Dalston, N.E.

NOTE ON THE EFFECTS OF BORAX ON INFANTS.

BY JAMES CHARLES MCWALTER, M.D. BRUX.,
L.R.C.S. IREL., D.P.H.

THE question of the propriety of employing borax or other compounds as a preservative for milk or other foods is one which cannot be decided by the mere *obiter dicta* of the medical man. Powerful commercial influences are concerned in the use of preservatives in food and it is not sufficient for a medical man absolutely to condemn the practice if he finds himself in the witness box under the examination of an able King's counsel. This gentlemen will doubtless demand specific instances of the harmful effects, either from the witness's experiences or from credible works. These instances seem to be particularly scanty in British journals, although Dr. Wyley has done a lot of work on the subject in America. I wish, then, to record a case of chronic borax poisoning which is just now under my care and which seems as conclusive of the evil effects of the drug as a single instance can possibly be, for in this case the mother suckled the infant all the time and gave it no other nourishment.

The infant was two months old when I saw it and had been born a strong, healthy child. A fortnight after birth it developed thrush, for which borax and honey were applied. The child seemed to be relieved of the thrush by this remedy and developed such a liking for it that it was applied most liberally—from two to three four-drachm boxes having been used every week from the second to the eighth week. During this time a progressive wasting had set in, and when I saw the infant there was a marked erythematous eruption on the palmar aspect of the hands and on the plantar aspect of the feet, with distinct desquamation between the toes and the fingers; well-marked urticarial eruption was present on the arms and forearms, but the region between the legs was notably free from eruption. There were tumefaction and tenderness of the abdomen, and a raw, pinky redness of the lips, tongue, palate, and throat, with vomiting and looseness of the bowels. The face had a wizened look, the skin was soft and brownish, the eyes were bright, and the joints, especially the knees, tender, swollen, and somewhat stiff. There was no evidence of syphilis or other cause for the wasting and rash except the borax, of which the child had about ten grains every day for six weeks. On stopping the borax and confining the infant to the breast milk, together with a little raw beef-juice, it appears to be recovering rapidly.

Dublin.

"MINER'S PHTHISIS."—At a recent meeting of the Redruth (Cornwall) board of guardians the Local Government Board inspector (Mr. J. Preston Thomas) referred to "miner's phthisis" and its effect on the pauperism of the union. He mentioned that nearly 350 cases of pauperism were due directly to this disease, or about one-quarter of the whole pauperism in the Redruth union.