

probably better. The static is a first-class tonic on the general nervous system, and local applications over the heart region may also be given through the static effluve or breeze. Deep applications of the X rays on the thyroid gland may also be very useful, and especially on those men with hypertrophied thyroid (25 per cent. out of the total). Dr. Florence Stoney has described this treatment, and has obtained good results. X rays are certainly one of the best treatments we have now for exophthalmic goitre.

Tachycardia, excessive sweating, and nervous uneasiness are the symptoms which are the most quickly and completely removed. Here are the results we have obtained after an average of two months' treatment. Out of those 60 men, 14 were quite fit and returned to their unit; four others are fit and will return shortly; others are on full physical training and will be fit in a short time; over a third, or 35 per cent., will be able to return to the firing-line. From 10 to 15 per cent. have to be discharged; the other 50 per cent. of the men have improved and may be able for home service.

Those first results are very encouraging, and in the summer months I think we can do better. Out-door life is easier; gardening, open-air games like bowling, quoits, rowing and swimming, may hasten the cure, while X ray treatment, static electricity, and also hydrotherapy will greatly augment our percentage of recoveries.

THE USE OF PICRIC ACID IN WAR SURGERY.

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EARLY in 1914 I became acquainted with the fact that picric acid was four times more potent than carbolic acid in bactericidal properties, and from investigation found that a 1 per cent. solution kills streptococci and staphylococci in two minutes.

During the Gallipoli campaign, as Officer Commanding No. 1 Australian Auxiliary Hospital in Egypt, an opportunity presented itself practically to test the value of picric acid in the treatment of over 3000 wounded patients. The medical officers and nursing staff carried out the following routine treatment as far as practicable. 1. To superficial wounds 1 per cent. picric acid solution was applied on thin gauze. The wound was thus left practically exposed to the air; usually one dressing per day was sufficient. 2. Suppurating sinuses were treated by syringing with 0.5 to 1 per cent. of the solution twice daily, and H_2O_2 solution used every two or three days to remove débris. 3. Arm and leg baths with 0.5 per cent. solution for 30 minutes were used for suppurating fractures and crushed tissues, with an occasional bath of hypertonic saline as a change.

The results were uniformly good, healthy and vigorous granulation and quick recovery taking place. Several cases of septic compound fracture and injuries to bone cleared up in a remarkably short time. Deep septic wounds caused by shrapnel, &c., granulated and were ready for skin-grafting likewise.

It must be noted, however, that we found 1 per cent. solution too strong for the delicate epithelium of new skin, and weaker solutions, 0.5 per cent. and 0.2 per cent., were used when the granulation reached the level of the surrounding epidermis. It may be mentioned here that a 0.2 per cent. solution in water and spiritus vini rect. was used in several cases of erysipelas with excellent results.

The following opinions of the properties and value of picric acid solution are based on the cases treated: (1) It kills bacteria without corroding effect and prevents suppuration; (2) it stimulates granulation of the tissue; (3) it has marked anodyne properties, and the need of aspirin or morphia is rare; (4) by dispensing with hot fomentations it saves much time, cotton-wool lint, G.P. tissue, &c.; (5) it is less irritative and more efficacious than iodine; (6) it may be used for sterilisation of the skin in surgical cases; (7) it shortens the convalescent period.

The contra-indications usually mentioned are the following. 1. Coagulation of the tissue. This is so slight with the solutions used that it was unnoticeable, and we had no evidence of retardation in the healing of wounds from this cause.

2. Poisoning effects. In the 3000 cases treated not one showed any signs of poisoning. Moreover, I have painted a patient suffering from scarlet fever all over with a 2 per cent. solution without any signs of absorption or poisoning, and believe that it hastened the peeling stage. 3. Discoloration of the skin. This is very persistent, but the muscles and subcutaneous tissues apparently do not stain.

So far the opportunity has not presented itself to investigate the result of applying picric acid as a prophylactic in tetanus.

The number of septic wounds arriving at the base calls for more vigorous treatment in proximity to the scene of action. May I suggest that picric acid be stocked by all dressing stations, clearing hospitals, and field ambulances if not already in use. A useful form would be compressed tablets, which, when dissolved in 1 oz. of rectified spirit and 9 oz. of water, would form a 2 per cent. solution. If this is applied to all wounds on gauze as a first dressing, or when practicable the wound syringed with a 1 per cent. solution and then covered with gauze saturated with a 2 per cent. solution, I am quite convinced that less sepsis, shorter convalescence, and fewer instances of non-effectiveness would be the result, and one which we should strive to attain, for the first duty ever before military surgeons is undoubtedly to consider (having afforded relief to the patient) the prognosis, which being interpreted means—How long will this man be away from the trenches?

In conclusion, I hope medical officers will thoroughly test the value of picric acid in this direction and publish their results; for any treatment likely to shorten the period of absence of wounded men from the firing-line is an important factor in prosecuting this war and bringing it to a successful conclusion.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

EMPHYEMA DUE TO INFECTION BY B. TYPHOSUS PARA. A.

By C. C. WEEKS, M.R.C.S., L.R.C.P. LOND.,
TEMPORARY CAPTAIN. R.A.M.C.

THE patient in the following case, a soldier aged 32 years, was admitted to hospital on Nov. 10th, 1915. The history is as follows:—

The patient had diarrhoea for two weeks, but no treatment. He was apparently well when two weeks before admission he was seized with acute pain in the back. There was some cough and "clear" expectoration. After the onset of pain he walked seven miles, falling out several times; next day he was sent to hospital, and three days afterwards sent to hospital ship, from which he was admitted to base hospital with "rheumatism." On admission the temperature was $103.2^{\circ} F.$, respirations 28, and pulse 108. He was flushed and anxious, with a short, evidently painful, cough, and slight expectoration not blood-stained. He had pain in the right side and shoulder. Examination revealed impaired movement of the left chest. Tactile vocal fremitus and vocal fremitus both impaired with marked bronchophony, almost pectoriloquy, at about the level of the fifth space behind. The percussion note was dull below this over an area of about the size of the palm of a hand. There were a few moist râles over the left base. The breath sounds were almost inaudible over the dull area. On the 11th there was some improvement, but on the 12th the temperature was 104° , the pulse 120, and respirations about 30 to 34. The dullness was slightly increased. Impairment of breath sounds, tactile vocal fremitus and vocal fremitus. On the following day a small amount of turbid, non-odorous, blood-stained fluid was removed and pus cells were found therein. On the 14th a portion of the seventh rib was resected and about 10 oz. of thick blood-stained pus removed. The patient rallied well from the operation, but about 11 P.M. was extremely collapsed, complained of acute pain, and had great difficulty in breathing. He became cyanosed and almost pulseless. The drainage-tube was removed and oxygen inhalations and frequent doses of strychnine were given until 5.30 A.M., when he began to improve. The subsequent history was uneventful—the tube was never replaced and the discharge gradually ceased.

A bacteriological report by Captain J. A. Arkwright, R.A.M.C., was as follows:—“(a) B. typhos. para A in pus removed from empyema. (b) Ten days after operation: Positive agglutination of B. typh. A 1/400; negative B. typh. B 1/100.”

The chief interest lies in the bacteriological report as to the presence of B. typhosus para. A in the pus. The question as to whether the patient had a primary lung affection remains uncertain. At first I thought the collapse after the operation (about 12 hours) was due to a pneumonic crisis, but the clinical signs gave no support to that, and with the evacuation of the pus all pulmonary signs cleared up rapidly. The early removal of the tube is interesting, and was possible because we were dealing with a very acute empyema.

THE SURGICAL TREATMENT OF THE ERYTHEMA INDURATUM OF BAZIN.

BY EMMANUEL KONDELEON, M.D.,
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IN a case of erythema induratum I have tried the excision of the indurated parts with a good result. The following are my notes:—

The patient was a lymphatic boy, aged 15 years, whose mother died from tuberculosis. He himself had never any tuberculous localisation before. Five months ago, two symmetrical and large indurated masses appeared at the same time under the skin of the outer surface of both arms. In some parts the skin was violet-coloured but in others it appeared nearly normal. These hard masses of the subcutaneous tissue extended over the outer and posterior surface of the arms and reached the elbow. Only their inner surface was free. The underlying muscles were not adherent to the indurated parts, which could easily be raised by the hand. Five days later two subcutaneous, hard, but not quite symmetrical, nodules appeared, one on the middle of the anterior surface of the right thigh, and the other on the middle of the posterior surface of the left thigh. They were not surrounded by the induration, which was so characteristic in the arms, and showed no difference in their appearance in the course of five months.

The histological examination of indurated parts taken from the left arm, made by Professor Katsaras, showed tubercles in the hard subcutaneous tissue, formed mostly by epithelioid cells. In some of them a peripheral zone of lymphatic cells was observed. A certain number of giant cells were also to be seen, some being of the type Langhans, with their nucleus situated round the cell like a ring, while others had the nucleus in the centre. The tubercles were either isolated or arranged in groups of from three to four tubercles each. The lymphatic vessels were very much enlarged. In some parts the enlargement was so prominent that the cysts therefrom were visible to the naked eye. A close relation existed between the tubercles and the enlarged lymphatic vessels, the former having developed round the lymphatic vessels. A certain number of tubercles were found in a state of beginning organisation, produced by the evolution of the epithelioid cells into a ripe connective tissue. The whole area round the tubercles was very thick.

From the above histological examination it was clear that the case belonged to that singular induration of the subcutaneous tissue first described by the French author Bazin under the name “erythema induratum.” Further notes:—

After the excision made for the histological examination I observed that the hard, infiltrated mass of the left arm disappeared round the scar. This encouraged me to remove the diseased parts on a larger scale. Thus on May 16th I excised all the indurated subcutaneous tissue of the left arm, while nothing was done on the right. Under local anaesthesia I made an incision 6 inches long on the outer surface of the left arm, and removed all hard fat and connective tissue going from the skin to the healthy muscular layer. Only a small part of the induration could not be removed through this incision. A few weeks later the whole indurated area except the small unremoved part was soft. The skin was still thicker than usual, but normal in colour. The difference between the right arm not operated upon and the left was remarkable. Nearly three months have elapsed since the operation, and the induration has not recurred.

The erythema induration is a mild form of tuberculous infection whose localisation heals usually by itself. The majority of these cases do not require any surgical measure, but I think that the excision of the diseased parts may be reserved for those cases in which the induration extending over a large part of the arms or lower extremities lasts for a long time and impedes their function.

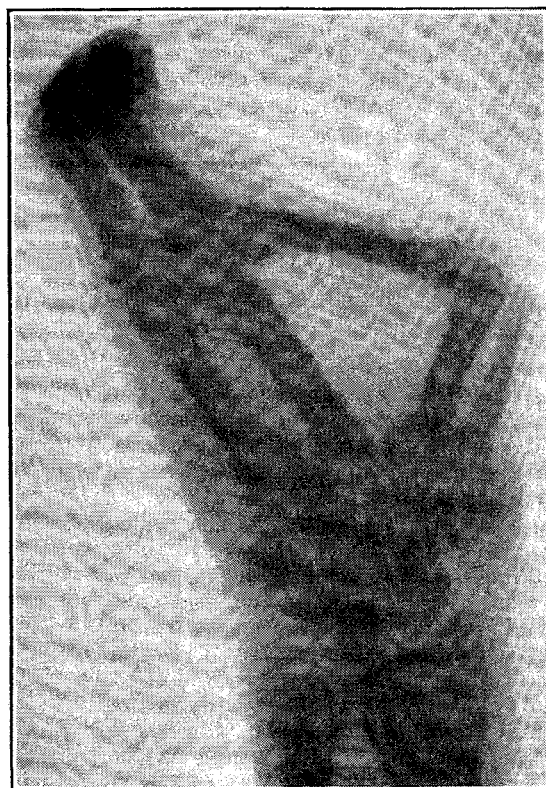
A CASE OF HEREDITARY SYNDACTYLY.

BY W. E. LE GROS CLARK.

(From the Out-patient Department of St. Thomas's Hospital.)

THE appended skiagram shows an interesting anomaly, which is worthy of being recorded if, as I believe, no similar case has hitherto been observed.

The hand is that of a girl aged 20 who attended the casualty department of St. Thomas's Hospital some time ago. Both hands were affected in the same way, and on superficial examination the three radial digits appeared to be totally absent, while the two ulnar digits presented the normal segmentation and were syndactylous. The patient informed me that her father and two brothers were affected by the same deformity. The skiagram presents some difficulty of



interpretation. The three mesial metacarpals, as shown by their shape and carpal articulation, appear to be normally developed. Lying horizontally between the heads of the third and fourth metacarpals is another metacarpal bone, which is either the first or second metacarpal bone displaced from its normal position, or, as seems more probable, a reduplication of the third metacarpal. It articulates proximally with the head of the latter bone, and distally with the lateral of the two proximal phalanges. This phalanx, however, from its unusual width, appears to be the result of the fusion of at least two phalangeal elements, probably the third and fourth. The identification of the lateral metacarpal in the skiagram is obscure, for it may represent either the first or second metacarpal element.

I wish to express my gratitude to Mr. Cyril Nitch, surgeon-in-charge, for his kindness in allowing me to make a note of this case.

THE CARE OF TEETH IN SCHOOLS.—The School Dentists' Society is circulating the synopsis of a work recently published on school dentistry which it considers may suggest topics for discussion by members of the society and others interested in school dentistry. Among the general contents are chapters on school dentistry and infectious and nervous diseases, and on the anomalies and deformities of the teeth and jaws in children, caused by general debility. Special articles are included on the position of school dentists, and on the inspection and examination methods of teeth in the schools, while examples are given from German sources of the general management of dental clinics in Berlin.