daily twice syringed out (1 in 2,000 perchloride,) and at each of these dressings some discharge was sucked out from the drainage tube by a glass syringe, and a teaspoonful of 1 in 1,000 perchloride injected back to wash out the cavity, seven or eight spoonfuls being used at dressing, but each spoonful was allowed to return before injecting the next, so that there should be no fear of distending the sac and breaking the adhesions. At the end of a fortnight nothing was coming through the tube except a small quantity of semi-transparent secretion without smell. On the seventeenth day the tube came out with the dressings, and could not be replaced. There was no appreciable rise of temperature or any constitutional disturbance, and the patient returned to the country convalescent six weeks after the operation.

The result in this case was in such favourable contrast to the one previously recorded that I should not hesitate in future to repeat the method adopted of completely closing the broad ligament and draining the sac into the vagina. The discharge of fetid material and the escape of wind and fæces proved the inefficiency of the rectal stitches, and showed how essential it was in such a case to provide efficient drainage.

A CASE OF OSTEO-ARTHROPATHY IN PHTHISIS.

By V. D. HARRIS, M.D., F.R.C.P.,

Physician to the City of London Hospital for Diseases of the Chest, Victoria Park, etc.

THE following case appears to be an example of that somewhat obscure and rare class of cases to which the term "hypertrophic pulmonary osteo-arthropathy" has been applied, and to which attention was first of all directed by Marie. More recently the affection has been discussed, among others, by Messrs. Thorburn and Westmacott as well as by Professor R. Godlee in his lecture upon Bone and Joint Changes in connection with Thoracic Disease. In one respect, perhaps, the case may not be considered entirely typical of the affection, namely, in the improvement which the patient certainly experienced when the chest disease entered into a fairly quiescent condition.

Fig. 1.

C. F., aged 40, by occupation a carman, was admitted into the Victoria Park Hospital under my care on June 14th, 1896. A thin-faced but healthy-looking man, with a ruddy complexion; a thin and rather prominent nose. Height 5 feet 3 inches, and weight 10 stone 10 lbs.

Appears to have been in fairly good health until a short time before Christmas, 1895, except that he had had an accident about November, having fallen off his cart, from which considerable bruising resulted, particularly about the chest and elbow. Rather before Christmas he was attacked with a severe form of influenza resulting in pleurisy. During his convalescence from the influenza there was considerable swelling of the left leg of a painful character, for which he was treated at one of the London hospitals as an out-patient. This swelling was said to have arisen from phlebitis. On admission, however, complaint was not directed to the condition of his leg, which had, indeed, almost entirely

recovered, but to his cough and other chest symptoms. He had had slight hæmoptysis, and with his cough there was a moderate amount of expectoration. On microscopical examination his sputum showed the presence of tubercle bacilli in moderate numbers. His pulse was 100, temperature 100.5° F., and his urine was normal.

On physical examination it was found that the upper lobe of the right lung was in a condition of consolidation and breaking down; there were dulness on percussion, hollow breath, and exaggerated voice sounds, with subcrepitant rales.

The enlarged and swollen condition of the patient's hands at once attracted attention, so that a careful examination of the joints and bones was undertaken by my house-physician, Dr. Bertram Sanders, to whom I am much indebted for the following report and for full notes of the case

Fig. 2.

"Both hands are greatly enlarged and clumsy, the left distinctly more so than the right; they appear as though they should be the hands of a man much taller and bigger in all respects than the patient, and the proportion is more markedly seen when the comparatively small fore-arms are in view. The length of hands 8 inches from wrist to top of middle finger. The fingers are all clubbed, but not only the ends of the bones, but also the joints, are swollen. The terminal phalanges are not more swollen than the other parts of the fingers: they are not hyper-extended. The nails are slightly bluish, marked with longitudinal ridges, and have a brittle look. There is no apparent wasting of the interosseal muscles. The fingers cannot be flexed without great difficulty, but the thumbs are pretty freely movable. The metacarpal phalangeal joints are

very little affected in the right hand. The bones and joints most affected are those of the middle and ring fingers. In these there has been more or less occasional pain, although none at the present time. The other fingers are also at present and have been free from pain. There is no oedema of the soft parts. Measurement across the middle of metacarpal bones of the right hand, 9 inches; of the left, 9 $\frac{1}{2}$; of the middle finger at the first phalangeal joint on the right side, 3 $\frac{1}{2}$; of the left, 3 $\frac{1}{2}$; of the right ring finger at the first phalangeal joint, 3 $\frac{1}{2}$ inches; of the left, the same. The dorsum of the hand is hot and swollen, but there is no oedema or fluctuation to be made out. Wrists enlarged and thickened; no oedema, fluctuation, pain, or tenderness. The movements are somewhat restricted in all directions. The lower ends of the radius and ulna on both sides can be felt and appear to be enlarged. On measurement, taken round the lower ends of the bones of the right side, 7 $\frac{1}{2}$ inches; of the left, 8 inches. At the carpal articulation of the right, 8 inches; of the left, 8 $\frac{1}{2}$. Forearms and arms soft and flabby, muscles not well defined. Elbow-joints freely movable, no crackling or swelling. No pain or tenderness. Shoulders show no deformity, pain, or tenderness, and the same applies to the temporo-maxillary articulations, to the cartilages of the nose, ears, and neck, and spinal column. There is no retrosternal dullness. Hip-joints are not in any way fixed or swollen, but the muscles of the thigh are markedly soft and flabby, especially the adductors.

"*Knees*.—No limit of movement, no creaking or crackling, no enlargement of patellae. The knee-joints, however, distinctly swollen, and the left rather more so than the right, slightly hot, and appears to contain a small amount of fluid. No oedema and no pain or tenderness. Both legs swollen and slightly oedematous, pitting slightly on pressure, more markedly so on right side. The muscles soft and flabby. The outlines of the leg bones not easily made out, but the lower end of the fibula somewhat enlarged on both sides. Ankles enlarged and swollen, with some limitation of movement. Feet, 11 $\frac{1}{2}$ inches long, are large and clumsy. All the toes clubbed and the nails marked with longitudinal ridges. If a measure be carried over the heel and across the dorsum of feet, the measurement of the right side is 14 inches, of the left 15 inches. If the measure be carried across the plantar and dorsal surface on a level with the metatarsal phalangeal joints, the measurement of the right side is 10 inches, of the left 11 inches. The joints of the toes not markedly affected, but the ends of the bones rather would seem to be thickened. The patient's reflexes, both superficial and deep, are unaffected."

During the patient's stay in the hospital the temperature chart showed variations diurnally of from a little above or below normal in the morning to 100° or 101° at night; but there was no marked exacerbation of fever, and he steadily improved in weight, in his appetite, cough, and general symptoms. The joints were never very painful or tender to the touch. The patient had never suffered from gonorrhoea, syphilis, or other form of venereal affection, or from rheumatism, gout, or dysentery; neither was there any family history of phthisis or rheumatism.

REMARKS.

This case then should in all probability be looked upon as an example of hypertrophic osteo-arthritis confined to the wrists, hands, knees, ankles, and feet. It is, I think, especially interesting in consequence of its appearance in connection with a comparatively limited tuberculous lesion of one lung, from which there was little expectoration, although in the expectoration tubercle bacilli were present. As regards the affection itself, the most noticeable changes were to be seen in the hands. Each finger, especially the middle and ring fingers on each side, was generally enlarged and thickened; the enlargement was not more marked in the terminal phalanx, as appears in some cases of finger changes in chronic suppuration, but was uniform; neither were the outlines of the joints much more prominent than usual; the enlargement was both of the bones and joints as well as of the soft parts about them. Only in the knee-joint could any marked evidence of fluid be obtained. As a rule the tissues about the joints were hard, and did not pit to the slightest degree upon pressure. There was practically no pain and very slight tenderness on hard pressure, yet the affection appeared to be distinctly subacute and not chronic.

As the pathology of this affection has been so recently discussed in the BRITISH MEDICAL JOURNAL, it is unnecessary to attempt any further generalisations, even if such were permissible, from the consideration of a single case. One or two points about the case, however, may be emphasised, namely, (a) that the joint affection appeared to be secondary to other changes in the neighbourhood; (b) that its amount varied considerably from time to time, and as the general condition of the patient improved, so did also the condition of the joints. On the diminution of the swelling the more permanent thickening of the fingers, etc., could be more easily gauged; (c) that the affection was comparatively painless, and that there was an absence of tenderness, differing in these respects so much from an ordinary gouty or rheumatic affection of the same parts.

THE Local Government Board have written to the Lewisham Board of Works stating that the Department cannot undertake to arrange for the analyses of samples of water sent to them by the metropolitan local authorities.

A CASE OF DERMATITIS FROM ROENTGEN RAYS.

[WITH CHROMOLITHOGRAPH.]

By H. RADCLIFFE CROCKER, M.D., F.R.C.P.,
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A LARGE proportion of scientific discoveries which benefit the human race on the whole, bring in their train a certain amount of evil also by producing directly or indirectly some special injury or disease. The *x* rays of Roentgen appear to be no exception to this rule—at all events, as far as skin structures are concerned—and several cases have already been reported. The following instance is very definite and severe, and as the consequence of a single exposure its course can be readily traced:

E. H., aged 16, apprentice to a surgical instrument maker, sought advice at University College Hospital on October 24th under the following circumstances: On October 13th his employer was trying to radiograph the spine, and the following experiment was made on the boy: A Crookes's tube was placed about 5 inches from the epigastrium, a flannelette shirt intervening between the tube and the skin, while the trousers were turned down on each side. An exposure of one hour was made, the coil being run by means of an accumulator. Nothing was noticed at the time, but the next day the skin felt irritable and was of a deep red colour in the area subjected to the rays from the tube. The irritability increased, and on the 19th—six days after the experiment—the skin felt stiff when he bent his body. On the 22nd vesicles began to form, and they increased in size and number until the 24th.

When I saw him there was then situated at the epigastrium a patch the size of a hand, very sharply defined, and raised about $\frac{1}{2}$ inch above the surface at the lower border corresponding to where the trousers were turned down, the transition from healthy to diseased skin being quite abrupt, and perceptible to the touch. The upper border was much less defined, and had a bright red areola beyond it; this areola was not uniform, but in radiating streaks. The general surface was of a dusky or purplish red, with flat vesicles extending to within $\frac{1}{2}$ or $\frac{3}{4}$ of an inch of the red margin, and forming an irregular band $\frac{3}{4}$ inch wide round the umbilicus, with nearly clear areas on each side of the median line. These vesicles had increased considerably in number and size since their first appearance on the 22nd, and in the upper portion of the oval had coalesced into irregular compound vesicles in many places. The affected area felt sore, but not very tender, and there was only moderate itching. A lactate of lead lotion was ordered to be applied on lint and covered with oiled silk. The vesicles began to rupture on the afternoon of the 24th, and by the 27th the epidermis of the vesicular portion had separated, leaving a raw surface, and on the erythematous portion the skin was loosened and opaque white, partially due, no doubt, to the lead lotion.

On October 31st the whole of the epidermis had separated, and the skin was quite sound and level with the surrounding skin, except where the vesiculation had been most pronounced, which was still excoriated. The downy hairs with which the abdomen was rather thickly covered were still present on the site of the affected area. Subsequently many of them came away, except in the median line, where their presence was noted on November 10th. The excoriated part healed very slowly, and was not quite sound on December 19th, there being still a painful ulcer the size of a sixpence, with raised edge.

The persistence of the hairs on the inflamed portion of the skin is interesting in connection with the depilatory action of the *x* rays recorded by Professor Daniel, of Vanderbilt University, and quoted in the *New York Medical Record* for April 25th, 1896. In this instance the experiment was made on a co-worker, Dr. Dudley. The tube was only half an inch distant from the hair, and the exposure was also, like my case, for one hour. Twenty-one days later a bald spot, 2 inches in diameter, was formed corresponding with the size of the *x* ray field close to the tube. In this case there seems to have been no inflammatory or other visible lesion or sensory symptom preceding the falling out of the hair, thus differing from my case and that of a demonstrator of the *x* rays who records the effects on his hands in *Nature*,