OSTEITIS DEFORMANS: ITS TREATMENT BY ULTRA-VIOLET RAYS.

BY

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OSTEITIS deformans was described for the first time by Paget in 1876, but nothing is known about its etiology. It is seldom seen before the age of 40, and is equally common in males and females. The main symptom is pain, which is attributed to rheumatism in most cases. The disease is frequently overlooked until gross deformity appears, or an x-ray photograph is taken.

Pathology.

The normal bone rarefies, and is slowly invaded by fibrous tissue, leading to softening and bending. Coincident with this destruction some regeneration and ossification occur at a slow rate. In the long bones the normal curves are exaggerated at first, and later abnormal curves make their appearance. The subperiosteal bone laid down is more porous, roughened on the surface, and considerably larger than the normal.

The long bones of the lower extremities, the pelvic bones, and the skull are most commonly affected, but any bone may be the seat of the disease. In advanced cases most bones suffer, leading to great deformity. The diagnosis is not easy when only one bone is affected.

Various treatments have been suggested, but none has proved of any value. I was prompted to write this paper by the excellent results obtained in four cases that have been under observation for nearly three

years, but the number of cases is small, and the period of observation short, for a disease progressing so slowly. The complete disappearance of symptoms, and the marked return of the bones to normality, as shown by radiograms, has tempted me to take this step with a view to getting a greater number of patients treated by this method, and having my findings confirmed or otherwise.

The cases described illustrate well the difficulties of arriving at a correct diagnosis.

CASE I.

The patient was a man, aged 55. There was nothing of importance in his family or personal history until 1925, when he was knocked down by a motor cycle and severely bruised. In 1918, however, he had complained of aching in the right groin, and was advised to diet himself. The pain diminished, but did not disappear entirely. In the summer of 1927 severe pain was felt in the same region. Sleep became impossible without hypnotics, and he was unable to follow his occupation. The local doctor suspected appendicitis, and referred him to a consultant. The diagnosis was uncertain until an x-ray photograph (Fig. 1) was taken, which showed osteitis deformans affecting the ischium.

He was seen by me in December, 1927. He looked ill owing to the pain he had suffered, the sleepless nights, and the worry of losing his employment. He was put on general ultra-violet ray treatment three times a week; at the end of twelve sessions the pain was distinctly less, and after twenty-four doses he had practically lost it. There was a marked improvement in health, and he resumed his work. With the exception of short breaks he persevered with treatment until the beginning of 1929, when a pause was suggested. After a period of five weeks there was a slight return of the aching, and treatment was restarted twice a week, when the pain again disappeared. He has since maintained excellent health in spite of a sedentary occupation and

FIG. 1.

long working hours. An x-ray photograph, taken ten months after the commencement of ultra-violet ray treatment (Fig. 2) shows a remarkable improvement in the condition of the bone.

CASE II.

An unmarried woman, aged 68, had previously been well, and there was nothing significant in her family history. In the summer of 1926 she bruised the right shin against a bath. In September of the same year aching started in the right leg, and she noticed a slight bowing. A bone-setter diagnosed arthritis, and advised exercises and diet, but the pain continued to get worse.

She was seen by me in January, 1928, when she had marked anterior bowing of the right tibia, and considerable enlargement of the diameter of the bone. A radiogram showed typical osteitis deformans, with great thinning of the compact bone. She was put on an ambulatory splint, taking the weight on the tuber ischii, in order to prevent a fracture, and a course of general ultra-violet irradiation three times a week was started. The tone of the muscles was maintained by a course of graduated faradic contractions. At the end of twenty treatments the pain had diminished considerably, and after three months she had lost all symptoms. An x-ray photograph showed regeneration of bone, and the calliper was discarded. This patient had been advised to have one-month courses of irradiation, with six-week intervals. There has been no return of symptoms, and she has maintained perfect health.

Two other cases, one in a woman, aged 54, suffering from osteitis deformans affecting the tibia, and the other in a man, aged 70, with Paget's disease affecting both femurs, have responded by disappearance of pain within three months of the commencement of treatment, and apparent arrest of the disease, as evidenced by regeneration of bone.

I much regret that the calcium content of the blood was not determined before and during the treatment; it might have thrown some light on this obscure condition.

All the cases were irradiated from a mercury vapour lamp. The area of skin exposed was increased gradually so as to raise the patients' tolerance to the rays, and the doses given were designed to produce the faintest erythema possible.

When the symptoms have disappeared it is important to impress upon the patients that treatment should not be discontinued for too long a period. This should not be difficult with a form of treatment which is not in the very least unpleasant, and is generally followed by a feeling of well-being.

PRIMARY CARCINOMA OF THE APPENDIX.

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In the last few years a considerable amount of literature in many languages has accumulated on this subject, but up to 1906 only 42 cases had been reported. By 1926 the number of recorded cases had reached 300, and last year Selinger of New York reported 34 new cases from the Post-Graduate Hospital.

Etiology.

Here there is scope for the many views as to the etiology of cancer in general. Primary carcinoma of the appendix has been reported by MacCarty and McGarth in a child of