SENILE TUBERCULOUS ARTHRITIS

Report of Two Cases

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In 1879 Sir James Paget[1] said, "It is, I think, too often taken for granted that scrofula is almost exclusively a disease of the earlier part of life. Doubtless, young persons are much more often subjects of scrofula than are those of later years; but the old, i.e., people over 60, are, I believe, more often scrofulous than those between 30 and 50, and certainly are more often so than they are generally supposed to be." Although Sir James Paget was speaking in general of all extrapulmonary tuberculous disease, the statement is none the less applicable to tuberculous disease of the joints.

It is a fact that tuberculosis of the joints is found almost entirely in young people and a review of the literature on the subject leads one to believe that its occurrence in old people is indeed rare.

Whitman[2] reports 5,461 cases of tuberculosis of joints with only 17.5 per cent of the cases occurring in patients who were more than twenty-one years of age and in only one patient who was more than fifty years of age. In a review of 1000 cases of tuberculosis of the knee joint, he found no patients more than fifty years of age. However, in Alfer's[3] table of statistics compiled from records in Trendelenburg's clinic at Bonn, 966 cases of tuberculosis of the joints were reported among which there were fifty cases (5.1 per cent) in patients who were more than fifty years of age and sixteen in patients more than sixty years of age. A review of the literature since 1930 reveals only three cases of acute tuberculosis of the joints in old persons. Darling[4] has reported two cases in patients who were eighty-three and sixty-six years of age respectively, and Lane[5] reported a case of tuberculosis of the wrist in a man fifty-nine years of age. The apparent rarity of acute tuberculosis of the joints in old persons seems to justify this report of two cases seen at the Cleveland Clinic within the last three years.

The symptoms of this disease in these two patients were essentially the same as those found in younger individuals, except perhaps that all were more severe, the process being more rapidly destructive and the course of shorter duration.

Case 1. A white man, 69 years of age presented himself for examination on January 5, 1932, complaining of pain and swelling and stiffness in the left knee joint. He stated that two years previously he had twisted his left knee while plowing. Prior to that time he had had no joint symptoms whatever. Soon after this the knee became swollen and quite painful and remained so except for short periods when marked improvement occurred. Six months

prior to examination the condition became rapidly worse with marked increase in the swelling of the joint and more pronounced limitation of movement. Throughout the month preceding admission, he had been totally incapacitated.

The patient was fairly well nourished. The temperature was 98.6° F., the pulse rate was 72, the blood pressure was 130 systolic, 71 diastolic. The left knee was greatly swollen, hot, and reddened and was extremely sensitive to the slightest pressure. The superficial veins over the lower third of the thigh were distended. There was apparent subluxation of the tibia upon the femur and virtually no movement could be elicited.

A roentgenogram revealed marked destruction of the inner condyle of the left femur. There was some new bone formation about the patella. The upper end of the left tibia was dislocated posteriorly.

The blood examination showed 4,220,000 red blood cells, 6,900 leukocytes and 78 per cent hemoglobin. The blood sugar was 97 mg. per 100 c.c., urea 24 mg. per 100 c.c. and the nonprotein nitrogen was 25.2 mg. per 100 c.c. Urinalysis and serologic tests revealed no abnormalities.

The patient was hospitalized and traction was applied to the left lower extremity. Forty c.c. of purulent fluid were aspirated from the affected joint. Bacteriologic examination of the fluid showed the presence of acid fast bacilli.

During the following week the patient's temperature varied from 100 to 101° F. Because of the advanced age of the patient, the pronounced degree of destruction of the knee joint, and evidences of an increasingly toxic state, continued palliative measures or arthrodesis, with the necessarily prolonged fixation in either instance, were deemed inadvisable and amputation was decided upon.

A mid-thigh amputation was performed and immediately following this, transfusion of 500 c.c. of whole blood was given. There was pronounced immediate postoperative reaction, the patient's temperature rising to 104° F. On the fourth day after operation the temperature and pulse rate returned to normal and the patient had an uneventful convalescence.

Pathologic examination gave the following findings: The knee was greatly enlarged and showed considerable peri-articular thickening and induration. Dissection of the tissues about the knee joint revealed considerably increased connective tissue with irregular sinuses extending from the synovial cavity. The synovial membrane was thickened, irregular and shaggy, and the joint cavity contained a large quantity of pinkish-gray, thick, mucoid exudate. The artic-

ular surfaces of the femur and tibia were roughened, irregular and eroded, and in some areas were covered by a thick, fibrinous exudate. Microscopic sections showed marked destruction of the cartilage with replacement by granulation tissue in which considerable caseous necrosis and numerous tubercles and giant cells were present.

Case 2. A white man, 71 years of age, was admitted to the hospital September 23, 1933, complaining of pain and swelling in the right knee. About three years before admission the patient had fallen, striking the knee on the floor. Immediately following the injury there occurred pain, swelling, and stiffness which lasted for three or four days. Following this the patient was able to be up and to continue his duties as a laundry superintendent, but several times during the following two years the knee had become swollen and painful following slight trauma. About a year before admission he had fallen on the knee again and since that time it had become progressively more swollen, painful and tender, until complete disability ensued several months before examination. The only other abnormal finding was a swollen, red, right testicle, which was painful.

The temperature was 101.2° F.; the pulse rate was 100; and the blood pressure was 140 systolic, 80 diastolic. The right knee was swollen until it was approximately twice its normal size. It was fluctuant, red, hot and very tender to pressure. There was almost complete limitation of movement and the knee was fixed in position of 35 degrees flexion. A draining sinus was present on the postero-lateral aspect of the upper third of the right leg.

The right testicle, epididymis and overlying scrotum were swollen, indurated, tense, red and tender and several small sinus tracts were present which opened from the inferior portion of the scrotum. Clinical diagnoses were tuberculosis of the right knee and tuberculous epididymitis.

A roentgenogram of the chest revealed no abnormalities. That of the right knee showed destruction of the joint cartilage, of the upper border of the medial side of the tibia, and of the outer border of the lateral condyle of the femur. Several small areas of hypertrophic change were present. The roentgenographic diagnosis was infectious arthritis.

Blood examination showed the red blood cells to number 4,790,000, white blood cells 22,950, with 97 per cent polymorphonuclear leukocytes, and 78 per cent hemoglobin. The blood urea was 33 mg. per 100 c.c. The Wassermann and Kahn tests were negative and urinalysis revealed no abnormalities.

The patient was admitted to hospital where 200 c.c. of greenish yellow pus was withdrawn from the suprapatellar bursa. A pure culture of staphylococcus aureus was obtained. Traction was applied to the right lower extremity. Following the aspiration of pus from the knee joint, the patient's temperature returned to normal.

Epididymectomy and orchidectomy were advised and were performed by Dr. C. C. Higgins and at the same time incisions were made into the knee joint, and rubber tissue drains were inserted into the joint cavity. Areas of synovial membrane were excised and pathologic examination revealed the following findings: The sections showed fibro-fatty and granulation tissue, with the presence of several tubercles and giant cells in the granulation tissue. Pathologic diagnosis: Tuberculosis of the right knee joint.

Despite wide drainage of the knee joint, elevation of temperature persisted and the patient's general physical state became poor. A mid-thigh amputation with lateral flaps was performed under general anesthesia. There was very little postoperative reaction and convalescence was entirely normal. The patient was discharged on the tenth postoperative day.

References

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3. Alfer: Quoted by Whitman, op. cit.
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5. Lane, T. J. D.: Note on Tuberculosis of the Wrist, Irish J. M. Sc., p. 177-181, 1932.