

# Acute Osteomyelitis of the Ilium

A. S. HOROWITZ, '37

H.C.—Male—Age 3½ years.

A Case Report, Service of Dr. Weatherbe and Dr. Merritt.

Admitted to The Halifax Children's Hospital Sept. 11, 1936.

Complaints: (1) pain in the right groin  
(2) a productive cough  
(3) vomiting.

**A** HISTORY was obtained with considerable difficulty from the father. The illness began three days before admission when the child awoke complaining of pain in the right groin, but in a short time he went to sleep again. The following day the father noticed that the boy limped and complained of pain in the right hip and groin when walking. As a result he was forced to remain in bed for two days. During the same time the patient had a cough which was productive. The characteristics of the sputum could not be obtained. At times the coughing was followed by vomiting, though this occurred also independently of the cough. There was no history of trauma and no family history of tuberculosis or of contact.

Physical examination showed a sickly-looking boy, very pale, apprehensive, apparently in pain and with right hip flexed. Examination of heart and lungs revealed nothing of note though X-ray of the chest showed infiltration of both upper lobes suggesting active disease. The tonsils were enlarged and injected and the teeth in fairly good condition. Lymph glands were not enlarged except for some slight swelling of the superficial inguinal group on the right side.

Examination of the abdomen showed loss of movement of right side on breathing, rigidity of the lower half of the right rectus with marked tenderness low down in the right iliac fossa extending outward into the right flank and over the inguinal ligament. It was impossible to localize the exact point of tenderness, but it appeared that pressure on the inguinal ligament near its attachment to the anterior superior spine elicited the greatest degree of pain. No masses were palpable. The kidneys and spleen were not palpable. A rectal examination was negative.

The left lower limb was normal. The right lower limb was semi-flexed at the hip and there was some arching of the lumbar spine on attempting to extend the leg. Movement of the right leg was limited in all directions due to spasm of the muscles around the hip joint. Extension of the limb and rotation of the thigh in flexion was very painful, but whether the pain was referred to the hip or the right iliac fossa, or to both, could not be ascertained. Reflexes were normal. X-ray of the pelvic bones and both hips showed nothing definite except for a small area of rarefaction close to the epiphyseal margin of the head of the femur. The urine was negative.

The blood showed a leucocyte count of 15,000 with 80% polymorphs. The temperature, pulse and respiration on admission were 101°, 128, 28, respectively.

**Working Diagnosis:** Appendicitis, Pyelitis, Right Hip Joint Disease (Tuberculosis).

**Course:** Examination of two specimens of urine was negative. The condition was suggested to be a tuberculous hip, though the leucocyte count and differential suggested acute sepsis. However, the possibility of the condition being an acute appendicitis with the appendix hanging low in the pelvis was kept constantly in mind. A Buck's extension was applied for about three weeks. During this period the patient did not complain of any subjective pain, but was still pale, apprehensive when approached, resented handling, and was still definitely tender to touch over the right hip and right iliac fossa. The temperature was low-grade in nature, the pulse and respiration practically normal. There was no coughing while in the hospital. At the end of the third week some fullness was noted in the right iliac fossa, but nothing could be made out on palpation. The temperature suddenly rose to 102° and an X-ray taken a day previously showed necrosis of the ilium below the anterior superior spine.

**Final Diagnosis:** Acute Osteomyelitis of right ilium with abscess formation.

**Treatment:** An incision was made over the right anterior superior spine and the abscess opened by Hilton's method. A moderate amount of thick, creamy pus was evacuated. Examination of the pus showed numerous pus cells, some cocci, and a growth of staphylococcus aureus. No tubercle bacilli were found.

**Prognosis:** Acute osteomyelitis of the pelvic bones is rare, is usually virulent in nature and rapidly fatal. It is fatal because it is almost impossible to localize the point of infection, hence the surgeon cannot define his method of approach. In this case the pathological process was a low-grade one and therefore affords a good prognosis.

**Comment:** This case offered an opportunity to test good surgical judgment, the importance of carefully weighing physical findings and the value of blood counts. There are certain significant points to mention. First, in osteomyelitis of the long bones one of the diagnostic features is the finger point tenderness on the shaft side of the epiphysis. This feature is absent in osteomyelitis of the pelvic bones. In this particular case there was no definite point of maximum tenderness, but on the contrary the tenderness was diffuse, extending to the lower right quadrant. Also, in osteomyelitis there is usually a marked systemic reaction with a high septic temperature and chills. There were no such symptoms in this case. Secondly, it is important to resist the temptation to open the abdominal cavity unless the proper indications are present to warrant such a surgical procedure. With rigidity of the right rectus, tenderness on pressure over

the right iliac fossa, a history of vomiting, a negative X-ray, a high leucocytic count, especially with polymorphs 80%, it is easy to see how the inexperienced surgeon would be tempted to do an appendectomy. Thirdly, for the early diagnosis of osteomyelitis, the X-ray is useless since bone destruction does not occur early in the disease. Only when there is destruction of bone is the X-ray positive. This usually takes about 2-3 weeks after the onset of the illness. In the case of long bones early diagnosis can be made only by careful clinical observation, and a negative X-ray does not rule out the condition. But in this case with the pathological process occurring just below the anterior superior spine and producing symptoms simulating an acute abdomen, it is important to remember that should the condition be considered in a differential diagnosis, a negative X-ray does not rule it out and permit a diagnosis of acute appendicitis to be made. Fourthly, the importance of doing a differential count in conjunction with a blood count cannot be overstressed. In this case the moderate leucocytosis with polymorphs 80% pointed distinctly to a septic process in the body and gave definite evidence of sepsis. There was no high temperature or chills. It may appear paradoxical that with such a blood picture the case was suspected to be a tuberculous hip. That such a suspicion was entertained was based on the fact that the joint presented three signs so characteristic of tuberculosis—rigidity of the joint in all directions, arching of the spine upon extending the leg, and also the low grade fever and the absence of severe systemic reaction. If the condition had been a tuberculous joint it should have improved under treatment of rest. No definite improvement was noticed. An atypical type of appendicitis was feared, but the strong joint against this was the marked rigidity of the hip joint. Blood counts and differentials were done daily after the operation. For a week the patient appeared dull, listless and sickly-looking. The temperature reached 101°. On the 8th post-operative day examination of the blood revealed a moderate leucocytosis with a lymphocytosis, and the appearance for the first time of eosinophiles. The marked lymphocytosis (70%) and the presence of eosinophiles was the first sign that the patient's resistive powers had overwhelmed the infection and that he was passing into the convalescent stage. Two days after this blood picture the patient first gave clinical evidence by his cheerfulness and increased appetite that the infection was being overcome. The tenderness over the right hip and right iliac fossa has since disappeared.

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*Wallace in 1835 established the contagiousness of secondary lesions of syphilis.*

*In 1834 Wallace introduced the use of potassium iodid for syphilis.*

*Jean Fernel published in 1554 the first medical work which included a text on pathology.*

*Alcmaeon of Croton in the sixth century B.C. was one of the first to express views on the body's functioning.*