Early symptoms and diagnosis of tubercular joint diseases : read in the Section on Surgery and Anatomy, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5-8, 1894 / by A.B. Judson.

Early Symptoms and Diagnosis of Tubercular Joint Diseases.

4.

Read in the Section on Surgery and Anatomy, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5–8, 1894.

BY A. B. JUDSON, M.D.
NEW YORK.

REPRINTED FROM THE
JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
JULY 7, 1894.

CHICAGO:
PRINTED AT THE OFFICE OF THE JOURNAL OF THE ASSOCIATION,
1894.

EARLY SYMPTOMS AND DIAGNOSIS OF TUBERCULAR JOINT DISEASES.

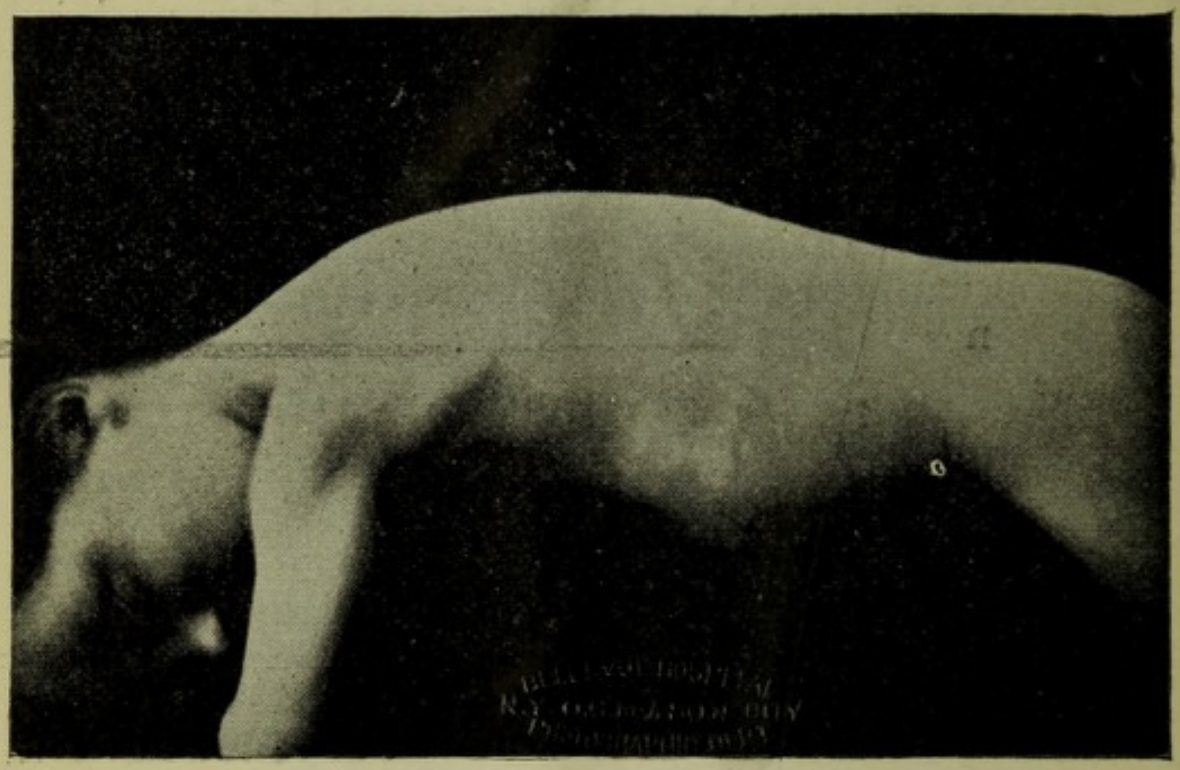
In writing on the subject proposed by our honored chairman I have limited my paper to the consideration of Pott's disease of the spine and hip disease. These affecti ons present many difficulties, especially in the early diagnosis. In diseases of the other joints the same principles and methods of examination hold good and diagnosis is easier because the bones lie nearer the surface.

POTT'S DISEASE OF THE SPINE.

The most important symptom of Pott's disease of the spine is pain in the stomach. Two lines which should find a place in the *vade mecum* of every physician are: "The pain of spine disease is in the stomach," and "the pain of hip disease is in the knee." No prescription for recurring colic should be written, unless it is preceded or presently followed by a careful questioning of the health of the spinal column. The inspection thus prompted may reveal a projection in the median line which should be located by counting the spinous processes downward from the vertebra prominens (seventh cervical), or upward from the fifth lumbar, which is in the line connecting the posterior superior spinous processes, or the result of one method may be verified by the other. The rounded back of rickets or spastic contraction should not be mistaken for the deformity caused by vertebral caries. In the lower dorsal region, from the sixth to the ninth inclusive, it is also well to avoid a peculiar source of error. The

spinous processes of these vertebræ have a great inclination downward, overlapping like the shingles on a roof, and when a thin patient stoops they approach the horizontal, and pushing against the skin make a projection which has often led to error or unnecessary apprehension. This mistake may be avoided by noticing whether the projection is angular or not.

The expression, *angular curvature*, has been criticised because an angle and a curve are essentially different. But in practice the term is admissible



Stephen K., 4 years old. Pott's disease. Duration of symptoms, four months. Normal curve broken into two curves united at an angle.

and convenient, because the long natural curve of the spine is broken in Pott's disease into two short curves which are united and make an angle at the point of union, as shown in the figure. This point may not make a marked projection, but if it marks the union of two curves even in the slightest degree, as shown in the figure, it means that caries is present and has proceeded to very serious destruction of the bone. A moderate lateral curvature is also sometimes present. An angular curvature then is

usually an absolute demonstration of the presence of Pott's disease.

But it is sometimes desirable to make or approximate a positive diagnosis before angular curvature occurs, and to do this several things are to be borne in mind. The first and most important has already been mentioned; the pain in the stomach, or gastralgia. Next in importance is the peculiar gait. The child in walking avoids stamping with his heels and puts more of his weight on the toes than is customary; or he walks as if he were stepping on a surface which he fears will break if he is not careful; or the line made by the top of his head as he moves across the room is noticed to be rather a straight line than the undulating line made by the rising and falling of the head in the buoyant gait of a well child. And then the deportment of the patient is to be considered. He will play quietly by himself perhaps, or, easily tired, he will frequently lean across the mother's lap, or, if the caries is at a high level he will often support his head with his hand, the elbow resting on a chair or table. He is disturbed by the jolting of a carriage or street-car. He will sometimes be stopped in the course of a rough game by a seizure of pain in the stomach, the laughter ending in crying. A common sign is a frequent or habitual grunt accompanying each expiration. By following these lines of observation a conjectural or rational, and sometimes a positive diagnosis may be made before angular curvature appears.

In making a diagnosis but little attention may be paid to the general condition. Many cases are seen in which the health remains good in the early stage, as is shown by the normal appetite and digestion, abundant fat, and good facial color and expression. While these signs of health are present and persistent the disease in question may be in quiet pursuit, and this insidious quality should not be forgotten.

In two points, thus far, we have seen that the unexpected has claimed our attention. The pain is in

the stomach and not in the back, and the general health shows, as a rule, no reaction. But there is another surprising thing to be noticed in the fact that, although the patient's back is virtually broken, local disability, which is usually found in parts which have lost their bony integrity, is almost entirely absent. So true is this that when we hear of spinal pain and disability we at once think that there is no Pott's disease. If these alarming symptoms are present, together with a comparatively frank onset, it is necessary to think of cancerous disease of the vertebræ, or paraplegia dolorosa. I have seen two or three verified cases of this disease which were believed at first to be Pott's disease and other cases are in my memory which, with a fatal termination unexplained in the absence of autopsies, may have been instances of the rarer and more intractable affection.

HIP DISEASE.

Two precepts which should be deeply inscribed in the memory are: "The pain of hip disease is in the knee," and "the pain of spine disease is in the stomach." Recurring pain in the knee, in the absence of physical evidence of disease in this joint, should call early attention to the condition of the hip. But the pain of hip disease, except as an alarm, is not often an important element in diagnosis. It belongs to the group of subjective symptoms and may be almost disregarded in favor of objective signs in an affection which displays so many physical evidences of its presence. Among the first signs is lameness which, in the early stage, may disappear entirely to return after an interval of days or weeks; it is present sometimes in the morning when the patient leaves his bed, and "wears off" after a brief period of activity; it breaks up the natural rhythm of walking, in which equal time is given to the two feet, leaving the well foot on the ground longer than the affected foot and leading the former to give a more accented stroke as it hastens to relieve the latter

from the weight of the body. Akin to lameness is the attitude "at rest" in which the patient stands favoring the affected limb, which is abducted and advanced while the weight of the body is principally thrown on the well limb.

Next to lameness in the order of obviousness is the muscular atrophy, seen in the flattening of the nates, as the patient stands with his clothes removed, and in the characteristics of the gluteal fold, which is shorter and more shallow than that of the unaffected side, and recognized by the tape measure which shows that the thigh and leg are less in circumference than those of the well side.

Then comes the most valuable, and yet most frequently neglected, sign of the early stage, the checking of passive motion by reflex muscular action. This is found earliest perhaps in rotation. Let the patient sit on a table with the legs hanging over the edge and then impart a lateral pendulum like motion to the foot and leg and note whether the arc of motion is less on the suspected side. Or let the patient lie supine on a hard bed or table and impel the limbs, giving them a rolling motion in inward and outward rotation. On the well side the inner and outer borders of the foot will in turn strike the table, or nearly so, while on the suspected side rotation may be obviously limited. Limited abduction, adduction and flexion may be sought manually by testing the passive motion of the two sides alternately. The patient may be induced to give himself a test for limited passive flexion by grasping the shin and kissing the knee. On the suspected side he may not be able to bring the knee to the mouth. These examinations should be made with deliberation and the utmost gentleness, for our object is to detect very slight differences in muscular action or even to recognize the reluctance of the muscles to relax in certain directions, although they may not yet by their spasmodic action prevent wide motion.

Aside from this reflex interference with passive motion, it is instructive to note the deportment of the adductor muscles as revealed by the hand placed on them. They may be entirely relaxed, but when passive motion is begun they may suddenly contract and remain in spasm till the attempt at passive motion ceases and the limb is allowed to remain quiet. Or the abdominal muscles, as well as the adductors, may make a single reflex spasm the moment passive motion is begun.

In this, the early stage, all these reflex signs should be sought for in both limbs for the sake of comparison. By comparison, too, the inguinal fold (as well as the gluteal) may be seen to be short and shallow, or the surface over the capsule of the joint may be slightly elevated, or the soft parts about the trochanter may, from being infiltrated, have a brawny feeling which makes it difficult to include a small portion of the skin and cellular tissue in a pinch between the thumb and finger.

When a later stage is reached some of these points may be dismissed from consideration because overshadowed by three unmistakable and easily read signs, and a comparison may not be strictly necessary between the two sides, although a careful comparison is useful at any stage as throwing light on the progress or severity of the case. 1, the patient's lameness is then constant; 2, the muscular disparity is marked, being due in part to over-work on one side and disuse on the other; and 3, there is no motion or almost no motion in the joint. These three features combined make a picture of hip disease which is not easily mistaken for anything else. In regard to the first and second, nothing need be said, but the absence of motion in the joint may readily escape detection. The amount of motion, or its absence, can be recognized only by noticing the deportment of the pelvis while attempts at passive motion are made. To test for lateral motion, arrange the pelvis so that the line of the two iliac spinous processes is

at right angles with the edge of the table or the wall of the room, then if there is no motion in the joint the slightest attempt at passive motion in abduction or adduction, will be accompanied by a disturbance of this line and, if there is some motion, its extent may be observed by noting the point at which the line is disturbed by either abduction or adduction. To test for antero-posterior motion arrange the pelvis by raising the limb till the lumbar spines rest on the table and then as flexion or extension is attempted, in passive motion, the disturbance of the pre-arranged relation between the lumbar spines and the table will indicate the absence or the extent of antero-posterior motion in the joint.