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Supracotyloid Dislocation.

BY

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ASSISTANT SURGEON TO THE VANDERBILT
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SUPRACOTYLOID DISLOCATION.*

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Dislocation of the femur directly upward is an exceedingly rare accident. Very few of the works on general surgery make any mention of this dislocation, and special treatises on dislocations are sufficiently barren of facts to make pardonable the recording of the following case:

George A. Simpson, sixteen years old, referred to me for an opinion by Dr. Charles F. Clark, of Brooklyn, was seen on May 3, 1890. About a year ago (*i. e.*, before the date of the examination), while attempting to bend backward, the feet being separated and the toes turned outward, he felt something give away at the right hip; he suffered some pain, but, after resting for a short time, was able to walk to his home. He was treated by liniments, iodine, and other external applications. He was able to walk about without much suffering, but at night at times had starting pains, and these gradually grew worse until he came under the care of Dr. Clark some eight weeks ago, since which time he has been confined to bed and treated with weight (fourteen pounds) and pulley; during this period he has been free from pain.

* Read before the Hospital Graduates' Club, New York, March 26 1891.

Examination.—The patient walks without any evident pain. The right leg is short, rotated outward, and is not swung in advance of the left in walking. The buttock at the back of the right great trochanter is flattened. Lying supine, the left thigh can be fully flexed on the chest without the popliteal space of the right leg leaving the table, and without the least discomfort. Active or passive flexion of the right leg is not possible to any appreciable extent. The limb lies rotated outward about 45°, and can be passively rotated outward to 90° without discomfort; inward rotation of the limb from the position in which it lies is not possible. The left leg is found to rotate outward to about 60°, but to lack inward rotation to the usual degree, it coming easily only so far as to bring the foot parallel to the antero-posterior plane of the body. Lying prone, extension of the thigh on the pelvis is free and to the normal degree; inward and outward rotation are as already noted. Backward passive bending of the lumbar spine normal. The right great trochanter is three quarters of an inch above Nélaton's line. Again lying supine, there is found to be three quarters of an inch shortening of the right limb when measured from the anterior superior spine of the ilium to the inner malleolus, and the same when measured from the umbilicus to the inner malleolus. Ten inches below the anterior superior spine of the ilium the circumference of the right thigh is seven eighths of an inch, and the calf a quarter of an inch less than the left. There is no lateral deformity—*i. e.*, abduction or adduction—of the limb, and very little passive motion in either direction. There is no apparent fullness in the right groin to sight or to superficial touch, but when the great trochanter is steadied with the fingers, the thumb being pressed firmly down over the point where the head of the femur ought to be found, and the limb passively rotated outward, the head of the femur can be distinctly felt to rise up with each outward rotation. The patient was referred back to Dr. Clark with notes of the findings, but passed from under his control before any further treatment was attempted.

I regret that I am unable to continue the record of the case. The gentlemen under whose care he has since been

in a hospital in a neighboring city have failed to respond to my appeals for information as to the attempt at reduction of the dislocation under an anæsthetic and the two subsequent cutting operations. One fact, however, supplied by the patient himself under date of November 21, 1890, may be recorded—namely, that at that date, seven months after the operation, a sinus of the size and depth of a lead-pencil still remained.

To recapitulate briefly: A heavy, rather flabby boy of sixteen years, with hip joints permitting unnatural outward rotation, and lacking normal inward rotation, stands with feet apart, toes turned out, and bends backward; the head of the femur slips from the acetabulum, probably with little, if any, rupture of the capsule, and finds lodgment just above the acetabular rim beneath the strong bands of the Y-ligament and the rectus muscle. He is able to walk immediately, and continues to walk for a year without much pain. Starting pains at night gradually come on, and are promptly relieved by recumbency and traction. Attempts at reduction by manipulation fail, and a sinus remains after a cutting operation is resorted to.

Supracotyloid dislocation may occur in either of three ways, and a failure to recognize this and the manner of occurrence of the dislocation account for much of the indefiniteness of the reported cases, and much of the difficulty in attempting reduction of the displacement. The first and most frequent form is that secondary to a backward dislocation and appears to result from extension, abduction, and outward rotation of the limb after the dorsal dislocation has occurred. In these cases the shortening is usually two or three inches, and the limb is held everted and somewhat flexed; further passive flexion to some extent is possible, and there may or may not be abduction, this depending upon the distance forward to which the

femoral head has passed. In these cases the Y-ligament lies to the front of the head of the bone, and manipulation must be directed to return the bone to the dorsal dislocation before attempting to bring it into the socket. The next form, second as to frequency, is secondary to an anterior displacement, and results from the bone passing upward and somewhat backward. Shortening may be very little or very considerable, and there is eversion, usually extreme, abduction, and some flexion of the limb; the head of the bone can readily be felt and usually seen as a prominence below the anterior superior spine of the ilium. In this displacement the Y-ligament lies posterior to the head of the bone, and reduction must be accomplished by first returning the head of the bone to the position of an anterior dislocation. The third form, that of displacement directly upward, with the Y-ligament stretched over the head of the bone, appears, from the literature on the subject which one is able to find, to be a very rare occurrence. The manner of its production in the previously reported cases to which I have had access has been uncertain, and the manipulations to be resorted to for its reduction have been based on purely theoretical grounds. From the manner of production of the dislocation in the case reported it would seem to indicate that the limb should be strongly rotated outward, moderately abducted, and extended to its fullest extent, then rapidly rotated inward, flexed, and adducted to the normal antero-posterior plane. In fully extending a limb the pelvis must be fixed, and I know of no way of doing this so effectually as by flexing the opposite thigh strongly on the trunk of the patient and strapping it there. With the patient in this position the pelvis is easily steadied for any desired manipulation.

Only one further point needs to be considered—the differential diagnosis from fracture of the neck of the

femur. In fracture of the neck of the femur the position of the limb is the same as in dislocation upward, but the disability of the limb is complete; the patient is totally unable to walk, while with the dislocation he walks with comparative ease, perhaps without any pain at all.

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