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A CASE OF ISOLATED FRACTURE OF THE LESSER TROCHANTER

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The isolated rupture of the lesser trochanter must be classed among the fractures of comparatively rare occurrence.

It may therefore be of some interest to describe in brief a case dealt with from December to February in the surgical department of the Children's Hospital at Gothenburg.

Anamnesis: The patient, a 12½ year old boy, had a few hours before coming to the hospital taken part in a lesson in gymnastics. During the double quick march »with long steps« he was ordered to halt, »when suddenly the hip got locked«.

Status: An unusually tall boy for his age, 191 cm. (normal height at his age according to Swedish and German statistics is 145—150 cm.), and also, as regards the muscular system, unusually strongly built. Came to the hospital at 11 p. m. Was able to walk, though with the greatest difficulty, with the support of another, and now and again with great distress. On examination the hip joint was found to be quite free. Nor could any sign of fracture of the bone be seen.

As the boy's parents wished him to come home, and as, owing to the lateness of the hour (midnight) a Röntgen ray photograph was not considered absolutely necessary, the patient was sent home and returned to the hospital the following day.

On his return he was immediately photographed by R. rays.

The R. photograph revealed a fracture of the lesser trochanter, with the minor fragment dislocated upwards and medially. Fig. I.

The subsequent examination of the patient revealed the following symptoms: he lay with the right leg rotated outwards, flexed (c. 30°) in the hip joint. Owing to the pain he could only be induced to carry out the slightest movements. Passive move-

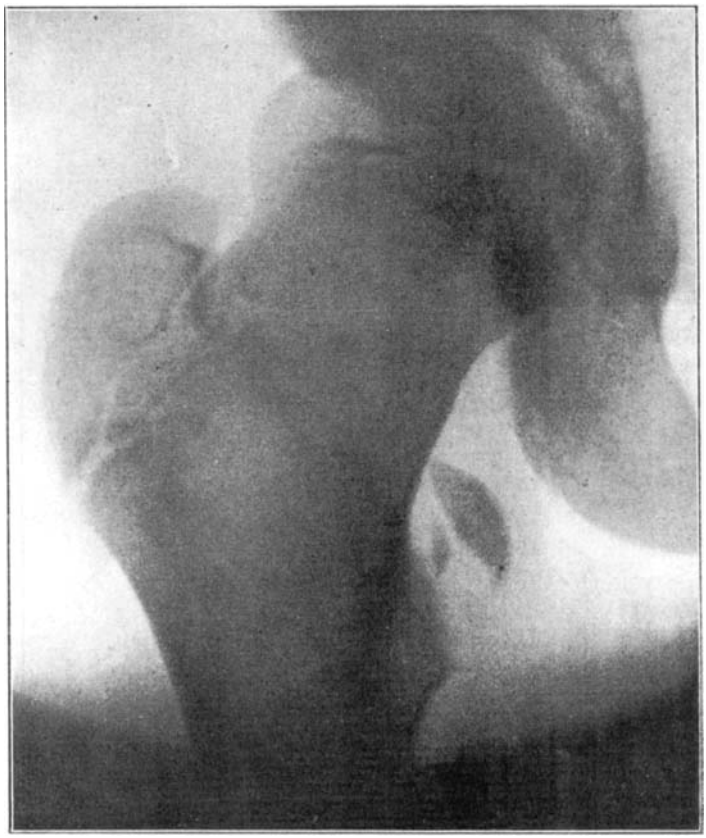

Fig. 1.

ments showed that the hip joint (as was the case on examination the previous day) was free. In a sitting position and with the knee stretched, the patient was unable to raise the leg from the floor. He clearly feels tenderness just below and medially of the inguinal ligament (over the lesser trochanter).

The patient's hip was bandaged with plaster of Paris, with

the damaged leg somewhat flexed (c. 20°), somewhat adducted, and slightly outwards rotated.

After 5 weeks the bandage was removed, and the patient was given massage and exercise.

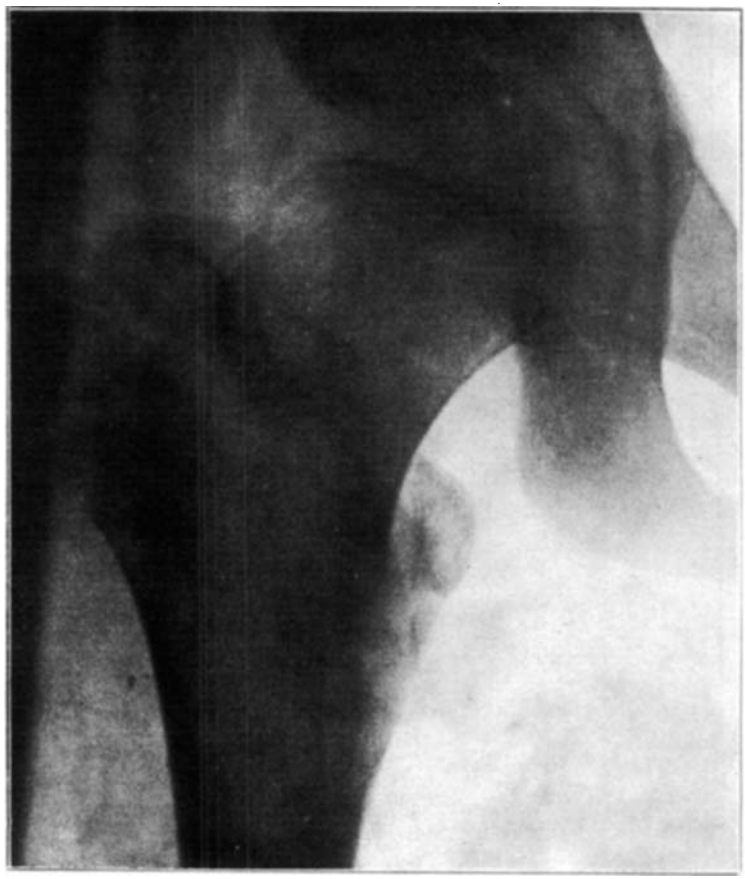

Fig. 2.

When the patient was discharged, after rather more than 2 months' stay at the hospital, he limped a little, and a month later, when he visited the general hospital, he had no subjective trouble whatever, nor could any objective signs be observed.

Röntgen: (3 months after the accident): revealed good cal-

lus formation between the throchanter and the epiphysis of the femur. Fig. 2.

Some 60 cases of isolated fractures of the trochanters have, as far as I can find, been described in works of reference. Those of *Schlueter* (1926) and *Ruhl* (1920) are the most detailed descriptions. From these it appears that this fracture nearly always occurs between the ages of 12 and 16, and almost exclusively in boys.

The impulse that gives rise to the fracture, and which is not as a rule of a violent nature, generally occurs during athletic or gymnastic exercises, and consists of a forcible contraction of the m. ileopsoas in an attempt to bring the body to a halt or to prevent it from falling backwards.

At so young an age the fracture is practically always a dislocation of the epiphysis, as the true ossification of the lesser trochanter with the femoral epiphysis only sets in between the age of 16 and 20. *Ruhl* mentions three cases, however, in which the patients were over 70 years old when the fracture occurred. In these cases he believes that the cause must be attributed to a partial osteoporosis in the bone.

If we take *Ruhl*'s 22 cases, *Usland*'s and *Poston*'s (1 each), and the present case, or 25 in all, we find that the age-incidence is as follows:

Under 10 years:	1 case :	4 %
10—20:	20 cases:	80 %
50—70:	1 case :	4 %
Over 70:	3 cases:	12 %

Diagnosis: It appears from what has been stated above that the diagnosis is not at all easy to establish, as in most cases we are not acquainted with this relatively uncommon injury, or are not on the lookout for it. But should our attention have been directed to it previously, the diagnosis may be facilitated partly by the anamnesis, and also by the presence of Ludloff's symptom, i. e. that the patient in a sitting position is unable to raise the leg from the ground. Ludloff's symptom may, however, be negative if the fracture is incomplete. However, Rönt-

gen confirms the diagnosis, and generally reveals the displaced trochanter as luxated medially and proximally.

The *Treatment* is confinement to bed, with or without a plaster-of-Paris; the plaster is, however, desirable, as it alleviates the patient's pain and simplifies the nursing. Different opinions are expressed on the length of time the limb should be immobilized. *Strebel* considers 3 weeks to be ample, but the time generally given is 4 to 7 weeks, which is probably a safer estimate. Then massage and kinesitherapy.

The *Prognosis* in the case of young patients seems to be invariably good, as no mention is made of aftereffects.

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SUMMARY

In an unusually tall (191 cm.) and vigorous boy, aged 12½ years, the right trochanter minor was torn off during gymnastic exercise.

Treatment: bandaging with plaster of Paris with the hip in a slightly flexed, adducted and outwards rotated position for 5 weeks.

Course: three months after the accident the patient was subjectively as well as objectively free from symptoms.

RÉSUMÉ

Le sujet est un garcon de 12 ans 6 mois, très vigoureux et d'une taille extraordinairement haute (191 cm). En faisant la gymnastique il encourut un arrachement du trochanter minor.

Traitement: Au moyen d'un appareil plâtré on fixa la hanche dans une position légèrement fléchie, en adduction et en rotation externe. L'appareil fut maintenu pendant 5 semaines.

Résultat: 3 mois apres l'accident, le malade se trouva exempt de symptômes, tant subjectifs q'objectifs.

ZUSAMMENFASSUNG

Bei einem ungewöhnlich hohen (191 cm.) und kräftigen 12½ jährigen Jungen wurde während der Turnstunde der rechte trochanter minor abgerissen.

Behandlung: Gibsverband mit der Hüfte in leicht gebogener, adduzierter und auswärtsrotierter Stellung während 5 Wochen.

Verlauf: 3 Monate nach dem Unglücksfall war der Patient subjektiv und objektiv symptomfrei.