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CASE REPORT

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An external snapping hip caused by osteochondroma of the proximal femur

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Abstract We herein report the findings of a 17-year-old boy who suffered from a right external snapping hip, which was caused by an osteochondroma of the proximal femur. He has been asymptomatic since the excision of the tumor. This case shows a rare etiology in which an external snapping hip occurred between the iliotibal band and the osteochondroma.

Key words External type · Osteochondroma · Snapping hip

Introduction

A snapping hip is a condition characterized by a snapping phenomenon and hip pain.[1–12] Snapping hip is distinguished into two types, namely an intra-articular type and an extra-articular type.[8,9] The extra-articular type can be further delineated into three types, namely, external (lateral), internal (medial), and posterior.[8,9] These types have their own respective morbidities and they need different surgical procedures that are most suitable to their own etiologies in order to heal successfully. We herein report the case of a 17-year-old boy who suffered from an external snapping hip due to an osteochondroma of the proximal femur.

Case report

A healthy 17-year-old schoolboy went skiing on a school excursion in January 2004. He fell down while skiing and could not stand up immediately because his right hip temporarily became locked. He finally succeeded in standing with a minor handicap on his right hip. Thereafter, he sometimes noticed a snapping phenomenon in his right hip. He visited our hospital in June 2004.

On physical examination, he could walk without pain. A thumbtip-sized hard mass was palpable in the right posterolateral thigh with no other palpable masses in his extremities. The range of the right hip motion was full; however, there was clearly a snapping phenomenon with slight pain when his right hip was forced into the adduction-internal rotation position. A radiograph showed a bony peduncular protrusion in the right proximal femur (Fig. 1). The mass was located on the back of the femur and it was directed away from the hip joint. It had continuity with the medullary space between the stalk of the mass and the femur. We therefore considered that a snapping phenomenon thus existed between the iliotibal band and the osteochondroma of the femur when the hip was forced into an adduction-internal rotation position. We recommended surgical intervention and he was admitted to our hospital in August 2004.

A lateral longitudinal skin incision was made and the iliotibial band was incised in line with the skin incision. The mass was identified and divided from its surroundings (Fig. 2). The iliotibial band was 5 mm thick and neither synovitis nor bursitis was seen. The mass was excised around its base. It was covered with a white cartilage cap (Fig. 3). It was histologically diagnosed to be an osteochondroma. The snapping phenomenon has not recurred since undergoing surgery.

Discussion

Snapping hip, or coxa saltans, is characterized by hip pain and an audible snapping of the hip with exercise.[1–12] Morinaga et al.[8,9] classified snapping hip into two etiologies, namely, an intra-articular type and extra-articular type. He divided the extra-articular type into three types: external (lateral), internal (medial), and posterior.

The external type is the most common of the three.[1–12] For example, it occurs when the greater trochanter catches either the posterior border of the iliotibial band or the

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Fig. 1. A plain radiograph taken by Lauenstein view. A bone tumor was observed on the posterior of the proximal femur

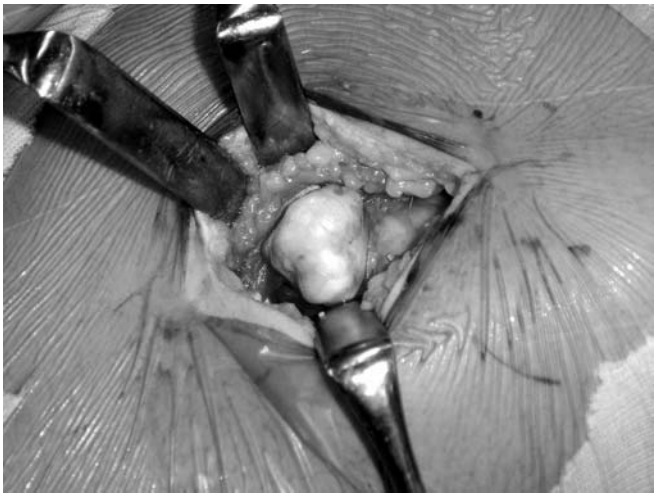

Fig. 2. Operative findings. The osteochondroma appeared between the incised iliotibial bands

Fig. 3. The specimen. The tumor had an oval-shaped cross section at its base. The long axis measured 3 cm and the horizontal axis 2.5 cm. The height of the tumor was 2.5 cm. The tumor had a cartilage cap on its head

anterior border of the gluteus maximus. Z-plasty is the most common surgical intervention modality for external snapping hip.[1,2] Some unusual causes have been reported in the literature, for example snapping hips occurring after either an intramuscular injection or after an operation to treat anterolateral instability of the knee.[3,4]

The etiology of the internal type is still poorly understood in comparison to the external type.[5–11] An internal snapping hip occurs just as the iliopsoas tendon slips over the iliopectineal eminence or over the femoral head. Iliopsoas tendon fractional lengthening has been recognized to be an effective treatment modality.[5–7,10]

The intra-articular type is caused by an intracapsular lesion.[9,12] A loose body or a torn labrum can be the cause of this type, and arthroscopy is a useful tool for both the diagnosis and treatment of such cases.[9,12]

Osteochondromas are the most common benign bone tumor. Most patients have only a single involvement. Osteochondromas are latent and they do not grow after skeletal maturity. Patients can suffer various symptoms from osteochondromas because they can produce mechanical irritation, bursitis, and tendinitis.

So far, very few reports have described the relationship between osteochondromas and snapping hip. Schaberg et al.[11] reported two patients who suffered from an internal snapping hip of the iliopsoas tendon over an osteochondroma on the lesser trochanter. Such patients underwent both a resection of the osteochondroma and a partial iliopsoas release; one of the two patients had a local recurrence of osteochondroma, which was later resected. The symptoms finally disappeared in these patients. Concerning the external type, Morinaga et al.[9] described that osteochondroma could be one of the origins of an external snapping hip, however, this case was not reported in detail.

In the present case, the osteochondroma grew on the back of the proximal femur and disturbed the smooth movement of the iliotibial band. The present case was classified as an external type caused by the snapping of the iliotibial band over the osteochondroma of the femur: such an etiology is rare. An excision of the osteochondroma was the only solution to effectively treat this case of snapping. The patient's right hip has remained asymptomatic since undergoing successful surgical intervention.

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