Synchronised sartorius avulsions in adolescent sprinter

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DESCRIPTION

Apophyseal avulsions occur with a sudden forceful contraction at an unfused apophysis. Radiographic signs of apophyseal avulsions of the hip and pelvis are often subtle. When suspicion of these injuries is high, a thorough knowledge of tendon attachments around this area can allow particular review of these areas when assessing the patient and subsequent radiographs.

We met a 15-year-old boy who was referred to orthopaedics with severe bilateral hip pain. He had been running in the 100 m sprint at the school sports day. He felt a sudden 'pop' at both his hips while sprinting and was unable to continue. He was able to walk off the track but reported of severe pain in the right and left hip region.

On examination he was tender over the right and left anterior superior iliac spine (ASIS) and had painful active hip flexion bilaterally. X-rays showed avulsions at the apophysis of the right and left anterior inferior iliac spine (figure 1). He was managed conservatively with regular clinical review, analgesia and protected weight bearing with crutches.

At 2 weeks the pain was improving, he had mild tenderness over the right and left ASIS, the active straight legs were raised to 90° without much pain. At 6 weeks he was walking normally and X-rays showed that there was ossification around the upper epiphysis, bilaterally. This bilateral injury is rare with few case reports published, however, each has an identical mechanism.^{1 2}

Apophyseal avulsion fractures can be subtle; however, knowledge of tendon attachments can focus clinical and radiographic review (figure 2).

Figure 1 X-ray on initial presentation to the emergency department. Arrows showing bilateral avulsion of anterior superior iliac spine at the origin of sartorius attachment to the pelvis.

Figure 2 X-ray at 6 weeks postinjury showing evidence of ossification. Major tendinous insertions have been labelled on the X-ray and summarised below (3).

1. Sartorius	Anterior superior iliac spine
2. Rectus femoris	Anterior inferior iliac spine
3. Gluteus medius	Greater trochanter of femur
4. Gluteus minimus	Greater trochanter of femur
5. Hip adductors	Pubis
6. Hamstrings	Ischial tuberosity
7. Iliopsoas	Lesser trochanter of femur

Learning points

- ▶ Apophyseal avulsion fractures can be subtle—knowledge of tendon attachments can focus clinical and radiographic review.
- ▶ Review of major tendinous attachments around hip and pelvis.
- ▶ Avulsion injuries can be bilateral, and sprinting is common mechanism of injury.

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