Avulsion Fracture of the Anterior Inferior Iliac Spine

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An avulsion fracture occurs when a piece of bone is pulled off by an attaching tendon or ligament during vigorous stretching. They are more common in teenagers because the bone is not mature enough to sustain the stress than the ligament or tendon and is often avulsed from the growth plate, rather than tendon or ligament injuries in adults. Here in, we report a rare case of avulsion fracture of the anterior inferior iliac spine occurred in a 15-year-old boy during a 100-meter dash. On physical examination, there was painful limitation of right hip movement, and tenderness around right inguinal area, with a negative Patrick test. The patient was treated conservatively and recovered uneventfully without residual functional impairment. A high index of suspicion for avulsion fracture of iliac spine is necessary when a teenager has a sudden onset of inguinal pain after running or sports which involve vigorous kicking.

Key Words: anterior inferior iliac spine, avulsion fracture

Introduction

An avulsion fracture occurs when a piece of bone is pulled off by an attached tendon or ligament during vigorous stretching. They are more common in teenagers because, in comparison with adults, the bone is not mature enough to sustain the stress than ligaments or tendons. Children have a particularly weak point in their skeleton called the growth plate. They are susceptible to fracture during trauma. Apophyseal avulsion fractures of the pelvis, though increasingly found in adolescent competitive athletes, remain rare in children and teenagers (1-4).

Case Report

A 15-year-old boy presented with sudden onset of pain around his right hip during a 100-meter dash. On arrival, his was alert and his vital signs were respirations 19 breaths/min, heart rate 80 beats/min, blood pressure 108/65 mmHg and temperature 35.5°C. Physical examination showed painful limitation of right hip movement but a negative Patrick test. Tenderness could be evoked around the inguinal area but there were no other remarkable findings. After roentgenographic examination, avulsion fracture at the right anterior inferior iliac spine was revealed (Fig. 1). Conservative treatment was recommended by the consulted orthopedic surgeon because the patient was not an athlete. He was followed up in the orthopedic clinic and recovered uneventfully without residual functional impairment.

Discussion

Avulsion fracture of the anterior inferior iliac spine (AIIS) is rare in most emergency departments. This injury usually occurs with extension of the hip joint, with the knee flexed, and it is usually seen in
AIIS avulsion fractures should be considered in patients with sudden onset of pain in the groin after vigorous flexion of the hip. A radiographic examination usually confirms the diagnosis. Although recovery is usually uneventful with conservative treatment and a rehabilitation program, surgical intervention could be considered if the displacement is significant or a shorter period of rehabilitation is required\(^{4-6}\).

AIIS avulsion fracture is uncommon. A high index of suspicion is necessary to diagnose this rare injury. In most cases, conservative treatment is successful; however, surgery has a role in carefully selected cases.

References

前下腸骨脊撕裂性骨折

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當肌肉強力收縮時，肌腱或韌帶將附著處骨頭扯一片下來，就造成撕裂性骨折。這類型的骨折最常見於十歲左右的青少年，因為他們的骨架尚未發育完全，肌肉強力收縮時，常於骨骼生長板處撕裂而造成撕裂性骨折，而非如成人般地造成肌腱、韌帶拉傷。在此我們報導一罕見病例，這15歲男孩在百米短跑衝刺時，造成了前下腸骨脊撕裂性骨折。理學檢查時他右側股關節只要運動就會痛，同側腹股溝處有壓痛，但是Patrick測試仍為陰性。經過保守治療患者順利康復，並未留下影響功能的後遺症。日後當我們遇到因短跑衝刺或是劇烈踢腿造成腹股溝部位疼痛之青少年患者，務必懷疑是否遭遇腸骨脊撕裂性骨折。

關鍵詞：前下腸骨脊，撕裂性骨折

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