Unusual Cause Of Hip Pain In A Child

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Abstract

Hip pain is a common problem in children; most common being irritable hip, Perthe's disease, transient synovitis, trauma, and rarely septic arthritis and osteomyelitis of pelvis.[1,2,3] Here we report a case of deep vein thrombosis of femoral vein presenting as hip pain in a 3 year old girl.

CASE REPORT

A 3 year old girl of Afro-Caribbean descent was referred by her general practitioner to the paediatric department with one day history of painful right hip with fever and unable to weight bear on right leg following a fall from swing 2 days previously. She had a laprotomy and excision of right ovarian dermoid cyst about a year ago. On examination, she had a temperature of 38 °C with tenderness in the groin area and painful restriction of right hip movements. There was slight abdomen distension and tenderness. Bloods were taken for full blood count, erythrocyte sedimentation rate (ESR), C-Reactive Protein (CRP), liver function test, amylase, blood cultures and urine for culture and sensitivity. Her white cell count was 11.4, CRP 218 and ESR 35. Urine dipstick was normal.

Radiograph of pelvis and full length views of femur were normal and ultrasound of her hip showed no effusion with normal appearance of femoral head. Chest radiograph showed evidence of basal pneumonia and she was started on intravenous antibiotics (Flucloxacillin and cefuroxime) and maintenance fluids. A diagnosis of irritable hip was made by the reviewing orthopaedic team, and she was treated expectantly with analgesics.

Two days later, she refused feeds, became constipated and developed abdominal guarding and rigidity with a temperature of 38.5 °C. Her blood tests showed increasing inflammatory markers (ESR 88, CRP 396). Blood cultures grew staphylococcus aureus. Ultrasound of her abdomen showed no free fluid or localised collection or organomegaly. She was seen by the general surgeons who suggested CT scan of abdomen to rule out intra-abdominal or psoas abscess. CT scan of abdomen was normal as was the MRI scan.

The following day, she was found to have a swollen right thigh. Ultrasound of abdomen and right leg showed mild distension of bowel with normal gut motility and a thrombus in right common femoral vein with mild effusion of hip joint. A diagnosis of deep vein thrombosis was made and she was started on therapeutic dose of thrombolytic agent Fragmin. She underwent extensive blood screening to exclude hypercoaguable states including haemophilia screening, thrombophilia screening, Protein C and S and complement components screening, sickle cell/HIV screening, rheumatology screening, hepatitis serology, malaria screening, Human Chorionic Gonadotrophin, Alpha-Fetoprotein and CA125 levels. All the blood tests returned normal.

Six days later, she developed breathlessness and became septicaemic with increasing temperature of 40 °C. CT scan of her chest showed consolidation of left lower lobe of lung with mild bilateral pleural effusion and no evidence of pulmonary embolism. Metronidazole and vancomycin were added to her intravenous antibiotics. She was transferred to the regional paediatric ITU unit for further management where she was intubated and ventilated. She eventually succumbed to her illness a few days later.

DISCUSSION

Acute hip pain is relatively common in children. The aetiology varies according to age and sex with acute transient synovitis, trauma, Perthe's disease, slipped capital femoral epiphysis being the most common diagnoses followed by septic arthritis, osteomyelitis, bone tumours, discitis, psoas abscess, inflammatory arthrosis, congenital,

developmental and neuromuscular disorders, intra-abdominal conditions and haematological disorders [1,2,3,4]. Children with a painful hip present a diagnostic challenge since clinical differentiation between septic arthritis, transient synovitis and Perthe's disease may be difficult [3]. Vigilance is of paramount importance in conditions requiring emergent treatment such as septic hip. Blood tests, radiography, ultrasound scan, bone scan, aspiration of joint are commonly used to evaluate the painful hip [2]. Capsular distension of more than 2mm or more is considered a significant effusion [5]. This could be diagnosed reliably using ultrasound but differentiation is not possible with ultrasound in the absence of osseous abnormalities. In cases with capsular distension and osseous abnormalities, ultrasound usually allows a differentiation between slipped capital femoral epiphysis and Perthe's disease as well as septic and unspecific arthritis [5].

Here we report on an unusual cause of deep vein thrombosis manifesting as hip pain in a child. There has been a case of massive pulmonary embolus reported in a 14 year old boy [6], but no case of deep vein thrombosis manifested as hip pain in a child reported in literature. Physicians should consider deep vein thrombosis as a differential diagnosis whilst investigating cause of painful hip especially in children and toddlers who are unable to relate specific complaints of pain and may not exhibit the usual signs of illness or infection. Moreover, young children often cannot describe the location of leg pain. Hence, doctors should be aware that deep vein thrombosis can occur in children and exercise a high index of suspicion for the diagnosis in those patients with the risk factors for the condition i.e., hypercoaguable states, haematological disorders and venous stasis. The reason our patient developed thrombosis could well be that she developed hypercoaguable state following possible recurrence of the ovarian cyst or development of the cyst on the other side even though the blood tests for alpha fetoprotein and human choroinic gonadotropin and scans were normal.

References

1. Maroo S. Diagnosis of hip pain in children. Hosp. Med. 1999 Nov; 60(11):788-93.
2. Leet AL, Skaggs DL. Evaluation of the acutely limping child. Am Fam Physician 2000 Feb 15; 61(4):1011-8.
3. Hollingworth P. Differential diagnosis and management of hip pain in childhood. Br. J rheumatology. 1995 Jan; 34(1):78-82.
4. Zacher J, Gursche A. Regional musculoskeletal conditions: 'hip' pain. Best Pract Res Clin Rheumatol.2003 Feb; 17(1):71-85.
5. Konermann W, Gruber G. Diseases of the hip joint in childhood and adolescence-ultrasonic differential Diagnoses. Orthopaede.2002 Marc; 31(3):288-92.
6. Crane SD, Beverley DW, Williams MJ. Massive pulmonary embolus in a 14 year old boy. J Acc Emerg Med. 1999 Jul; 16(4):289-90.

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