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Case Report / Olgu Sunumu

A Simple Procedure may Cause Severe Results

Basit Bir Prosedür Ciddi Sonuçlara Yol Açabilir

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Abstract

Capillary blood sampling via a heel puncture is a common procedure performed on hospitalized neonates. If not performed properly, a heelstick can lead to complications. The clinical and financial impact of complications can be significant. Also in some situations, the procedure could be complicated with skin infections, hematomes, soft tissue infections, arthritis and osteomyelitis. We report an infant complicated with arthitis and soft tissue infection secondary to heel puncture and we want to emphesize the importance of neonatal procedures.

Anahtar kelimeler: Blood sample, neonatal screenıng programme, soft tissue edema, newborn

Özet

Hastaneye yatan yenidoğanlarda topuk delerek alınan kapiller kan örneği genel bir prosedürdür. Eğer düzgün olarak yapılmazsa, komplikasyonlara yol açabilir. Komplikasyonların klinik ve finansal etkileri önemli olabilir. Ayrıca bazı koşullarda işlem deri enfeksiyonları, hematomlar, yumuşak doku enfeksiyonları, artrit ve osteomyelit ile komplike hale gelebilir. Biz,topuk kanı alımına ikincil artrit ve yumuşak doku enfeksiyonu ile komplike hale gelen bir infantı rapor ederek yenidoğanlardaki işlemlerin önemini vurgulamak istiyoruz.

Key words: Kan örneği, yenidoğan tarama programı, yumuşak doku ödemi, yenidoğan

Introduction

The Ministry of Health of Turkısh Republic administering a programme, called "*neonatal screening programme*",which includes the searching of phenilketonuria, kongenital hypothyroidism and biyotinidase deficiency.For this purpose,after birth, capillary blood drawn by from all the neonates in the 48-52 hours. Heel puncture is an easy way of collecting the samples if done by the specialists. But in some situations, the procedure could be complicated with skin infections, hematomes, soft tissue infections, arthritis and osteomyelitis[1,2].

Case

A four days old male baby, born after 38 weeks gestation weights 3750 grams, was sent to the hospital because of ankle swelling which starts after heel blood drawing. After the examination, there was no problem found and the patient was sent home.

After two weeks, the sweeling got worse and in his laboratory parameters were, white blood cell count (WBC): 24,000/mL, sedimentation rate:78 mm/h ve C-reactive protein (CRP): 48 mg/L. According to these findings, ceftriaxone

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antibiotherapy given for three days. After the treatment, the clinical findings and laboratory parameters didn't regressed . Because of this the patient hospitalized and given ampicilline-sulbactam and sefotaxime. Even though the treatment, the clinical findings got worse and the patient brought to our clinic. In his examination, his right ankle surronding was 4 cm. more than the left ankle. In his plane radiography, soft tissue edeme was detected. In Magnetic resonance imaging (MRI), talocrural joint effusion and edema on the surrounding soft tissues in the right ankle and especially dorsal side of foot is observed at fat suppressed coronal and axial T2 weighed MR images (Figure 1A and B). We started vancomycine and meropenem antibiotherapy. Our treatment lasted 28 days. After the treatment WBC:6,070/mL, sedimentation: 5mm/h, CRP: 2 mg/mL. Blood culture was negative . In the control MRI, the edema and synovial thickening found regressed . After the four weeks vancomycine-meropenem treatment, the patient discharged with third generation cephalosporin treatment.

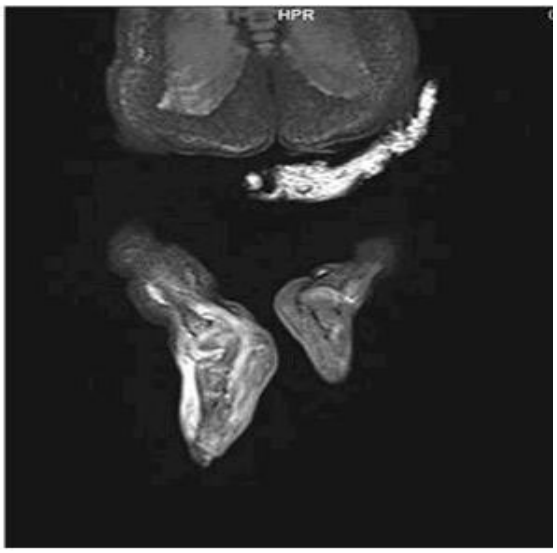

Figure 1A

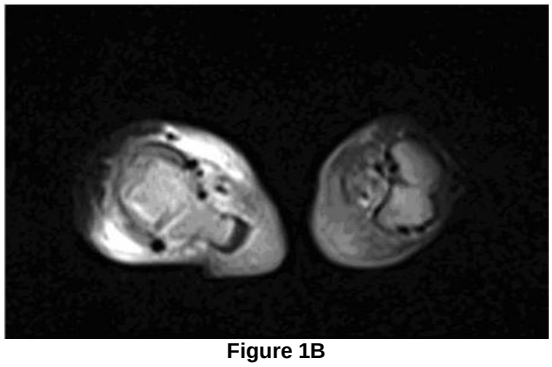

Figure 1B

Figure 1A and B. Talocrural joint effusion and edema on the surrounding soft tissues in the right ankle and especially dorsal side of foot is observed at fat suppressed coronal and axial T2 weighed MR images. The left ankle demonstrated normal findings.

Discussion

The heel blood drawing procedure rarely complicated. For avoiding complications, this process must be the done by the specialists from the right anatomic region in sterile conditions. Also, the depth of penetration and puncture site selection are two important factors in preventing puncture-related osteo-myelitis. Current guidelines for these important factors of heel stick blood sampling are based on a study by Blumenfeld et al.[3]. We have not to forget that, the possible complications should bring on severe morbidityand mortality. Our patient was complicated with arthritis and sof tissue infection.

Osteomyelitis and arthritis are commoner in young children than in older children and adults, peaking at around the age of 3 years for osteomyelitis and 2 years for septic arthritis[4]. When suspected, imaging techniques used in association with blood and tissue cultures are the most reliable diagnostic tests. Antimicrobial treatment should be administered for 3-4 weeks, initially intravenously, later switching to oral medication. Surgery is indicated to drain acute abscesses or when no improvement is achieved following antibiotic treatment[5]. The various imaging techniques outlined above each play an individual role in the diagnostic work up of a neonate with suspected osteomyelitis and/or septic arthritis. They should be seen as complimentary tools

and any particular child will often have multiple investigations[6,7]. The sequelae of late diagnosis and delayed treatment may be devastating, and a high index of suspicion is always required, particularly in neonates where clinical findings are often nonspecific.

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