Role of Ultrasonography in Early Detection and Follow up of Hip Joint Infection in Neonates

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Abstract:

Introduction: Neonatal septic arthritis of the hip requires urgent attention and timely management, lest disabling life-long hip deformities may result. Diagnosis in neonates is often delayed due to the lack of an immune response and other life-threatening conditions especially in those admitted to the NICU. Ultrasonography of the neonatal hip provides visualization of the cartilaginous femoral head/trochanter mass, the cartilaginous and bony acetabulum, the hip capsule and labrum, as well as the position of the femoral head within the acetabulum. It is the standard imaging tool used to diagnose/exclude developmental dysplasia of the hip in neonates and young infants. Aim of work: Define the role of coronal hip ultrasound in the early detection and follow up of septic arthritis in neonates. Methods: Coronal ultrasonography was performed to assess neonatal hips suspicious of septic arthritis at the outpatient clinic between October 2010 and January 2019. Results: Forty-nine hips in 44 neonates (29 males and 15 females) had at least one positive finding on ultrasonography. Findings included newly-defined signs e.g. the presence of intraarticular "Crescent" (20 hips) or "Circular" (24 hips) echogenicity suggestive of effusion or synovial thickening; signs of complication and late presentation e.g. "Lateralization" (11 hips), "Pathological Dislocation" (8 hips) of the femoral head and partial head resorption and "Asphericity" (11 hips); improvement after medical or surgical treatment e.g. documented total resolution of all intraarticular echogenicities (6 hips). Conclusion: Ultrasonography is of great help in the early detection and follow up of septic arthritis in neonates.

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