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Orthopedic case

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A male newborn, from a medically supervised pregnancy, had obstetric ultrasounds showing a hypoplasia of the right leg bones and ipsilateral deviation of the foot. He was born at 38 weeks' gestation by vaginal delivery. On physical examination at birth, a medial deviation of the inferior third of the right leg and dorsiflexion of the right foot was noticed, with no other findings. The right leg x-ray showed a posteromedial bowing of the tibia (figure 1).

He had an excellent outcome with a conservative approach (figure 2).

What is your Diagnosis?

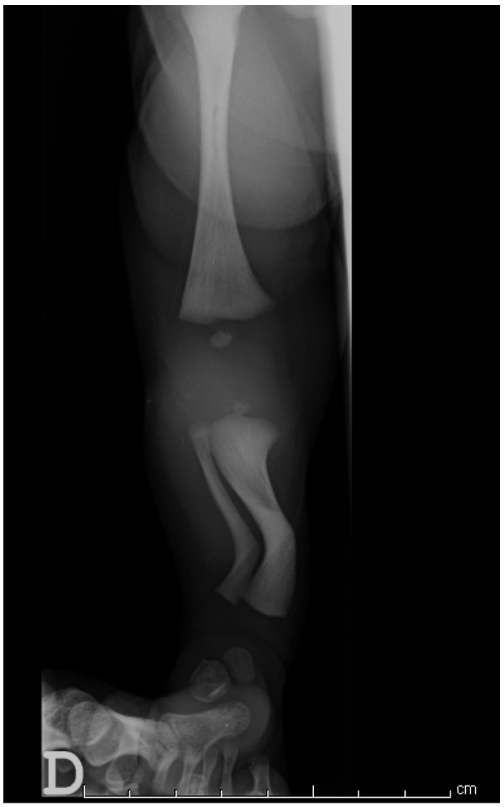

Figure 1 - Radiograph of the right leg (first day of life)

Figure 2 - Radiograph of the lower limbs (age eleven months)

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DIAGNOSIS

Congenital posteromedial bowing of the tibia (CPMBT)

DISCUSSION

Congenital deformities of the tibia are characterized by a bowing of the tibial diaphysis. According to the direction of the apex of the deformity, they can be classified in anterolateral, anteromedial and posteromedial.[1-3]

CPMBT is characterized by a calcaneal valgus deformity and is the most benign of all the congenital deformities of the tibia.[1-5] If there is a large angulation of the diaphysis, the deformity is usually obvious at birth.[1-3] However, if there is only a slight angulation, only a thorough examination of the lower limbs can identify it.[1] CPMBT is distinguishable from the anterolateral bowing due to the absence of pseudoarthrosis or association with type I Neurofibromatosis (featured in 50% of the latter) and distinguishable from the anteromedial bowing because it is not associated with the absence of fibula or lateral segments of the foot.[1,4]

The etiology of this deformity has not yet been clarified, however three hypotheses have been proposed: an abnormal positioning in the uterus; circulatory changes; embrionary changes.[1,4]

Usually CPMBT resolves spontaneously until the age of eight. Limb length discrepancy is the main complication. To avoid it, clinical and imagological surveillance is recommended until the skeletal maturity.[1,6]

A conservative approach is the first line in most cases. However, the choice of treatment varies with the degree of limb length discrepancy, age, target height and family/patient preference.[4]

This case pretends to enlighten the rarity of this skeletal deformities and its possible association with other diseases. It is fundamental that Neonatologists/Pediatricians are aware of these pathologies to assure an early and correct referral.

ABSTRACT

A term newborn, from a medically supervised pregnancy, had a hypoplasia of the right leg bones and ipsilateral deviation of the foot on the obstetric ultrasounds and presented at birth with a medial deviation of the inferior third of the right leg and dorsiflexion of the right foot. A right leg x-ray showed a congenital posteromedial bowing of the tibia (CPMBT). A favorable outcome was achieved with a conservative approach at eleven months old.

CPMBT is the most benign of all the congenital deformities of the tibia. Usually it is obvious at birth as a calcaneal valgus deformity. It tends to resolve spontaneously, thus a conservative approach is adopted in most cases. Limb length discrepancy is the main complication, and so follow-up is recommended until skeletal maturity.

Due to the rarity of these deformities, an early recognition and referral are fundamental.

Keywords: Bone disease; congenital; lower extremity deformities; tibia

RESUMO

Recém-nascido de termo, fruto de uma gestação vigiada, com hipoplasia dos ossos da perna direita e desvio do pé ipsilateral detetados nas ecografias obstétricas, apresenta ao nascimento desvio medial do terço inferior da perna direita e pé direito em dorsiflexão. A radiografia do membro inferior direito demonstrou angulação póstero-medial da tíbia, confirmando a suspeita clinica de deformidade congénita póstero-medial da tíbia (DCPMT).

Optou-se por tratamento conservador, com boa resposta aos onze meses de idade.

A DCPMT é a mais benigna das deformidades congénitas da tíbia. É habitualmente evidente ao nascimento como uma deformidade calcâneo-valga. Tende a resolver espontaneamente, sendo o tratamento conservador adotado na maioria dos casos. A dismetria dos membros é a principal complicação, pelo que está recomendada vigilância até maturidade esquelética.

Devido à raridade destas deformidades, o reconhecimento e referenciação precoces são fundamentais.

Palavras-chave: Deformidades congénitas dos membros inferiores; doença óssea; tíbia

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REFERÊNCIAS BIBLIOGRÁFICAS

1. Dias AIM, Pinheiro L, Almeida E. Deformidade póstero-medial congénita da tíbia: a propósito de 2 casos clínicos. Nascer e Crescer. 2013; 22:171-3.
2. Kaufman SD, Fagg JA, Jones S, Bell MJ, Saleh M, Fernandes JA. Limb lengthening in congenital posteromedial bow of the tibia. Strat Traum Limb Recon. 2012; 7:147–53.
3. Ferguson J, Wainwright A. Tibial bowing in children. Orthopaedics And Trauma. 2012; 27:30-41.
4. McCarthy J. Tibial bowing. Emedicine.medscape.com. Abril, 2015. (Accessed 5 june 2017). Available at: http://emedicine.medscape.com.
5. Shah H, Rousset M, Canavese F. Congenital pseudarthrosis of the tibia: Management and complications. Indian J Orthop. 2012; 4:616-26.
6. Shah HH, Doddabasappa SN, Joseph B. Congenital posteromedial bowing of the tibia: a retrospective analysis of growth abnormalities in the leg. J Pediatr Orthop B 2009; 18:120-8.

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