

## Isolated Unilateral Hypoplasia Of The Calcaneus

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NMRR Number : NMRR-15-

### INTRODUCTION:

Hypoplasia of the calcaneus is rarely encountered. Isolated, unilateral hypoplasia of the calcaneus is even more difficult to come by. So rare an anomaly the incidence in live birth has not been reported yet.

### Case Report:

A 3 days old baby boy was noted to have anomaly of the left foot. Family and obstetrical histories were unremarkable. There was no documented oligohydramnios.

On clinical examination, the baby was healthy and not dysmorphic looking. The left foot was plantigrade, in slight valgus and the left heel was deformed. There was no absent in digits or other developmental anomaly of the affected foot, nor any systemic anomaly noted. Radiograph taken during first week after birth showed a hypoplastic calcaneum compared to the opposite calcaneum (Fig. 2).

The baby boy was subsequently referred to a paediatric orthopaedician and was placed under serial observation. No active intervention was prescribed.

At the age of 6 months old, during further clinic review, it was noted that there was associated hypoplasia of the left calf muscles but no shortening of the affected lower limb. The individual length of both femur, tibia and foot appears to be same. Range of movement of individual joints were not limited. However, the individual functions of each groups of muscles of the lower limb could not be assessed as the infant has not started standing or walking yet.

### DISCUSSION:

Hypoplasia of the calcaneus is rarely encountered.<sup>1</sup> Mehlman et al described a case of bilateral calcanei hypoplasia with no other anomaly.<sup>2</sup> it was postulated that calcaneum hypoplasia was due to abnormal development of primary ossification centre or an abnormal chondrodrification of the affected calcaneum resulting from an abnormal apoptosis.<sup>1</sup>



**Figure 2 (right) and 3 (left):** Plain radiographs of right and left ankle, both lateral view, showing osteology of the foot and ankle at birth (right) and at the age of 6 months (left) respectively. Both radiographs demonstrate hypoplasia of the left calcaneum.

Theodorou et al, commented on unilateral calcaneal hypoplasia with absence of the fifth metatarsal, an ectrotic fifth toe, hypoplasia of the foot and tibia, facial abnormalities.<sup>1</sup> Nevertheless, the condition has not been associated with any recognizable hereditary syndrome.<sup>1</sup>

Isolated, unilateral hypoplasia of the calcaneum has so far not been reported. The incidence in live birth is not available in literature yet.

### CONCLUSION:

Based on this case report and the associated studies, the combination of data and pooling together of similar cases of calcaneum hypoplasia to benefit understand the condition and for the development of a more comprehensive treatment. Both incidence and progression of this condition can be compared and better studied.

### REFERENCES:

1. S. D. Theodorou, c. Bartsokas 1996, Unilateral hypoplasia of the calcaneus associated with other abnormalities. A new entity?, *Acta Orthopaedica Belgica*, Vol. 62-3, 1996.<sup>[1]</sup>
2. Mehlman c. T., dickens d. R. V., Menelaus m. Bilateral hypoplastic calcanei. *J. Ped. Orthop.*, 1991, 11, 384-385.<sup>[1]</sup>