

Intrauterine Fracture Union in Amniotic Band Syndrome: A Case Report

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Introduction:

Intrauterine fractures occurring in conjunction with amniotic band syndrome (ABS) present a complex medical scenario. Amniotic band syndrome is a congenital condition where strands of the amniotic sac become entangled with parts of the developing fetus, potentially leading to a variety of deformities or complications, including limb abnormalities. Here we present a rare case of intrauterine fracture union in a newborn.

Case Report:

Our patient a newborn of a 26-year-old primigravida, at 35 weeks 6 days gestation, presented with a history of leaking liquor for 15 hours. Upon delivery, the newborn displayed typical ABS features, including a circular band-like constriction over the chest with adequate chest expansion, left foot deformities with circumferential bands over the mid-calf, tibia varus deformity, congenital talipes equinovarus (CTEV) on the left leg, and complex syndactyly involving the second and third toes of the right foot.

Our team was called to investigate as the father of the child felt that the left leg was bent and wasn't straight. Plain radiographs done demonstrated a fracture of the left tibia in union which is extremely rare.

Metabolic bone disease workup was initiated, including tests for parathyroid hormone and Vitamin D levels, which were taken for both the child and mother. Notably, there was no family history of short stature, bone disease, or early neonatal deaths.

Case Discussion:

When an intrauterine fracture occurs in a fetus with amniotic band syndrome, it can further complicate the situation and may pose challenges for both prenatal management and postnatal care. Intrauterine fractures, though rare, can occur due to maternal trauma, osteogenesis imperfecta (OI), or other metabolic/structural abnormalities, necessitating heightened clinical awareness for timely diagnosis and management. The exact

mechanisms and timeline of intrauterine fracture union are not fully understood, as it is a relatively rare occurrence and difficult to study directly. However, fetal bones have the capacity to heal, and some evidence suggests that intrauterine fractures can undergo a healing process similar to that seen in postnatal fractures.

Several factors influence the union of intrauterine fractures: Gestational Age, severity of fracture, fetal movement & or presence of associated conditions.

Figure 1: X-ray of the left tibia showing a left tibia shaft fracture in union



Conclusion:

ABS presents diagnostic challenges necessitating heightened clinical suspicion and comprehensive evaluation and more so if it involves an intrauterine fracture. Early detection through antenatal monitoring and ultrasound imaging is pivotal for initiating timely interventions and optimizing patient outcomes. Multidisciplinary collaboration between surgeons, pediatricians, and orthopedic specialists is essential for tailored postnatal management, emphasizing the importance of a holistic approach in addressing the complexities associated with ABS.

References:

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