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Ischemic Volkmann Contracture from Intrauterine Compartment Syndrome

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Abstract
Neonatal compartment syndrome has distinct clinical features, which requires timely and appropriate intervention. Skin lesions present on the forearm should raise suspicion for underlying neonatal compartment syndrome and tissue ischemia. The spectrum of presentation varies and can range from local skin lesions to a swollen forearm to frank distal gangrene. Late referral to a surgeon at the time of Volkmann syndrome results in irreversible muscle damage and functional deformities. As such, it can lead to significant long-term consequences if not promptly evaluated and treated.

Introduction
- Neonatal compartment syndrome is a rare condition, described as a distinct entity in 1952 by Cauette-Laberge et al.
- The largest published case series reports only 24 infants over 20-years (1980-2000).
- We present a case of an infant noted, at birth, to have skin lesions of the antecubital and forearm areas with decreased hand movement.

Case Report
- This is a 4250g large for gestational age female born at 38 weeks and 2 days.
- Referral to a tertiary care facility for a pediatric hand surgery evaluation on day 6 of life.
- Dorsal aspect of right forearm measuring 2 x 3 cm.
- Fingertips had delayed capillary refill and pale color.
- Right wrist drop and developing contracture.
- The authors declare that there is no conflict of interest.
- The authors would like to acknowledge the multidisciplinary team at Lehigh Valley Reilly Children’s Hospital. We would like to acknowledge the child and her family for providing consent for the publication of this report.

Clinical Course
- Admitted to neonatal intensive care unit for suspected soft tissue infection of the arm secondary to infected aplasia cutis congenita, thus initiated on IV antibiotics.
- Evaluated for possible brachial plexus injury.
- Diagnosis of Volkmann ischemic contracture at two weeks of life.
- Dorsal compartment release at three weeks of life.
- Significant functional recovery at three months of life.

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CONFLICT OF INTEREST
The authors declare that there is no conflict of interest.

REFERENCES

DAY 6 OF LIFE
- Physical exam noted an active infant with limited movement of the right arm and decreased palmar grasp.
- Positional preference of wrist flexion, elbow extension, and mild pronation favoring Erb position.
- Fingertips had delayed capillary refill and pale color.
- Doppler examination did not reveal vascular occlusion.

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