

Deep Vein Thrombosis Secondary to Early Onset Sepsis in a Neonate

A term female newborn with birthweight of 2.7 kg delivered normally, was admitted for transient neonatal respiratory distress and maternal history suggestive of chorioamnionitis. At 28 hours of life, baby's left lower limb turned edematous and bluishish-gray till 5 cm above ankle which gradually progressed over next 12 hours (**Fig. 1**). Investigations revealed a C-reactive protein of 9 mg/dL, Immature to total neutrophil ratio 0.4 and total neutrophil count of $1800/\text{mm}^3$ suggestive of positive sepsis screen. Doppler ultrasound documented a thrombosis of the ileo-femoral segment. At 48 hours of life, she had features of disseminated intravascular coagulation with Prothrombin time of 44 s (control 13 s), activated partial thromboplastin time of 56 s (control 34 s), platelet count of $43 \times 10^9/\text{L}$ and fibrinogen level of 50 mg/dL (normal 150-250 mg/dL). Blood Culture showed growth of coagulase negative staphylococcus. The infant was managed symptomatically, but she died at 65 hours of life.

Neonates have the highest risk for pathologic thrombosis among pediatric patients [1]. The most important risk factors are iatrogenic factors, including indwelling umbilical catheters or central catheters. Other risk factors include asphyxia, dehydration, sepsis, cardiac disease, respiratory distress syndrome (RDS), disseminated intravascular coagulation, congenital thrombophilia (*i.e.*, protein C or protein S deficiency), maternal diabetes mellitus, and passive transfer of maternal antiphospholipid antibodies [2]. Neonatal thrombotic events are often reported in low birth weight preterm neonates [3]. Neonates with sepsis develop an acquired pro-thrombotic state due to increased consumption of already limited supplies of coagulation inhibitors. Ongoing consumption of coagulation factors and platelets results in microcirculatory thrombosis, likely contributes to sepsis-induced multi-organ failure and death [4]. When to treat thrombosis in neonates is a challenging question for



FIG. 1 Bluish-gray discoloration of left lower limb. (See color image at website)

everybody involved in the care of these infants. Since withholding anticoagulation is an equally active decision as commencing treatment, the individual risk/benefit ratio has to be carefully considered [4].

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REFERENCES

1. Saxonhouse MA. Thrombosis in the neonatal intensive care unit. *Clin Perinatol.* 2015;42:651-73.
2. Kim SS, Park IS, Hong HS. Neonatal arterial thromboembolism and limb loss following respiratory distress syndrome: Case report. *Arch Argent Pediatr.* 2015;113:e157-60.
3. Van Elteren HA, Veldt HS, Te Pas AB, Roest AA, Smiers FJ, Kollen WJ, *et al.* Management and outcome in 32 neonates with thrombotic events. *Int J Pediatr.* 2011;2011:217564.
4. Meadow W, Frain L, Ren Y, Lee G, Soneji S, Lantos J. Serial assessment of mortality in the neonatal intensive care unit by algorithm and intuition: certainty, uncertainty, and informed consent. *Pediatrics.* 2002;109:878-86.