

Image: Identifying Malposition of Umbilical Venous Catheter Using Lateral Film

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ABSTRACT

The umbilical venous catheters (UVC) are frequently used in premature infants for intravenous access in the early postnatal period. The position of these catheters is typically verified by thoraco-abdominal radiographs, usually in the anterior-posterior view. In this case, we highlight the importance of obtaining a lateral image when a malposition is suspected.

Keywords: Congenital vascular malformation, Erroneous catheter insertion, Intrahepatic portosystemic shunts, Lateral film, Malposition, Newborn, Umbilical venous catheter.

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CASE

We inserted an umbilical venous catheter (UVC) in a premature infant born at a gestational age of 33 weeks and a birth weight of 1530 grams. The length of insertion of this UVC was estimated using a well-established method $[(3 \times \text{weight in kilograms} + 9)/2] + 2$,¹ and a thoraco-abdominal radiograph [antero-posterior (AP), view] was obtained for confirming correct catheter placement. Interestingly, the UVC showed an unusual coiled-up track in the hepatic region (Fig. 1A). In addition to erroneous insertion, the possibility of congenital hepatic vascular abnormalities with intrahepatic portosystemic shunts came to mind.² Fortunately, a lateral radiograph (Fig. 1B) showed a simpler UVC track with only a single turn. Taken together, the findings in the AP view were interpreted as favoring erroneous insertion of the catheter over congenital anomalies. The line was safely removed and the subsequent clinical course of the infant was uneventful. No hepatomegaly or abnormalities in liver function/

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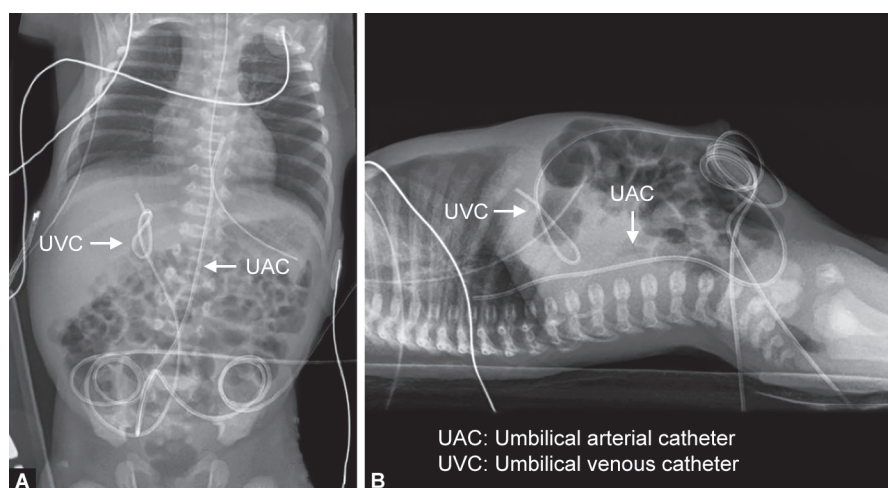
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hematological laboratory panels were noted. These images reiterate the importance of obtaining lateral radiographs when UVCs show unusual tracks in AP views.



Figs 1A and B: (A) A thoraco-abdominal radiograph (antero-posterior view) of a premature infant showed an umbilical venous catheter forming an unusual coil in the hepatic region. The track of the umbilical arterial catheter was as expected; (B) A lateral radiograph from the same infant. The track of the umbilical venous catheter showed only a single turn. The line was safely removed

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