

CASE IMAGE

The strange route of an umbilical venous catheter


Question

A preterm male infant born by C-section at 29 weeks of gestational age because of severe intra-uterine growth restriction was



Fig. 1 Radiography showing the atypical pattern of the umbilical venous catheter.

admitted to our unit to receive the necessary care and non-invasive respiratory support. The patient underwent umbilical venous catheter placement (one vein and two arteries were seen on cord inspection) with easy advancement of the catheter, but needed an unusually long insertion of the device. The desired cavo-atrial position of the tip was confirmed by radiography, which however showed an unusual pattern of the catheter (Fig. 1) that, after entering the abdomen, descended to the right pelvis and then reached the heart passing through the median abdomen. What happened? (Answer on page ••)

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The strange route of an umbilical venous catheter

Answer

The pattern was confirmed by echographic evaluation showing the catheter reaching the heart through the whole inferior vena cava (Fig. 2) without evidence of ductus venosus patency. The umbilical venous catheter passed through the right internal iliac vein (IIV) and then arrived to the heart passing through the inferior vena cava bypassing the liver. The patient had no other cardiovascular abnormalities on clinical and imaging evaluations.

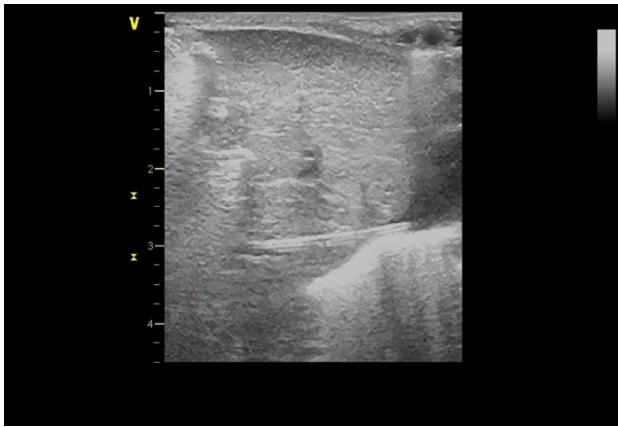


Fig. 2 Ultrasound showing the catheter reaching the heart passing through the whole inferior vena cava.

This is a rare case of extrahepatic insertion of the umbilical vein in the right IIV, different to the previously reported cases of insertion in the left IIV¹⁻⁴ or umbilical vein bifurcation, with a suggested origin consequent to a resorption in early fetal life of both umbilical veins rather than only the right one.¹ This anomaly has possible prenatal diagnosis³ and syndromic associations.¹

A consent for image publication was obtained from the child's parents.

Acknowledgement

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References

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