A 9-month-old, 6.6-kg, male child with biliary atresia presented for an orthotopic liver transplant. Anesthetic induction, endotracheal intubation, and arterial catheter insertion proceeded uneventfully. Two attempts were required to place a right internal jugular catheter by using ultrasound guidance; although the first attempt appeared technically correct, that attempt was aborted due to scant blood return from the finder needle.

During surgery, the patient experienced a 4 to 5 cm H₂O increase in peak inspiratory pressures as well as sustained hypotension and anemia despite administration of blood products and vasoactive medications. Blood loss in the operative field appeared limited and inconsistent with the observed hypotension. The figure and video (see Supplemental Digital Content 1, http://links.lww.com/Aln/B17) illustrate an inverted diaphragm with the native liver retracted (fig. A, arrow); the diaphragm bulged in an abnormal caudal direction during inspiration. An inverted diaphragm is abnormal, as shown by the drawing (fig. B) indicating normal and abnormal positions during respiration, with abnormal being the case when a supradiaphragmatic mass effect is present. The surgeons evacuated 280 ml of blood from the thorax and repaired the right subclavian artery after the transplant procedure. The patient recovered fully and without long-term sequelae noted at a 3-month follow-up visit.

Inversion of a hemidiaphragm should raise suspicion of a supradiaphragmatic mass effect, such as pleural effusion, tension pneumothorax, or massive hemothorax. In this case, vascular injury occurred likely during central catheter insertion. Unexplained hypotension with no apparent blood loss in the face of the abnormal bulge of the diaphragm suggests hematoma as the cause of the supradiaphragmatic mass effect. Early (occurring within 24 h after insertion) central catheter complications include pneumothorax, hemothorax, cardiac tamponade, catheter leak, dysrhythmia, hydrothorax, and death.

Competing Interests
The authors declare no competing interests.

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