Common complications following ventriculopleural shunt placement include pneumothoraces and pleural effusion. We describe a previously unreported site of distal shunt catheter migration in a 10-year-old boy with a history of hydrocephalus secondary to intraventricular hemorrhage. This patient underwent numerous shunt revisions early in life, with the eventual placement of a ventriculopleural shunt due to insufficient peritoneal cavity absorption. The pleural entry site was at the seventh intercostal space, posterior to the midaxillary line. No purse-string suture was used at the pleural entry site. The patient did well for 25 months, with evidence of good distal shunt placement on x-ray films (Fig. 1A). He then presented to his local emergency department with chest wall edema. After a diagnosis of local cellulitis, he was unsuccessfully treated with oral antibiotics, prompting his return. A head computed tomography (CT) scan matched his baseline study, but a shunt series revealed that the distal catheter tip had migrated between the ribs and into the chest wall, which accounted for the focal area of swelling (confirmed with a CT scan of the chest; Fig. 1B–D). This was treated as a shunt infection, with removal of the device and placement of a ventriculostomy, and intravenous antibiotics were administered prior to shunt reinsertion. The area of edema resolved after surgery. After ventriculostomy drainage, a ventriculopleural shunt was inserted into the contralateral pleural space, with good results at 1 year. Possible mechanisms leading to this migration included the dynamic actions of the heart or diaphragm, which were near the site of chest wall reentry, or it is possible that the tube may have eroded its way between the ribs from the patient’s repetitive rocking motion. We do not believe that a purse-string suture would have prevented this migration; the pleural exit site was different from the entry site. Although it seems to be very rare, the neurosurgeon should be aware of such a complication following ventriculopleural shunt placement.

References