A 5-year-old-boy with short bowel syndrome presented at the paediatric emergency department with a history of one day’s high-grade fever. Clinical examination did not reveal a specific focus. Since he had a central venous catheter (CVC) via the right internal jugular vein for partial parenteral nutrition, he was admitted for suspected central line sepsis and started on intravenous antibiotics.

After one day the condition of the patient and the inflammatory markers improved. The blood culture was positive for Klebsiella Pneumoniae. On day 2 of inpatient care, the patient developed facial, neck and upper limb oedema, vein distention in the upper chest and shortness of breath suggestive of superior vena cava (SVC) syndrome. CT-angiography of the chest confirmed this diagnosis demonstrating a stenosis of the SVC (lumen diameter 1.4 mm, see Figure 1), adjacent thrombosis and multiple collateral veins draining towards an enlarged vena azygos.

The patient was treated with therapeutic anticoagulation and the CVC was removed five days later.

Central line associated bloodstream infections, thrombotic occlusion and CVC related thrombosis are known complications of long-standing CVCs.

Learn more about the medical management of CVC related complications:
ESPGHAN/ESPEN/ESPR/CSPEN guidelines on paediatric parenteral nutrition: Complications
www.clinicalnutritionjournal.com/article/S0261-5614(18)31175-0/pdf
Figure 1.
Stenosis of superior vena cava (SVC), lumen diameter 1.4 mm

Figure 2.
Normal anatomy. Abbreviations:
RPA, right pulmonary artery; SVC, superior vena cava; AscA, ascending aorta; MPA, main pulmonary artery