A 56-year-old man presented with a 2-year history of dysphagia.
He was diagnosed with a middle thoracic oesophageal squamous cell carcinoma by both a gastroscopy and a biopsy.
A chest computed tomography (CT) scan showed an enlarged azygos vein (a diameter of 2.5 cm) that was a continuation of the IVC (Fig.1a, b).
A CT scan of the abdomen showed a defect in the suprarenal segment of the inferior vena cava and direct drainage of the hepatic vein into the right atrium.
After consultation with the thoracic surgery department clinicians and the anaesthesiology department, we decided to perform a McKeown oesophagectomy.
The patient was anaesthetised with a double-lumen tube and underwent a standard posterolateral thoracotomy by traditional open surgery.
We first performed the jugular and femoral vein percutaneous puncture to create a veno-venous bypass and then connected the pressure sensor system to the monitor.
The monitor displayed the real-time pressure value of the jugular vein and the femoral vein.
Macroscopically, the diameter of the azygos arch was approximately 2.5 cm (Fig.1c), and the superior edge of the tumour adhered tightly to the arch of the azygos vein.
When the arch of the azygos vein was pulled with a rubber hose to dissociate it from the carcinoma, the monitor showed that the femoral vein pressure increased to 52 mmH2O; the pressure returned to a normal value when we opened the bypass between the femoral vein and the jugular vein (Fig.2).
The surgery was performed smoothly, without injury to the azygos vein, and the postoperative recovery was uneventful.
The pathology of the resected specimen showed a poorly differentiated squamous cell carcinoma and no evidence of malignancy in 15 of the lymph nodes.
After 5 months of follow-up, the patient was asymptomatic, with no evidence of recurrent disease either clinically or on CT.