A 33-year-old female who was involved in a motor-vehicle accident was admitted to the intensive care unit with diffuse cerebral injury, multiple cervical fractures, right sided fracture of the femur and a left sided crural fracture. A triple lumen central venous catheter (CVC) was inserted into the left femoral vein for treatment with vasopressors for haemodynamic support. Only one attempt at insertion was necessary and performed by an experienced intensive care consultant. All three lumen were easily flushed with normal saline without resistance. It was not possible to aspirate blood from the distal lumen.

On the third day of admission lab results showed a decrease in haemoglobin levels. Ultrasound of the abdomen showed free fluid collections. A CT-scan of the abdomen revealed intra-abdominal leakage of contrast infused through the CVC (figure 1). The CVC was removed and a new CVC was inserted in the contra-lateral femoral vein. The patient recovered to a Glasgow Coma Scale (GCS) of 4-4-1 and was discharged from the ICU several days later.

Central venous catheterization can lead to several kinds of complications mostly divided into infectious, thrombotic and mechanical. The femoral CVC is known to have the highest incidence of mechanical complications [1]. The number of attempts to place the CVC is an important risk factor for these complications [2].

The most frequent major mechanical complication of femoral venous catheterization is a femoral or retroperitoneal haematoma, occurring in up to 1.3% of cases [3]. Although introduction into the abdominal cavity of the CVC is rare, it has been reported in the past. These patients usually have some signs or symptoms alerting the physician to a malplacement. Such a tense, distended abdomen with an intra-abdominal pressure [4,5].

This case shows that despite an easy placement of the CVC in a single attempt by an experienced physician, the procedure can still be complicated by a perforation into the abdominal cavity. Moreover, our patient had no clear signs or symptoms alerting the physicians to a misplacement. The misplacement was discovered by accident. The only sign was not being able to aspirate blood from one lumen. This was initially attributed to

**Unusual central venous catheter complication without clinical symptoms**

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**Figure 1.** CT-scan with contrast leakage from the femoral CVC tip into the abdominal cavity. Arrow shows the tip of the CVC.
the placement of the lumen against the vessel wall because of the ease of the procedure and effortless infusion of saline.

Clinicians should be aware of malplacement of a CVC if unable to aspirate blood through the lumen, especially in a femoral CVC, because of the known higher incident rate for mechanical complications.

References

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