

Clues in the Drain

ANKUR VERMA*, POOJA SINGH†, SHUBHASHISH BISWAS*, TARUN TYAGI‡, ANKIT SHARMA‡, ABINASH PANIGRAHI‡, SURENDER KUMAR DABAS#

Dear Sir,

A 64-year-old male presented with hoarseness of voice for past 9 months. Direct laryngoscopy showed that the left vocal cord had a proliferative growth was extending into the subglottis. The left vocal cord was fixed. The biopsy of this lesion was suggestive of carcinoma larynx. He was planned for total laryngectomy and bilateral neck dissection under general anesthesia. His past history was notable for coronary artery diseases for which he had undergone coronary angioplasty. He had a stent in left anterior descending artery, an ejection fraction of 35%-40% and a pacemaker was *in situ*. Prior to the surgery, central venous access was established by inserting a right subclavian line by infraclavicular approach as per standard protocol¹. The subclavian venous access had been confirmed by a flash of blood and a nonpulsatile drip of blood upon removing the needle, prior to inserting the catheter. A check radiograph was done after the procedure which confirmed the correct position of the line (Fig. 1).

The surgery was uneventful and after surgery, the anesthesia was reversed and the patient was breathing spontaneously from the tracheostomy tube. On postoperative day 1, the patient complained of swelling in the neck which was present diffusely around the surgical site and extending towards the chest. The surgeons noted serosanguineous discharge from the drain placed at the surgical site in the neck. The discharge continued till the next day and the surgeons were not sure of the cause. Accordingly, a surgical re-exploration was planned. The patient was shifted to the operating



Figure 1. Initial check radiograph showing appropriately positioned subclavian venous catheter (white arrow).

room and general anesthesia was being induced. The anesthetist who was administering the anesthesia, noted that immediately after injecting propofol, a milky white fluid was observed in the drain. Suspecting the obvious, the surgery was put on hold and a neck radiograph was ordered immediately. The radiograph revealed that the central line had malpositioned and its tip was seen at the level of clavicle in the radiograph, probably lying in the subcutaneous space (Fig. 2). As a consequence of this, intravenous fluid being given to the patient had been leaking into surrounding tissues – the same was appearing in the surgical drain as well as causing local edema. There was no evidence of any mediastinal collection or pneumothorax or hydrothorax. The central line was promptly removed and the surgery was canceled. By the next day, the swelling had subsided and the drain showed minimal output. The patient was discharged after 2 days.

Subclavian vein catheterization is a common procedure performed often for perioperative fluid management, giving chemotherapy, total parenteral nutrition or long-term antibiotics. Complications in subclavian vein catheterization are not uncommon and around 10% cases can have complications². The complications can be immediate such as catheter misplacement, cardiac arrhythmia, arterial puncture, pneumothorax, pneumomediastinum, bleeding, mediastinal hematoma,

*Principal Consultant

†Consultant

‡Associate Consultant

Dept. of Onco-Anesthesiology

#Vice-Chairman and HOD

Dept. of Surgical Oncology and Robotic Surgery

BLK-Max Super Speciality Hospital, Rajendra Place, New Delhi, India

Address for correspondence

Dr Pooja Singh

Consultant

Dept. of Onco-Anesthesiology

BLK-Max Super Speciality Hospital, Rajendra Place, New Delhi, India

E-mail: dr.pooja260887@gmail.com

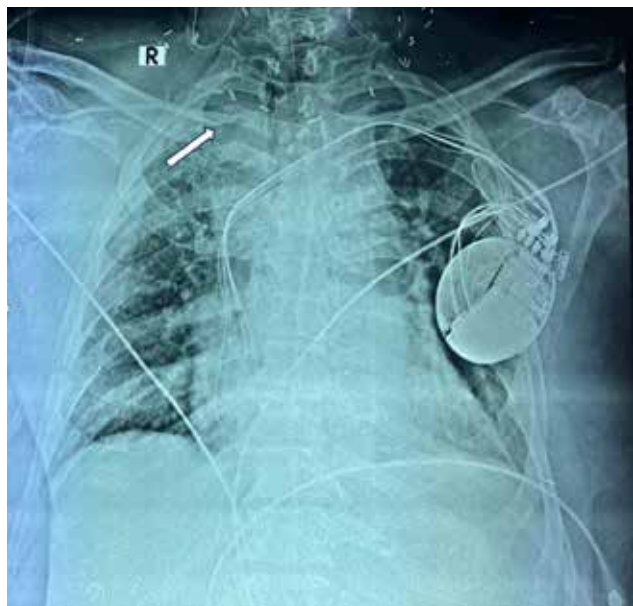


Figure 2. Radiograph taken on postoperative day 2 after noting intravenous propofol appearing in surgical drain showing catheter malposition (*white arrow*).

guidewire or catheter entanglement or entrapment apart from several others^{3,4}. Delayed complications include infections and catheter blockade due to fibrin sheath, thrombosis or catheter fracture. Misplacement was the most common complication in one study, seen in 6% of cases².

The misplacement related complications are usually noted immediately and are almost always detectable by

performing a check radiograph. In our case, there does not appear to be an immediate misplacement as the catheter was working normally and the radiograph was also showing appropriate placement. The malposition of the catheter appears to have occurred after surgery. Under normal circumstances, swelling around the catheter insertion site would have been a dead giveaway of leakage but in our case since the surgical site was nearby and the surgical drain was showing a collection, a surgical complication was suspected. The chance noting of the propofol appearing in the drain by the anesthetist averted an unnecessary surgery. Delayed malposition of subclavian vein catheter appears to a rare complication about which the anesthetists should be aware.

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