

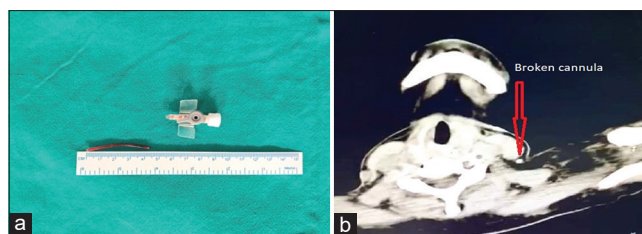
## A broken intravenous cannula in external jugular vein: A rare catastrophe managed timely

Sir,

Peripheral intravenous cannulation (PIVC) is an ordinary invasive procedure, used for the infusion of intravenous fluids, medications and sampling of blood in health care centres.<sup>[1]</sup> In an emergency, where rapid resuscitation is required or PIVC is difficult, external jugular vein (EJV) cannulation is preferred because of its anatomy and superficial location.<sup>[2]</sup> EJV in adults is usually cannulated with a 16 gauge (G)/18G intravenous cannula with a three-way stopcock attached to prevent air migration.<sup>[3]</sup> PIVC can cause thrombophlebitis, infection, haematoma, and catheter fracture leading to a retained intravenous foreign body.<sup>[4]</sup>

We hereby report a 30-year-old female, gravida 2, parity 1, living 1 (G2P1L1), with nine weeks period of gestation, spontaneous expulsion of the foetus and vaginal bleeding. She was semiconscious with grade 2 shock and was immediately shifted to the operation theatre. Standard monitors were attached and an intravenous line was secured in the left EJV with a 16G cannula. Under general anaesthesia, abdominal hysterectomy was done for placenta accreta. Intraoperatively, the patient received 2 litres of crystalloids, 4 units of packed red blood cells, 4 units of fresh frozen plasma and noradrenaline infusion which was later titrated and stopped by the end of the surgery. She was electively ventilated for 48 hours in a state of shock with pulmonary oedema. On postoperative day 2, the swelling was noted at the site of the EJV cannula on the left anterior aspect of the neck. While withdrawing the cannula, it was noticed that it was broken at its hub with a long piece left inside the vein [Figure 1a]. On examination, a cord-like object was palpable under the skin.

Emergency ultrasound revealed an echogenic line in the superficial plane and non-contrast computed tomography (NCCT) neck identified a foreign body in the left side of the neck extending from C2 to C6 vertebral level in the subcutaneous and muscular planes [Figure 1b]. A 4.5 cm plastic tubing identified as a piece of the cannula was retrieved superficially from the subcutaneous plane and muscle by the



**Figure 1:** (a) Fractured cannula at its hub. The long piece of catheter was retrieved from the neck vein. (b) Axial section of NCCT neck identified a foreign body (red arrow) on left side of neck extending from C2 to C6 vertebral level in the subcutaneous and muscular plane

cardiothoracic and vascular surgical team under general anaesthesia. During removal, a clot was seen at the tip of the cannula which might have prevented it from migrating into the vascular system. The procedure was uneventful and the trachea was extubated the next day.

The reports related to a broken intravenous cannula in the literature are related to central venous catheterisation (CVC). The first case of intravenous embolisation of catheter fragments from a CVC was reported in 1954.<sup>[4]</sup> To the best of our knowledge, there are very few reports regarding the embolism of fractured peripheral intravenous cannula in the literature.

The reasons for the broken cannula were repeated attempts with the same cannula leading to structural failure, inferior quality of cannula, inadequate expertise, prolonged PIVC, frequent movement of the cannula site, repeated touching by the patient due to pain and irritation, reinsertion of guide needle during intravenous cannulation into the blood vessel and ignorance about the size of cannula used.<sup>[1]</sup> We conclude that repeated attempts at cannula insertion and neck movements of the patient probably resulted in the broken intravenous cannula in the EJV.

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### Conflicts of interest

There are no conflicts of interest.

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