

Knotted J tip guidewire during central venous catheterisation in an infant

Sir,

A 66-day-old infant with biliary atresia was posted for the Kasai procedure. The child was taken up in a pre-warmed operation room and standard monitors (electrocardiogram, pulse oximeter, non-invasive blood pressure) were attached. Induction was done, with intravenous thiopentone 6 mg/kg, fentanyl 2 µg/kg, atracurium 0.5 mg/kg, and the trachea was intubated with an uncuffed 3.5 mm endotracheal tube (ETT). Capnography and temperature monitoring were also done. Anaesthesia was maintained with oxygen, air and sevoflurane [minimum alveolar concentration (MAC)₁] using the paediatric closed circuit.

Under all aseptic precautions, the patient was prepared and positioned for central venous line placement in a 15° Trendelenburg position. Jugular venous cannulation was attempted under ultrasonographic guidance and a linear probe of 25 mm footprint was used for this purpose. The right internal jugular vein was identified and punctured with a 20-gauge needle, the guidewire was inserted, and the position of the guidewire was confirmed in the jugular vein with ultrasound in a short axis view. However, the long axis view of the vein with guidewire could not be obtained due to the short neck of the infant.

There was difficulty in inserting the guidewire beyond 4 cm,^[1] and hence we decided to redo the procedure. When we started pulling out the guidewire, we could bring out approximately 2.5 cm of it and the distal 1.5 cm remained inside. Another attempt of retrieving the guidewire was made but

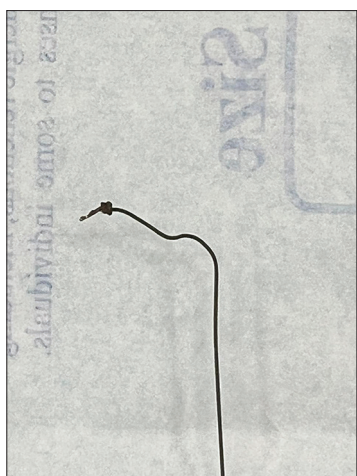


Figure 1: The entangled knot in the guidewire

failed as it remained stuck inside the vein. We then involved a paediatric surgeon, who gradually pulled the wire, and the vein along with the entangled wire was pulled out of the insertion point. The surgeon ligated this vessel and removed the guidewire to visualise a knot at the tip of the wire [Figure 1]. Probably the guidewire had got stuck in a small vein above the jugular vein with a knot formation which resulted in non-advancement of it further in the jugular vein as well as difficulty in withdrawing it fully out of the point of insertion.

Central venous cannulation complications that have been recorded in the past include arterial puncture (5–9%), haematoma (<2%), haemothorax (<1%), and pneumothorax (1–2%).^[2-4] Knotting and entanglement of multiple central venous catheters have been reported.^[5,6] It was thus an unusual incidence of knot formation in the tip of the guidewire in our case. This means that any hindrance in the smooth insertion of the guidewire should prompt the anaesthesiologist to stop proceeding further and first figure out the cause of the issue before dilating the vessel.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the legal guardian has given his consent for images and other clinical information to be reported in the journal. The guardian understands that names and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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