# Preplacement check of complete central venous pressure catheter assembly: Should it be made routine?

Sir,
Ultrasound has greatly enhanced the visualization and eventual cannulation of central veins. However, it is often seen that despite successful ultrasound guided puncture and a free backflow of blood, threading of the guide wire into the vein may still fail. This has been attributed to the steep angle of needle/guide wire entry into the vein.[1] We present a unique instance where equipment related failure presented with similar finding (inability to pass the guide wire into a vein) that could only be recognized after multiple failed attempts of venous cannulation.

An ultrasound guided standard triple lumen central venous pressure (CVP) catheter placement was attempted on the right internal jugular vein (IJV) of a 23-year-old patient planned for right hepatectomy. Once IJV was identified, and free flow of blood aspirated, guidewire was introduced by the side port of the valve needle. However, obstruction was encountered after a few centimeters. We tried passing the guidewire via the aspiration port, but again we failed. Finally, the patient was cannulated with a new CVP catheter set of the same company.

On examining the first set, we found that the guide wire could not be negotiated beyond the junction of the plastic port and the metallic needle [Figure 1]. On insertion of the guide wire from the distal (puncturing) end of the needle, the guide wire could not be threaded beyond the metallic end of the needle to the plastic hub [Figure 1]. The defect could not be appreciated by naked eye, but we assumed it to be because of a narrow inlet of the metallic needle relative to the guide wire (a possible manufacturing defect).
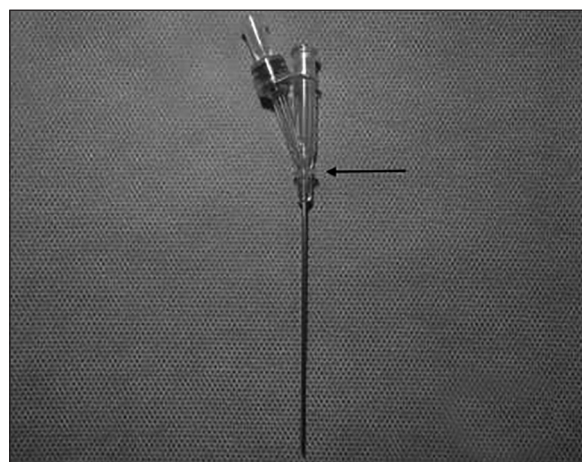
Figure 1: Central venous catheter set showing the site of obstruction (arrow)

As conventionally it is recommended to check the central venous catheters prior to insertion, we suggest such a directive should also be laid down for prior inspection of other equipment like needle and guide wire prior to insertion. Should we see it as an isolated rare case or should regular check of the CVP catheter also be done prior to insertion, as many a times inability to pass the guide wire is assumed to be due to operator related or to some inherent problem in the patient e.g., presence of thrombus or anatomical variation in the vessel lumen? Prior check of epidural catheter assembly has been advocated routinely.[2] Although the manufacturers have advised to verifying the patency of the lumen of the catheter by physiological saline, we feel a regular preplacement check of the needle/cannula for guide wire patency along with catheter patency maintaining strict asepsis would be beneficial.

We have made an effort to highlight the problem to the manufacturer who is yet to revert.

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Conflict of interest

There are no conflicts of interest.

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References

1. AIUM practice guideline for the use of ultrasound to guide vascular access procedures. J Ultrasound Med 2013;32:191-215.
2. Goswami D, Jain A, Vajifdar H. Malfunctioning catheter connector: An unusual and rare cause of epidural catheter blockade. J Anaesthesiol Clin Pharmacol 2011;27:566-7.

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