

## Chest radiograph in subclavian vein cannulation

Sir,

With great interest, I read the case report of Nataraj and Kumar,<sup>[1]</sup> but I would like to make an observation that post-procedure chest radiography in this case report was done with the aim and the learning point of excluding complication such as pneumothorax, to which the author has stressed upon in this article, but I think that the chest radiography is done primarily to ensure the proper position of the catheter tip and subsequent management of the patient rather than to look at the complications, such as pneumothorax which actually should not wait for the radiography.

Central venous cannulation is now common procedure in perioperative care, intensive care monitoring, for long-term hyperalimentation, and also for securing a central vein for rapid restoration of blood volume in a case of unexpected acute blood loss. Central venous catheters can be centrally or peripherally inserted.

The complications of central venous cannulation are numerous and include malpositioning, a known complication with the reported incidence ranging widely between less than 1% to more than 60%<sup>[2]</sup>, arterial puncture, pneumothorax, chylothorax, vein and nerve damage, infection, thrombosis, folding of the catheter, hemothorax, cardiac tamponade, air embolism, arrhythmia, and death.<sup>[3]</sup>

Although radioimaging is the gold standard for confirming the correct positioning of the CVC, there may be a delay. The radiographic incidence of central venous catheter malpositioning is low and that clinical use of malpositioned catheters is associated with few complications. However, determination of the catheter position by chest X-ray should be considered when mechanical complications cannot be excluded, aspiration of venous blood is not possible, or the catheter is intended for central venous pressure monitoring, high flow use, or infusion of local irritant drugs.<sup>[4]</sup> Various studies have stated that a check X-ray is unnecessary in an otherwise uncomplicated rethreading of a CVC over a guide wire.<sup>[5,6]</sup>

The use of ultrasound (USG) to guide insertion of CVC is controversial, with one report suggesting that USG guidance had no effect on the rate of complications or failures of subclavian vein catheterization. Hence,

insertion of CVC still can be regarded as a blind procedure that is guided by anatomical landmarks.

I appreciate that pneumothorax is a serious complication and the case report is interesting, but the emphasis should have been laid upon doing the X-ray for confirming the positioning of the CVP line and subsequent management of the patient rather than doing radiography with the aim of identifying complications of CVP line insertion. I would summarily suggest initial auscultation immediately after placement of CVP line for complications like pneumothorax, etc.

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