

A Simple Technique to Prevent Reverse Flow of Blood From Intravenous Line in Ipsilateral Arm with Noninvasive Blood Pressure Cuff

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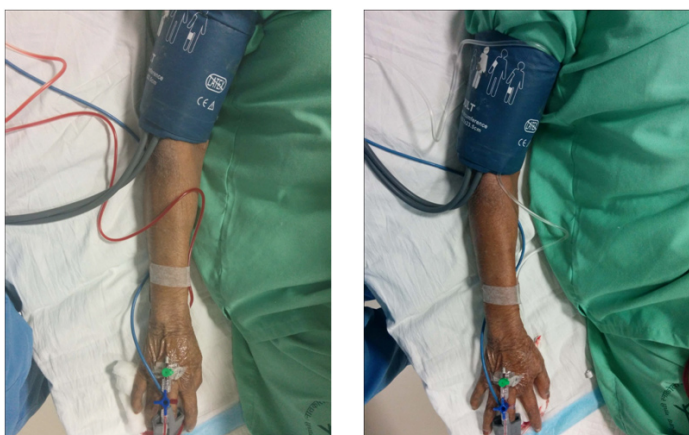
To
The Editor,

In clinical practice, many a times, the patient has intravenous infusion line *in situ* while the non-invasive blood pressure cuff is applied on the same arm for periodic blood pressure monitoring. However, sometimes the cuff is deliberately tied in the same arm with the intravenous line, like in instances of surgery on the other arm, axilla or breast. It is of common observation that while the arm cuff is being inflated to monitor the blood pressure, there is reverse blood flow from the intravenous line towards the infusion bottle/bag [Table/Fig-1]. Occasionally, the reverse blood flow is so intense it

reaches upto the infusion bag or bottle and colours the whole fluid red. Though there is no harm to the patient However, visualization of blood in the infusion line flowing in the reverse direction gives unpleasant feeling to the patient, attendants and the nursing staff.

We offer a simple and novel solution. While tying the blood pressure cuff in upper arm, the tubing of the infusion set may be passed through two folds of the cuff [Table/Fig-2]. If infusion tube is short, another extension tube may be added. When the cuff is inflated, there is no back flow of venous blood in the infusion line. During the cuff inflation, the pressure exerted by inflated cuff over the collapsible tubing of infusion set causes compression and total occlusion of the lumen and thereby prevents backflow of intravenous blood. We have used this technique in more than 100 patients and not encountered any adverse effect (eg. disconnection of cannula or extravasation of fluid at the cannula site).

This is our own experience. We have been practicing this simple technique, whenever required, to prevent reverse blood flow from the intravenous line and wish to disseminate this practice so that others may benefit. The technique is very simple to practice and is quite effective in prevention of reverse flow of blood from the venous line towards the infusion bag. However, a large scale prospective study is required to validate the method and ascertain its safety.



[Table/Fig-1]: Showing reverse flow of venous blood towards the infusion bag while blood pressure cuff is inflated

[Table/Fig-2]: The tubing of the infusion set is passed between two folds of cuff tied in the arm. Note, there is no reverse flow of venous blood on cuff inflation

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