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Editorial

Pre-procedural checking of needle and syringe assembly before puncturing internal jugular vein by landmark technique

Sir,

Central venous cannulation is a common procedure during emergency surgery for fluid therapy and inotropic treatment. Here we describe an unusual problem encountered during internal jugular vein (IJV) puncturing in spite of confirming its location with the help of seeker needle due to defective needle syringe assembly.

A 40 year old male patient posted for emergency laparotomy for upper gastrointestinal bleeding in our institution. After shifting the patient to operation theater table, all the routine monitors (ECG, NIBP and SPO_2) were attached and vital parameters were noted. As it was a major surgery, we planned to put a triple lumen central venous catheter (Certofix Trio V720, length 20 cm, 7 French, REF – 4163214, LOT – 2L23018501, B. Braun, Melsungen, Germany, Fig. 1) in right IJV by seldinger technique for central venous pressure (CVP) guided fluid replacement and intraoperative inotropes infusion if needed.

After induction of general anesthesia, patient was positioned for insertion of CVP catheter by classical anatomical landmark technique (central approach). Before insertion, we flushed all the ports of triple lumen catheter with heparinized saline. After locating the IJV with the help of seeker needle, IJV was punctured with the help of needle syringe assembly. It was felt that some vessel was punctured but we were unable to aspirate free flow of blood. We aspirated blood mixed with air. During this time we also ensured the tight fitting of CVP catheter syringe with specialized introducer needle as it could be a source of air leakage but needle syringe assembly was tightly fit. We attempted three times with changing the direction of needle but unable to get free flow of blood. Meanwhile we removed the needle syringe assembly and tried to relocate the IJV. This time also we were able to locate IJV at the same site and depth with seeker needle. Now again we tried to puncture the IJV with same needle assembly but unable to aspirate blood and the same thing happened again. We repeated three times the whole procedure again. Finally we checked the needle syringe assembly in heparinized saline in a bowel. We noticed that with the assembly we were not able to aspirate saline from the bowel. So we changed the CVP catheter set. At this time after flushing all the ports we also checked the needle syringe assembly .This new set was able to aspirate saline from the bowel. With this new set we again tried to locate the IJV with seeker needle but failed due to formation of subcutaneous hematoma at the puncture site. We did not execute the procedure initially with the help of ultrasound (USG) because it was in use in other OT. Lastly we decided to put new set of CVP catheter in the right subclavian vein with the help of USG. Subsequently the surgery was uneventful.

In this case scenario, there was defect at the junction of needle syringe assembly as we located IJV with seeker needle but unable to aspirate free flow of blood by faulty CVP set. We tried multiple times with defective CVP set which could be led to unnecessarily various complications [1,2] such as carotid artery puncture and pneumothorax. In our case patient developed subcutaneous hematoma. We recommend that we should check the whole needle syringe assembly before puncturing the vein because if patient develops complications we can miss it with this type of defect.

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Figure 1 Defective central venous catheter set.

Contribution details

	Contributor 1	Contributor 2	Contributor 3	Contributor 4
Concepts	✓			✓
Design	✓	✓		
Definition of intellectual content	✓		✓	
Literature search	✓	✓	✓	
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Experimental studies				
Data acquisition				
Data analysis				
Statistical analysis				
Manuscript preparation	✓	✓		✓
Manuscript editing	✓	✓		
Manuscript review	✓	✓	✓	
Guarantor	✓		✓	✓

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.egja.2015.11.007.

References

[1] Eisen LA, Narasimhan M, Berger JS, Mayo PH, Rosen MJ, Schneider RF. Mechanical complications of central venous catheters. J Intensive Care Med 2006;21:40–6.
[2] McGee DC, Gould MK. Preventing complications of central venous catheterization. N Engl J Med 2003;348:1123–33.

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