FOR DEBATE



Simple implantation is safe for patients with totally implantable venous access ports

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Dear Editor,

We read with great interest the manuscript of Becker F. and coworkers. This manuscript reports the advantages in terms of removal in the first 12 months of TIVAPs implanted with a new combined approach including surgery and the Seldinger technique [1].

We agree with the authors and the German scientific community that the cephalic vein approach represents the safest method to implant a TIVAP.

However, we have some criticisms about the manuscript that we would like to discuss with the authors.

We would like to first analyse the technique itself. Surgically, we have described this approach, and except for the pursestring suture that we perform with non-resorbable sutures (Prolene 5-0®), the technique is exactly the same [2]. At that point, the author, instead of incising the wall of the vein and introducing the catheter tip, used the Seldinger technique. Cannulation could be safely achieved surgically. Furthermore, the Seldinger technique is more traumatic and risky if used without ultrasound guidance.

In Fig. 1, after exposure of the vein, it appears that a clamp is positioned down toward the pursestring suture, and we are not able to understand how the Seldinger cannula can progress into the vein due to the risk of bleeding because the vein is clamped downstream and the blood continues to accumulate upstream. It may be better to clamp upstream of the vein, stopping the flow, and proceeding with the Seldinger cannula [2].

The authors aim to present the fastest and safest technique in the case of cephalic vein cut-down failure or subclavian

 vein puncture. In this case, to avoid changing the side of the vein of the patient, the authors proposed this technique. This technique is admirable, but the coracobrachial vein or axillary [3] or external jugular vein [4] can be approached from the same side and still under local anaesthesia. This is one of the major issues of this technique, and the majority of these patients (72.0%) undergo general anaesthesia for TIVAP implantation. This choice can be rationalized only if the TIVAP is implanted at the same time as the major oncological procedure is performed. If not, this procedure is questionable. This influences the quality of life of frail patients, adding a generic risk of general anaesthesia.

The author reported one puncture of the carotid artery and two cases of pneumothorax. This does not occur if the procedure is finished surgically [5].

Finally, this technique is innovative, and the aim is respectable because the rate of TIVAP removal after 1 year is not increased (5.6%), but the costs, risks, and trauma to patients are undoubtedly excessive compared to the results that can be achieved with safer and easier techniques. Furthermore, removal of TIVAP can be a consequence of further treatment after implantation and is not solely related to the technique used.

References

- Becker F, Wurche LA, Darscht M, Pascher A, Struecker B (2021)
 Totally implantable venous access port insertion via open Seldinger
 approach of the internal jugular vein-a retrospective risk stratification
 of 500 consecutive patients. Langenbeck's Arch Surg (Feb 7). https://
 doi.org/10.1007/s00423-021-02097-w
- Di Carlo I, Biffi R (2012) Totally implantable venous access devices. Springer-Verlag; Cap 6 pag 49-50.
- Di Carlo I, Puleo S (2001) A new technique for insertion of totally implantable venous access devices (TIVAD). Surgery 129:768–769. https://doi.org/10.1067/msy.2001.115351
- Di Carlo I, Barbagallo F, Toro A, Sofia M, Lombardo R, Cordio S (2005) External jugular vein cutdown approach, as a useful



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- alternative, supports the choice of the cephalic vein for totally implantable access device placement. Ann Surg Oncol 12:570–573. https://doi.org/10.1245/ASO.2005.04.028
- 5. Di Carlo I, Toro A (2012) Skin incision to implant the port: could this be the real reason to prefer the surgical cut down to implant a totally
- implantable venous access device? Ann Surg 255:e9. https://doi.org/ 10.1097/SLA.0b013e318250c8e3

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