

Commentary on “Insertion of Totally Implantable Central Venous Access Devices by Surgeons” – What Is the Role of Surgeons When Implanting a Totally Implantable Venous Access Device to Prevent Immediate Complications?

Adriana Toro, Gaetano Bertino¹, Annalisa Ardiri¹, Isidoro Di Carlo^{2,3}

Department of Surgery, Patti Hospital (ME), Patti; ¹Hepatology Unit, Department of Medical and Pediatric Sciences, University of Catania, Catania; ²Department of Surgical Sciences and Advanced Technologies “G.F. Ingrassia”, University of Catania, Catania, Italy; ³Department of General Surgery, Hamad General Hospital, Doha, Qatar

To the editor:

We have read with great interest the manuscript of An et al. [1], whose article focused on the safety of inserting a totally implantable central venous access device (TICVAD) by using a blind percutaneous approach. Although it is a method that has been used for many years and has been proven to be useful by many physicians familiar with this approach [2], risks remain.

We offer some comments about the present article. In the section “Procedure for the TICVAD insertion,” the authors wrote that the venous catheter was filled with about 10 mL of diluted heparin (50 IU/mL). Usually, the amount of saline mixed with heparin that can be placed in the catheter of a TICVAD cannot be more than 2 mL. Also, the proportion of the mixed solution of saline and heparin was 9:1, meaning that for each 9 mL of saline, 1 mL of heparin (5,000 IU) was added. Thus, each milliliter contained 500 IU of heparin [3]—not 50 IU, as written by the authors. In the same paragraph, the authors wrote that they checked the tip of the catheter after completing the procedure. The position of the catheter should be checked during the procedure to avoid having to perform a second procedure, particularly in cancer patients who are already in an especially delicate state.

In the RESULTS section, An et al. [1] differentiated the complications as early and late. This type of differentiation is not sufficiently precise. Generally, complications that appear within the

first 24 hours are defined as immediate, between 24 hours and 30 days after the procedure as early, and after 30 days as late [4]. This classification is very important because the majority of the complications that occur during the first 24 hours are strictly related to the operator or to technical failures. Using this classification, late complications (e.g., pinch-off [5]) are fundamental and usually present after several months. In the same section, the authors wrote about a complication they called “port migration.” Usually we hear of “catheter migration.” Perhaps the authors described port dislodgement as port migration [4]. This complication concerns a port that has been inserted into a subcutaneous space and is not well fixed to the fascia, causing it to become dislodged.

In the DISCUSSION section, the authors focused on the differences in the incidence of pneumothorax in relation to the practitioner (surgeon or radiologist) who performed blind cannulation of the subclavian vein. In 2015, it is inconceivable that cannulation of a central vessel is performed in a blind manner. The fact that these authors did not experience any cases of pneumothorax or hemothorax is not a valid justification to continue to perform this technique without using an ultrasonography (US)-guided approach, which is currently recommended worldwide. Also, in the DISCUSSION section, the authors described the internal jugular vein as the safest access point for positioning a TIVAD catheter. We believe that the safest access remains the cephalic vein using the cutdown technique [6]. This technique is absolutely free of risk and immediate complications and does not require US support. Also, unless a skin incision is needed to position the port [7], surgeons should attempt the cutdown technique.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

Correspondence to: Isidoro Di Carlo, M.D.

Department of Surgical Sciences, University of Catania, Cannizzaro Hospital, via Messina 826, 95126 Catania, Italy
Tel: +39-0957264863, Fax: +39-0957263020
E-mail: idicarlo@unict.it

© 2015 The Korean Society of Coloproctology

This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

REFERENCES

1. An H, Ryu CG, Jung EJ, Kang HJ, Paik JH, Yang JH, et al. Insertion of totally implantable central venous access devices by surgeons. *Ann Coloproctol* 2015;31:63-7.
2. Biffi R, Orsi F, Pozzi S, Maldivassi A, Radice D, Rotmensz N, et al. No impact of central venous insertion site on oncology patients' quality of life and psychological distress: a randomized three-arm trial. *Support Care Cancer* 2011;19:1573-80.
3. Di Carlo I, Cordio S, La Greca G, Privitera G, Russello D, Puleo S, et al. Totally implantable venous access devices implanted surgically: a retrospective study on early and late complications. *Arch Surg* 2001;136:1050-3.
4. Di Carlo I, Biffi R. *Totally implantable venous access devices*. Milan: Springer-Verlag; 2012.
5. di Carlo I, Fisichella P, Russello D, Puleo S, Latteri F. Catheter fracture and cardiac migration: a rare complication of totally implantable venous devices. *J Surg Oncol* 2000;73:172-3.
6. Di Carlo I, Barbagallo F, Toro A, Sofia M, Lombardo R, Cordio S. External jugular vein cutdown approach, as a useful alternative, supports the choice of the cephalic vein for totally implantable access device placement. *Ann Surg Oncol* 2005;12:570-3.
7. Di Carlo I, Toro A. 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* 2012;255:e9; author reply e10.