

## Do We Still Need Studies on the Value of the TIVAD for Cancer Patients?

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I read with interest the article by Singh and colleagues published online December 2013 in the *World Journal of Surgery* [1]. This prospective, nonrandomized, comparative study was based on the evaluation of the morbidity of chemotherapeutic drugs delivered via a totally implantable venous access device (TIVAD) versus peripheral intravenous access (PIVA).

The damaging effects of the infusion of chemotherapeutic drugs, along with the extension of the veins of the arm, has been well clarified [2]. One of the main goals of the TIVAD, according to its inventor [3], was to position the tip of the catheter in a large vein. The vena cava is the largest vein of human body and it perfectly prevents the sequelae of the chemotherapeutic drug, diluting it with great blood flow and consequently avoiding the effect on the small veins. In most studies in which the surgical approach is used, the narrow cephalic vein is not useful for catheter insertion, mainly because of previous infusion of chemotherapy drugs using PIVA.

The patient satisfaction results presented in Table 2 are good because only a few patients requested a second cycle of chemotherapy. However, patients demanding more chemotherapy usually begin to suffer from phlebitis and related symptoms after the first cycle; this is when use of a

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TIVAD becomes mandatory. As the authors wrote, some of the results of their study were based on the perceptions of the patients. They are perfectly right. In effect, the poorer group has never tried the TIVAD so their judgment is incomplete.

In the line 3 of the Table 3, the authors reported that only 42.5 % of patients believed that TIVAD accelerated the chemotherapeutic course. This value is debatable since it is from patients in a developing country; the information is not useful to developed countries in which use of the TIVAD has been the standard for many years now.

Finally, the conclusions of the article absolutely favor use of the TIVAD. However, this conclusion had already been reported extensively in the literature, and, in 2013, it seems unethical to subject poorer patients to PIVA, even in a developing country.

## References

- Singh KR, Agarwal G, Nanda G, Chand G, Mishra A, Agarwal A, Verma AK, Mishra SK, Goyal P (2014) Morbidity of chemotherapy administration and satisfaction in breast cancer patients: a comparative study of totally implantable venous access device (TIVAD) versus peripheral venous access usage. World J Surg 38:1–9. doi:10.1007/s00268-013-2378-x
- Di Carlo I, Cordio S, La Greca G, Privitera G, Russello D, Puleo S, Latteri F (2001) Totally implantable venous access devices implanted surgically: a retrospective study on early and late complications. Arch Surg 136:1050–1053
- Niederhuber J (2011) Foreword: a few personal reflections. In: Di Carlo I, Biffi R (eds) Totally implantable venous access device. Springer-Verlag Italia, Milan, pp V–VI

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