

Femoral vein, an effective and efficient alternative puncture site involved in the TIVPP, should be used strictly and cautiously only under some specific conditions

Abbreviations: TIVPP, totally implantable venous power port; RCT, randomized clinical trial; DSA, digital subtraction angiography

Opinion

We read with great interest the recent article entitled “Femoral placement of totally implantable venous power ports as an alternative implantation site for patients with central vein occlusions” by Goltz et al.¹ indicating that if implantation of a totally implantable venous power port (TIVPP) is not favorable in a standard position, femoral placement of the device may alternatively be used safely and with high technical success. We have totally agreed with the main perspectives written by the authors. However, there are still some issues worthy of our deeper consideration.

Firstly, as we all know, perineum is prone to be affected by bacterial much more than other parts of the body. Thus, if the operation was to be done, the strict pre-operative sterilization and hair removal should be prepared in order to decrease the potential chance of infection.² So, we think this issue should be added and described clearly in the authors’ paper. Actually, according to the “2011 guidelines for catheter-related infection” recommended in American CDC governmental website,² choosing femoral vein as a puncture site will increase more infection chance than other sites like internal jugular vein or subclavian vein. Thereafter, this opinion confronted a heated discussion and the final conclusion was still controversial.³⁻⁸ Therefore, a larger-scale randomized clinical trial (RCT) should be initiated to elucidate the underlying infection data clearly in future.

Secondly, the patient will come to more practical problems when they face to choose the femoral vein as a puncture site. For instance, the appearance is not well to some extent and it will largely affect patients’ choice willingness. As for this issue, we have launched a poll examination in 50 cases of cancer patients in our hospital from March 2014 to June 2014. The preliminary results showed that all patients will deny choosing the femoral vein as their first puncture site and the acceptance rate is 0% (0/50). Another point is that it is not convenient to use the TIVPP to infuse or treat, especially for women. To use TIVPP each time will mean that the patients need take off their trousers every time either. So, the femoral vein will be used strictly only under some specific circumstances like Goltz et al¹ said.

Thirdly, we strongly recommend implanting a TIVPP device under the guidance of ultrasound combined with digital subtraction angiography (DSA) if the conditions permit. The ultrasound can help to show the anatomic trend of vessels clearly, promote the first success rate of puncture and prevent the related complications occurring like hematoma.⁹ And DSA can guarantee the catheter tip to be placed in the right site during the operation. Therefore, the combination of these two auxiliary instruments can assist to improve the success rate of puncture and ensure the security of implantation extremely.

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Lastly, from our single center’s experience, we want to remind that a much more excellent nursing and right treatment measure should be supplied when patients’ TIVPPs are used with femoral vein as puncture site. Because there are more valves in the femoral and iliac veins than other extremity vessels, it is easier to lead to regurgitation or extravasation after drug infusion. Therefore, the requirements for nursing care are much higher and stringent. The nursing team should be trained normally and familiar with the whole care procedure of TIVPP. The tube should be washed and sealed promptly and correctly to prevent potentially serious risk of drug extravasation or regurgitation after each infusion, especially for chemotherapy.

In conclusion, femoral vein, an effective and efficient alternative puncture site involved in the TIVPP, should be used strictly and cautiously only under some specific conditions. Before implantation, we should control the indications strictly, make a good communication with patients to acquire their knowledge and consent, strengthen aseptic technique to prevent potential infection and equip high-quality nursing care simultaneously. In future, larger-scale RCTs should be established to evaluate the associated short- and long-term complications and the influence on the patient’s quality of life by the use of TIVPP with the femoral vein as a puncture site.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

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