PICC Insertion via Saphenous Vein for Patients with Superior Vena Cava Syndrome
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Abstract
PICC (Peripherally Inserted Central Catheter) is a safe, economical, less invasive way of intravenous infusion. Usually it is inserted in the upper limb and the tip of the catheter is located at the superior vena cava. However, some patients with any condition that leads to obstruction of blood flow through the SVC accompany superior vena cava syndrome (SVCS). Obstruction can be caused by invasion or external compression of the SVC by an adjacent pathologic process involving the right lung, lymph nodes, and other mediastinal structures, or by thrombosis of blood within the SVC. In some cases, both external compression and thrombosis coexist. But at the same time these patients require central venous catheter due to the treatment needs. Therefore, the catheter is inserted via the femoral vein, it is uncomfortable for activity, also the catheter will be fractured easier. The femoral site is a potential field that is potentially contaminated because of the proximity of the perineal area, it is difficult to clean the skin and stabilize the catheter. There is more complications such as thrombosis and infections, etc. We explore the feasibility of inserting PICC through saphenous vein for patients with superior vena cava syndrome.

Methods
We selected mid-thigh medial saphenous vein for picc insertion, we used ultrasound machine to guide and combined with the modified seldinger technique. A 4F single-lumen catheter which made by BARD was used. At last the catheter inserted smoothly into 46cm, The tip of catheter is located at L3.

Results
The catheter have been kept for 152 days, for completing six chemotherapy cycles. There is no complications such as thrombosis and infection. And the patient can do the normal activity such as walking.Besides this patient, we also gave the same procedure for other five patients with the similar background. And also these catheters are successful without complications so on.

Conclusions
Saphenous vein begins at inner side at the arch on the dorsum of the foot ascends along the inner side of the leg and behind the knee, this vein terminated into the femoral vein, So it is another way to insert PICC. Patients can walk freely with this catheter and easily be fixed, also it reduces the risk of infections, it is a safe access for these special patients.

References
-Jian Li, Chen Yin, Clinical Application of Modified Peripherally Inserted Central Catheter via the Femoral Vein, ClinicalMedicalEngineering 2009, 16(8): 102-103