Performance of ultrasound-guided subclavian vein cannulation in cancer patient by two anesthesiologists: a retrospective evaluation

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Background and Goal of the Study: Adequate vascular access is important in the initial phase of surgical treatment or chemotherapy in oncology patients. A growing body of evidence, indicates that subclavian vein (SV) catheterization with real-time ultrasound- guidance can be accomplished safely and efficiently. The aim of this study was to determine the safety and efficacy of ultrasound-guided infraclavicular SV placement in cancer patients. Materials and Methods: Retrospective procedural data were collected on 843 patients referred for insertion of tunneled central venous access and performed by two anesthesiologist from January 2014 to June 2016. Patients were undergoing treatment for solid or hematological malignancies. The infraclavicular subclavian catheterization was performed using a 13-6 MHz probe (Sonosite Ltd, Biggleswade, UK) positioned at a mid-clavicular position. Intraoperative fluoroscopy (IF) was always performed intraoperatively. Chest X-ray was always performed 30 min after the end of the procedure. Complications that emerged during and after the catheterization and successful insertion are normally registered in a hospital database. Results: Data from 198 patients were used. All patient tolerated the procedure with local anesthesia. A total of 132 Port-a-cath and 66 Gronshong were placed. The right SV was cannulated in 46% of pts and the left SV in 54% pts. The mean procedure time was 23.7 (±11.4) minutes for Groshong positioning while was 28.7 (±11.6). Successful insertion rate was 100%. In all patients the catheter was placed without complication (hematoma, pneumothorax, infection). Conclusions: The infraclavicular subclavian catheterization cannulation using real-time ultrasound appears to be a safe and effective method of placing subclavian vascular catheters. The use of ultrasound guidance dramatically may decrease insertion-related complications.Fluoroscopy can accompanied the insertion and participate to decrease of procedure-related complications.

