The ultrasound-guided oblique-axis/in-plane approach is a safe and reliable alternative to the routine ultrasound-guided approach for axillary venous catheterization” Yao et al (2019).

Abstract:

BACKGROUND: Catheterization of the axillary vein in the infraclavicular area has important advantages in patients with long-term, indwelling central venous catheters. The two most commonly used ultrasound-guided approaches for catheterization of the axillary vein include the long-axis/in-plane approach and the short-axis/out-of-plane approach, but there are certain drawbacks to both approaches. We have modified a new approach for axillary vein catheterization: the oblique-axis/in-plane approach.

METHODS: This observational study retrospectively collected data from patients who underwent ultrasound-guided placement of an axillary vein infusion port in the infraclavicular area at the Central Venous Access Clinics of Zhongshan Hospital at Fudan University between March 2014 and May 2017. The patients’ demographic data, success rate of catheterization, venous catheterization site, and immediate complications associated with catheterization were recorded.

RESULTS: Between March 2014 and May 2017, a total of 858 patients underwent placement of an axillary vein infusion port in the infraclavicular area at our center. The ultrasound-guided oblique-axis/in-plane approach was used for all patients, and the venipuncture
success rate was 100%. Two cases of accidental arterial puncture and one case of local hematoma formation were reported, and no other complications, such as pneumothorax or nerve damage, were reported.

CONCLUSION: The ultrasound-guided oblique-axis/in-plane approach is a safe and reliable alternative to the routine ultrasound-guided approach for axillary venous catheterization.

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