

The aim of this observational study is to demonstrate the effect of Valsalva manoeuvre in respect of the elastic tourniquet on venous distention during echography-guided cannulation of the deep veins of the arm” Villa et al (2018).

Abstract:

BACKGROUND: During ultrasound-guided cannulation, venous filling is required for venipuncture. Tourniquet with an elastic tube at the axilla is the most common method to induce venous stasis for cannulation of the deep veins of the arm. Although effective, this method might be associated with short- and long-term complications. Valsalva manoeuvre has been used to produce venous filling in other extrathoracic veins. The aim of this observational study is to demonstrate the effect of Valsalva manoeuvre in respect of the elastic tourniquet on venous distention during echography-guided cannulation of the deep veins of the arm.

METHOD: Sixty-nine patients scheduled for cannulation of basilic or brachial vein were prospectively observed. Vein diameters were recorded at rest and after 10 s of Valsalva or tourniquet placement.

RESULTS: The mean difference between basilic vein diameters during tourniquet and Valsalva manoeuvre was 0.006 mm (95% confidence interval = -inf, 0.09) with a standard deviation of 0.5 mm (95% confidence interval = 0.5, 0.7; $p > 0.01$). The mean difference between brachial vein diameters during tourniquet and Valsalva manoeuvre was 0.04 mm (95% confidence interval = -0.23, 0.15) with a standard deviation of 0.8 mm (95% confidence interval = 0.7, 0.9; $p > 0.01$).

DISCUSSION: This increase in cross-sectional basilic and brachial vein diameters was not different to that obtained with the elastic tube tourniquet.

Reference:

Villa, G., Chelazzi, C., Giua, R., Lavacchini, L., Tofani, L., Zagli, G., Barbani, F., De Gaudio,

A.R., Romagnoli, S. and Pinelli, F. (2018) The Valsalva manoeuvre versus tourniquet for venipuncture. *The Journal of Vascular Access*. March 1st. .

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