To describe the frequency of immediate complications of central venous catheterisation guided by the ultrasound in a general university hospital, compared to the anatomical landmarks technique in children less than 18 years of age” Rivera-Tocancipá et al (2018).

Abstract:

INTRODUCTION: The insertion of a central venous line in children and adolescents is technically more difficult, due to the smaller size of the structures. This can lead to an increase in immediate complications, which can be reduced when using ultrasound. In our institution, the percentage of these complications and the use of ultrasound are unknown.

OBJECTIVE: To describe the frequency of immediate complications of central venous catheterisation guided by the ultrasound in a general university hospital, compared to the anatomical landmarks technique in children less than 18 years of age.

MATERIALS AND METHODS: Observational, retrospective, and analytical study, comparing the frequency of complications with two central venous catheterisation techniques: anatomical landmarks and ultrasound, according to the clinical records of procedures performed from June to November 2016.

RESULTS: A total of 201 procedural records were analysed, of which 71% were with landmarks, and 29% with ultrasound. The overall incidence of immediate complications was 18.4%, with 12% using ultrasound and 21% using landmarks (OR: 0.5; 95%CI: 0.2-1.2). Children under 5 years of age presented with 90% of the complications, the most frequent being the impossibility of passing the guide (29.7%) and multiple punctures (24.3%). There was no arterial puncture with use of ultrasound. Ultrasound was used by 13.4% of paediatric surgeons, by 32.4% of paediatricians, and 46.4% of anaesthetists, with complications of 25%, 19%, and 7%, respectively. The main indication for catheterisation was the need for vasoactive agents (74%), with the procedure being more complicated in patients with no peripheral venous accesses (46%). The success rate with anatomical landmarks was 77.6%, compared to 91.4% with ultrasound.
CONCLUSION: Central venous catheterisation with ultrasound guidance in children under 18 reduces immediate complications by 42.8% and improves the success rate by 13.8%.

Reference: