

Prospective cohort

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Introduction

Peripheral venipuncture is one of the most common procedures carried out by nursing staff in hospitals and healthcare units. In children, intravenous puncture is technically difficult, due to patient-related factors such as: weight, prematurity, fragility of the veins, lack of visibility and palpability of the peripheral veins, mobile or scarred veins, peripheral vasoconstriction, fear of needles and disease-related factors such as acute and/or chronic conditions such as cancer and hemodialysis patients. Thus, DIVA patients can result in negative consequences, including an increased risk of complications such as extravasation and infiltration, which subsequently increase morbidity and mortality, prolong hospital stays and increase costs.

Objective

To describe the success rate of the first attempt at venous cannulation using USG and the Seldinger technique over the wire with an 8 cm catheter in DIVAS children

Method

A convenience sample of 21 paediatric patients aged between 1 month and 18 years hospitalised in a public quaternary care hospital was used in this pilot research project. The institution has one nurse dedicated to vascular access. The nurse uses the DIVA scale and quantifies the number of punctures reported by parents and/or staff before being called and the number of punctures using ultrasound and the long peripheral catheter with seldinger technique. Translated with DeepL.com (free version)

Results

A sample of 21 patients was included in the pilot study. The success rate for the first attempt at catheter placement using ultrasound and the Seldinger technique was 67%, and of the 21 patients, six required two attempts for successful puncture

Average catheter use 11 (SD 3.0) days. The prescribed duration of therapy ranged from 7 to 14 days. Three patients needed two catheters to complete therapy

Tabela 1. Demographic characteristics of the patients included in the study. São Paulo, Brazil, 2024

Variables	21 (patient)
Diagnostics	
healthy patient	4(19%)
Neuropathies	4 (19%)
Cardiopathies	2 (10%)
Nephropathy	4 (19%)
Pneumopathies	3 (14%)
Oncologic	2 (10%)
Hepatopathies	4 (19%)
Age (months) mean SD	60 (1-201)
Gender (n%)	
Mele	12(57.2%)
Female	9(42,8%)
weight	30 [14.5 - 6810]
Pain score	5.25 (3.30)
DIVA score (mean SD)	4.52(0.51)
Attempted puncture with US (mean SD)	1.4(0.58)
Most commonly used veins (n%)	
Basilica	11(52.2%)
Brachial	9(43%)
Cefálicos	1(4,8%)

Figura 1. Main drugs administered by long peripheral catheter. Brazil. 2024

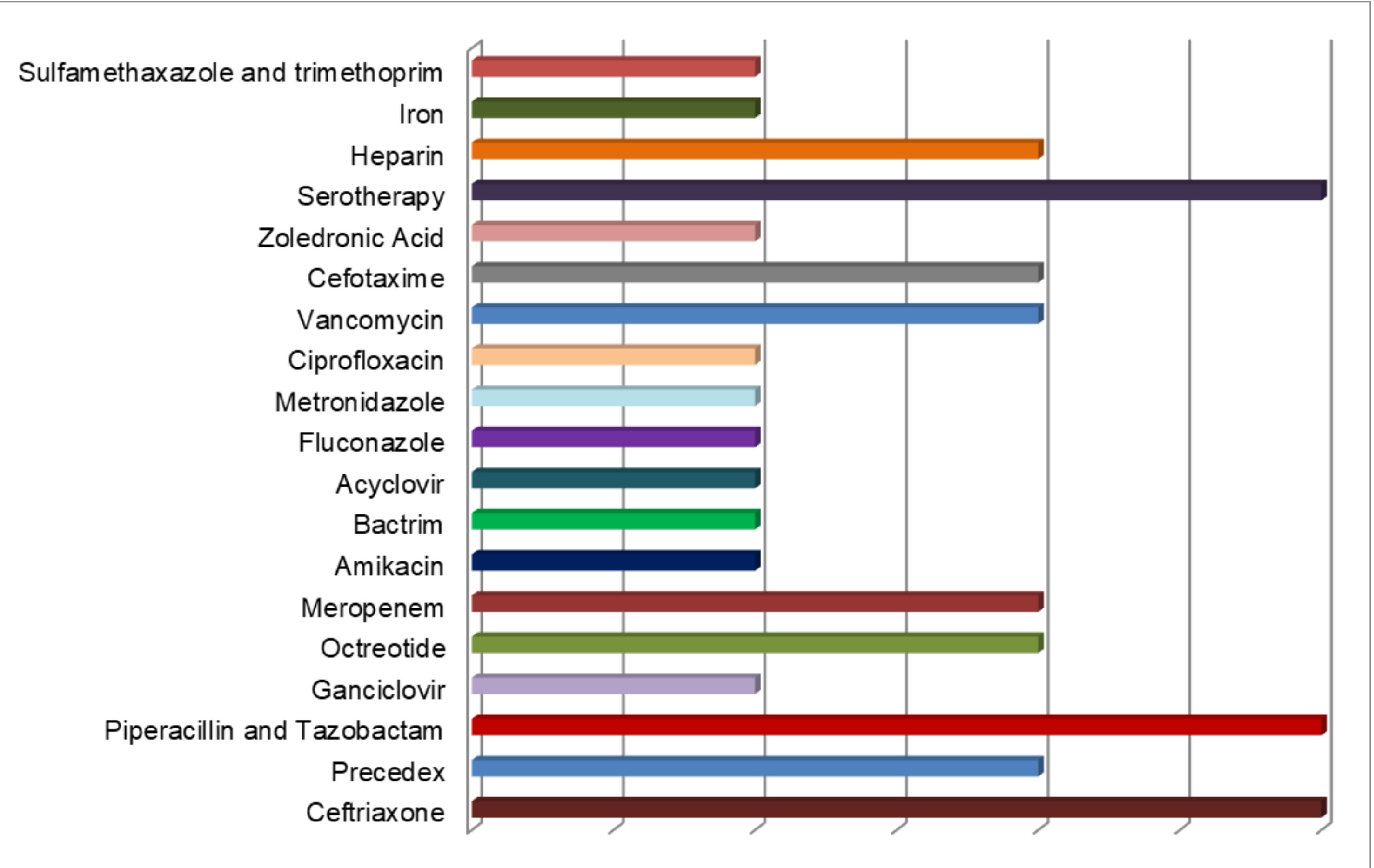
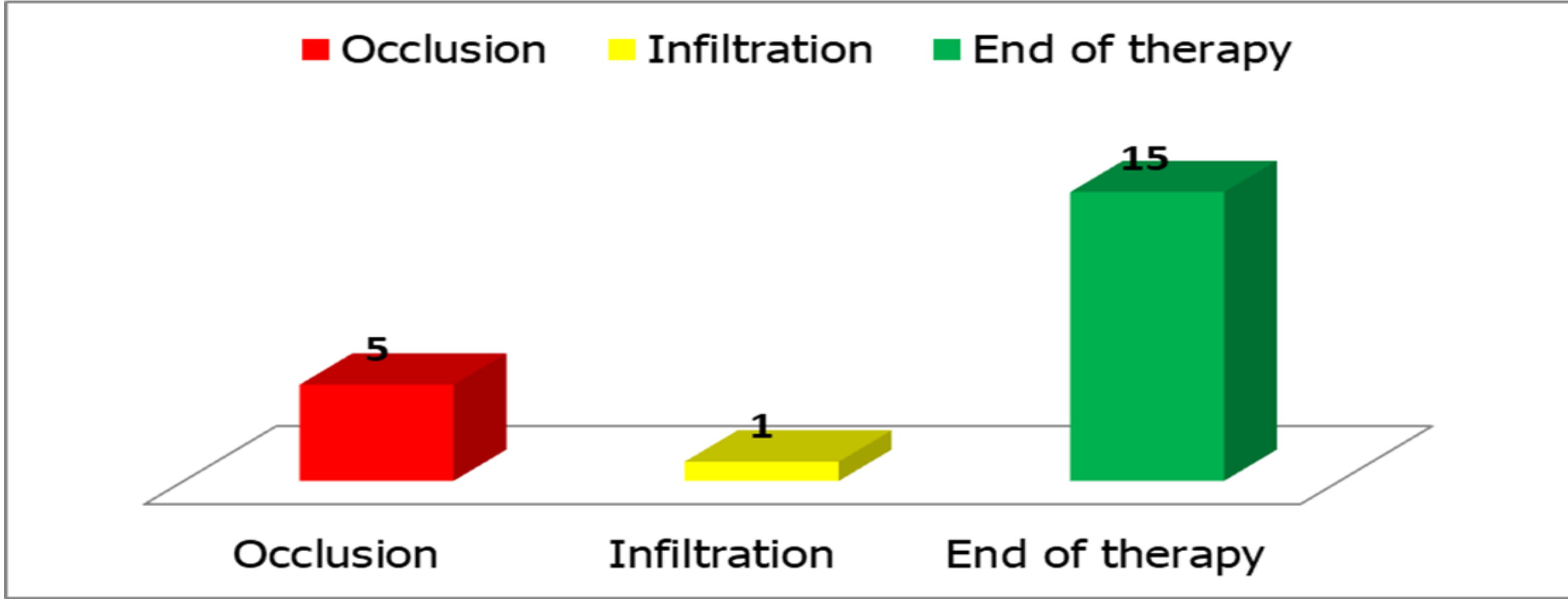


Figure 2. Main reasons for catheter removal. Brazil, 2024



Conclusion

There was a reduction in the number of puncture attempts and an increase in the success rate of the first puncture using ultrasound, especially when the procedure was performed by a more experienced professional.

