

Background:

In the life-threatening situations at the pre-hospital stage, peripheral intravenous access of the external jugular is extremely useful and necessary for pediatric patients when the central vascular access is not easy attainable. Providing adequate vascular access, ventilation and oxygenation is the life-saving procedure. However, central line catheter insertion in children in pre-hospital stages may be difficult to perform and takes a long time, which could lead to complications. While, the External Jugular Vein (EJV) access is superficial and the Trendelenburg position increasing venous pressure in the upper cavity, allows better visualization of them and making it useful and accessible.

Patients & Methods :

The aim of this retrospective study is to determine the success rate and complications of using the EJV access in critically ill pediatric patients.

Data collection:

The data were collected from the Prehospital Emergency Medical Service (EMS) Request Sheets and the emergency staff survey from National Centre of Prehospital Emergency Medicine in Republic of Moldova, during 2018 year. External jugular vein access was performed in 82 instable children at the pre-hospital stage. The following information was obtained: age, gender, time of access, clinical diagnosis, complications.

Results & discussion :

Prehospital care providers performed the EJV in children. The studied patients were between 1 and 14 years. The gender distribution - 47 (57,3%) were boys and 35 (42,7%) girls.

EJV line catheter insertion was successful in 73 children (91,2%) at the first attempt, while 7 children (8,7%) required more than one attempt. All patients received fluid infusion and medications through the EJV cannula. Eleven (13.75%) children had EJV cannulation related complications. EJV access is less invasive than the central venous access (subclavian, femoral) and the time of intervention has been reduced in all cases. According to the questioning emergency staff, it was revealed that the insertion of the EJV cannula is much faster than the central venous access and is the first attempted access route choice of the pre-hospital Emergency Service Teams.

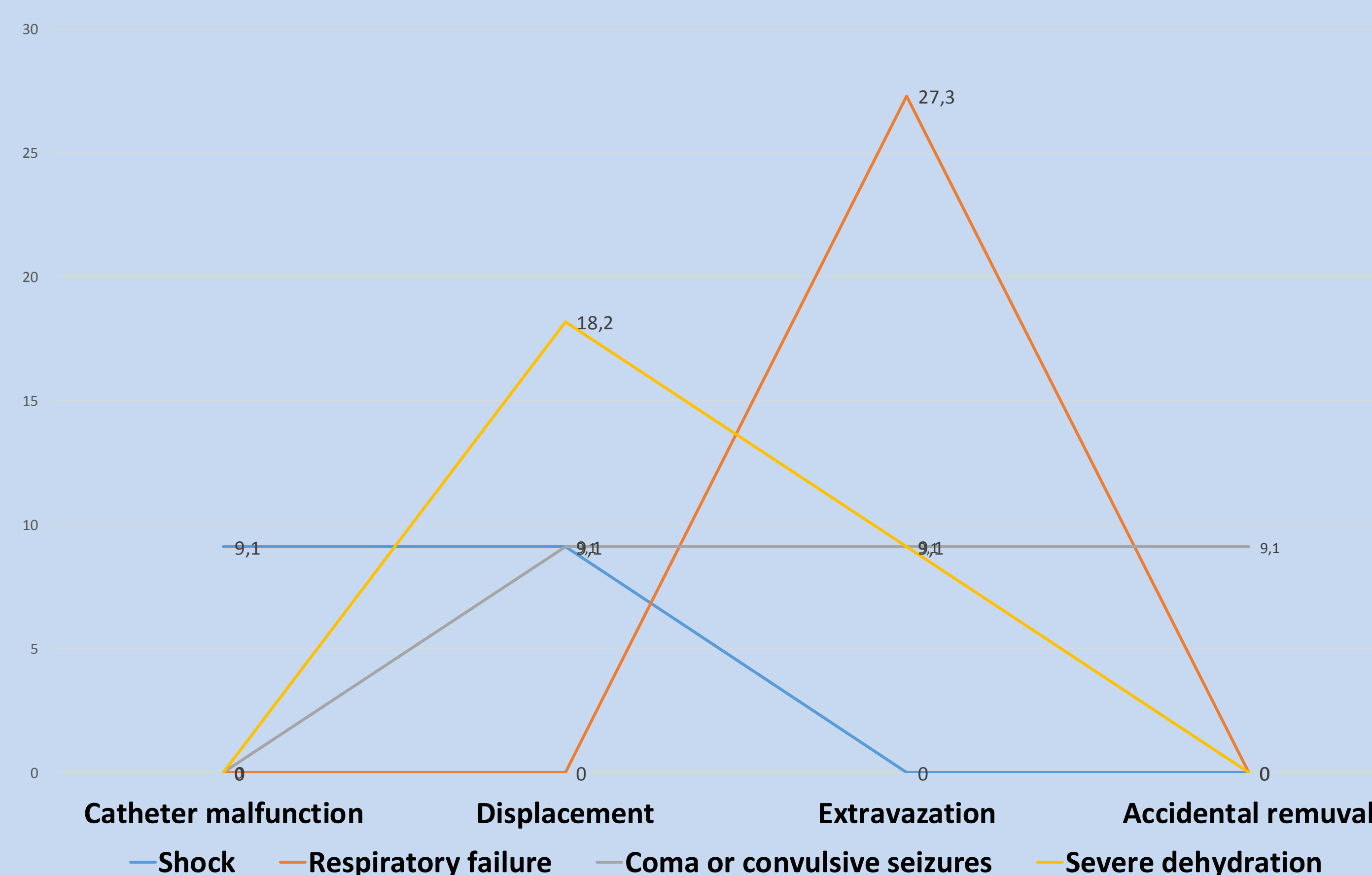


Figure 1. The correlation of complications vs. critical ill (%)

Characteristics of participants (n = 82)										
Age	Number examined		Gender		Clinical conditions				Complications	
	N	%	boys	girls	Shock	Respiratory failure	Coma	Severe dehydration	N	%
Infant	21	25,6	15	7	1	1	0	2	4	36.4
Toddlers	27	32,9	14	14	0	1	2	1	2	18,2
School age child	15	18,3	10	6	0	1	0	0	1	9.1
Adolescent	19	23,2	8	8	1	0	1	0	4	36.4

Table 1. Characteristics of participants

Conclusion & perspectives :

The EJ vein is a viable site for peripheral intravenous access with a low complication rate in pediatric patients.