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Ultrasound guided hydrostatic reduction of intussusception in children by pediatric surgical residents- Our experience in a tertiary care hospital

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INTRODUCTION

Intussusception is a commonly encountered surgical emergency in infants and toddlers1.Mostly it is idiopathic below 3 years of age and may present with pain abdomen, irritability, per-rectal bleed, vomiting and palpable abdominal mass. High resolution Ultrasound is modality of choice in diagnosing intussusception2 which is mostly of ileocolic type. Ultrasound guided hydrostatic reduction is a proven method of treatment with success rates of around 80-85%3. In our study, due to limited availability of radiologist services in emergency setting of government hospital, pediatric surgery residents were trained in basics of ultrasonography for performing hydrostatic reduction under ultrasound guidance in ward setting and the results were documented.

OBJECTIVES

- To evaluate the efficacy of ultrasound guided hydrostatic reduction in children
- To identify the spectrum of clinical presentation of intussusception in children
- To identify causes of failed hydrostatic reduction and their surgical management.

METHODOLOGY

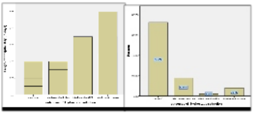
- Single center study in Khyber teaching hospital, Peshawar was conducted by pediatric surgical residents and included all children from 3 months to 5 years diagnosed with intussusception.
- It was a prospective study conducted from August 2024 to Feb 2025.
- Children above 5 years, those with signs of peritonitis or having other abdominal pathology were excluded.
- Data regarding patient demographics, presenting symptoms, examination and ultrasound findings was collected along with outcomes of hydrostatic reduction and length of hospital stay. This data was then analyzed using IBM SPSS 20.

RESULTS

- Total patients included were 51 (59% male and 41% female) with mean age of 15 months (86% below 2 years) and no of hydrostatic reductions attempted were 57. Ultrasound guided hydrostatic reduction was successful in 72.55% of patients.
- The mean duration of symptoms was 1.9 days with 56% patients having history of 1 day or less. Mean length of hospital stay was 2.3 days with longer stay in patients who needed surgical exploration.
- Out of 14 patients, who underwent surgical exploration, 2 had appendix as lead point, 3 had ileo-ileal intussusception (1 had ileal mass and another had ileal perforation) and 1 had ileocolic intussusception along with malrotation.

DIAGRAM

Clinical feature	Yes	No	Percent
Pain abdomen	51	0	100%
Vomiting	39	12	76.47%
Irritability	49	2	96.07%
Per rectal bleed	29	22	56.86%
Palpable abdominal mass	39	12	76.47%
Blood stained DRE	28	23	54.9%
Empty rectum on DRE	48	3	94.1%
Abdominal distention	10	41	19.6%



CONCLUSION

In a busy center with limited availability of radiologist in emergency setup, ultrasound guided hydrostatic reduction can be effectively performed by pediatric surgical residents provided they are given adequate training.

RECOMMENDATION

To develop more collaboration between radiologists and pediatric surgeons so that surgical morbidity of patients with intussusception can be reduced by performing timely and effective hydrostatic reduction under ultrasound guidance.

REFERENCES

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