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Intussusception: Management of Patients Presenting to the ED

[Link to Intussusception Flow Chart](#)

Aim

The aim of this document is to formulate an evidence based guideline for the management of intussusception in children.

Definition of terms

Intussusception is the invagination of a proximal segment of bowel into the distal lumen, causing intestinal obstruction

Causes:

- Unknown
- Lymphadenopathy (commonest)
- Henoch-Schonlein purpura
- Meckels diverticulum
- Intestinal polyps
- Post-op ileus
- Rotavirus vaccine (routine 2 month + 4 month vaccines)
- Lymphoma

Target Patient Population

This evidence summary applies to children who present with history and clinical findings suggestive of intussusception.

Demographic:

- Most commonly occurring between 2 months to 2 years
- Peak incidence of 5-9 months of age
- Accounts for up to 25% of abdominal emergencies in children up to age 5

Target Users

Health-care professionals engaged in the assessment of children with undifferentiated illness

Assessment

History

Early signs

- Child appears in intermittent pain, which is colicky and severe, may be associated with child drawing up legs
- Dehydration, pallor and lethargy may be prominent presenting signs, can be persistent rather than episodic
- Vomiting
- Diarrhoea is quiet common and can lead to a misdiagnosis of gastroenteritis

Late signs

- Bloody stool is characteristic of intussusception but the "red currant jelly" stool is a late sign, indicating bowel strangulation resulting in mucosal oedema and haemorrhage has occurred.

Literature suggests this is detectable in only 16% of cases with duration of symptoms less than 12 hours

- Lethargy or septic shock may also be the presenting signs in patients who present late

Examination

- Pallor, lethargy: may be intermittent, may look well in between episodes
- Abdominal mass: sausage shaped mass in RUQ
- Distended abdomen later in the course
- If signs of Peritonitis consider plain film abdomen to out-rule bowel perforation
- Hypovolaemic shock and bloody stools are late signs

Investigations

See [flow chart](#)

Blood Tests

- Blood Glucose, FBC, U&E, CRP & Group & Hold
- Give 20ml/kg IV bolus of 0.9% NaCl early
- Leucocytosis & raised CRP can be seen in more severe cases

Ultrasound abdomen

- Diagnostic investigation of choice
- Sonography has nearly 100% sensitivity and specificity
- “Target” or “Doughnut” sign in the transverse plane
- “Pseudokidney” sign in longitudinal section

Plain abdominal x-ray

- Only performed to exclude small bowel obstruction or peritoneal free air (bowel perforation) which is a contraindication of enema reduction
- Limited diagnostic accuracy of intussusception (40-60%)
- Signs of intussusception on plain x-ray include
 1. Mass in line of transverse colon or cut off in gas in transverse colon
 2. Target sign: 2 concentric circular radiolucent lines usually in the right upper quadrant
 3. Crescent sign: a crescent shaped lucency with a soft tissue mass, usually in the right upper quadrant

REMEMBER A NORMAL ABDOMINAL X-RAY DOES NOT EXCLUDE INTUSSUSCEPTION

Management

Shock

If shocked see **APLS** guidelines

Involve Surgical Registrar early

General

See [flow chart](#)

- Secure IV access for all patients suspected to have intussusception
- Most children will require fluid resuscitation with IV boluses of 20ml/kg 0.9% NaCl before radiological investigations
- Give adequate analgesia
- Keep nil by mouth
- Pass nasogastric tube if bowel obstruction or perforation suspected
- Consider broad spectrum IV antibiotics before air enema (discuss with surgical team)

Air Enema

- Therapeutic and is initial treatment of choice
- Performed by the Consultant Radiologist
- There is a small risk of bowel perforation and bacteraemia during the air enema (the surgical registrar as well as a nurse must attend with appropriate resuscitation equipment)
- Contraindications to an air enema are perforation or clinical evidence of peritonitis
- Once performed, children are admitted overnight as they can have significant fluid shifts after the procedure (There is a 10% recurrence risk in first 24 hours).

Special Considerations

Patients with HSP and abdominal pain under 5 years of age should have an U/S abdomen to rule out intussusception prior to discharge

Companion Documents

[Link to References](#)

[Link to Parent Information Leaflet](#)

[Link to Flow Chart](#)