COMMON PAEDIATRIC GASTROENTEROLOGICAL PROBLEMS

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A. Acute Gastroenteritis

Introduction

Acute gastroenteritis is one of the most common complaints encountered in general practice. The vast majority of these are benign in nature, self-limiting and the children confidently managed as out-patients. However it is also essential to identify the occasional child who may have a potentially serious problem, so that appropriate management may be instituted early.

Clinical clues for potential pathology

1. *Isolated vomiting - with or without fever*
   It is not uncommon for children to present with vomiting 24-48 hours before the onset of diarrhoea. However two important conditions have to be excluded before one can safely attribute isolated vomiting to “viral gastritis/ gastroenteritis”.
   i. Surgical abdomen - Any child with bilious vomiting requires an immediate surgical consult
   ii. Raised intracranial pressure- A child with a history of prior head injury, photophobia, change in sensorium, neck pain, would require a careful neurological examination

2. *High spiking temperatures or an ill looking child*
   It has been recognised that infants and young children may experience diarrhoea in the presence of pathology in other organ systems. For example a 6 month old infant may have a urinary tract infection, but instead of presenting with pyrexia and foul smelling urine, has pyrexia and diarrhoea. Sometimes a high index of suspicion is required. A useful bedside tool would be a dipstick examination of a mid-steam sample of urine.
   It is also more likely that infants and young children have bacterial induced diarrhoea with systemic sepsis. Hence any toxic looking child should have some form of further investigations (eg full blood count, stool culture) or a hospital referral.

3. *Bloody stool*
   The most common causes of fresh blood streaked stool associated with diarrhoea are perianal excoriations and fissures. These can be easily diagnosed and excluded on physical examination. A sinister cause in infants and young children to exclude is intussusception, which presents with a red-currant jelly like stool. The child may be either well or irritable, and an abdominal mass may not always be easily felt. Melaena is always pathological and warrants referral.
Assess Hydration

The hydration status of any child with acute gastroenteritis should be assessed carefully, as it will guide therapeutic measures. Clinically, dehydration can be classified into 3 categories:

1. **Mild** : < 5% weight loss
   - alert, active child
   - mucous membranes slightly dry, tears present, flat fontanelle
   - mild thirst
   - good urine output

2. **Moderate** : 5-9% weight loss
   - lethargic or irritable child
   - mucous membranes dry, decreased tearing, sunken fontanelle
   - decreased urine output
   - may be tachycardic and hyperpnoeic

3. **Severe** : > 10% weight loss
   - sensorium obtunded
   - mucous membranes parched
   - oliguric/anuric
   - haemodynamic compromise (eg delayed capillary refill, hypotensive)

The degree of dehydration may be difficult to estimate clinically in the obese child or the undernourished child. At the same time liquid stool may be mistaken for urine in infants and young children still wearing diapers. A useful parameter would be the child’s weight, as most mothers would be able to recall a recent weight of an infant, and any weight lost can be taken as reflective of the degree of dehydration.

Management

Out-patient management is successful in 90% of children with gastroenteritis. Therapy is mainly two-fold:

1. **Rehydration orally**
   - most children can continue with their regular milk feeds given as half or full strength
   - breast feeding in infants should be continued
   - there is generally no need to switch to soy based formulas in children with acute symptoms of less than a week’s duration
   - commercially available oral rehydration solutions may be used to supplement feeds (~ 15-20 mls/kg @ 4hrly)
   - it may be wise to avoid drinks with large amounts of sugar because of their high osmotic load
   - vomiting per se may not be a contraindication if the child is able to retain small frequent feeds
2. **Symptomatic therapy**

Useful drugs as adjuvant therapy include:
- **Barrier Creams**: for perianal excoriation
- **Anti-pyretics**

Adsorbents such as smectite are used only with the understanding that they do not alter the cause of disease or prevent dehydration. In general, antispasmodics and opiates are not advocated in children, especially those under the age of 5 years. It must be remembered that they may conversely mask the symptoms and severity of intraluminal fluid loss, thereby giving a false sense of security to parents and care-givers.

Antibiotic therapy is rarely warranted. Most infections are viral in etiology, and even those bacterial infections are self-limiting and seldom cause systemic upset.

**Indications for hospital referral**

1. Toxic or ill child
2. Intravenous hydration required
   - Severe dehydration (>10% dehydration)
   - Inability to take orally (eg altered sensorium, persistent vomiting)
   - Inability of oral intake to keep up with continued losses
3. Suspected surgical abdomen
4. Diagnosis in doubt

**Acute Gastroenteritis**

- **Alarm Bell Signs**
  1. Ill child
  2. Raised Intracranial Pressure
  3. Possible Surgical Abdomen

- **Mild** (<5%)
  - 1. Early oral refeeding
  - 2. Education of caregiver about signs and symptoms of dehydration

- **Moderate** (5-9%)
  - 1. Oral rehydration
  - 2. Education of caregiver about dehydration

- **Severe** (>10%)
  - 1. Early review ± instructions/memo to seek hospital admission if not better
  - 2. Oral rehydration
  - 3. Education of caregiver about dehydration

**HOSPITAL REFERRAL**
Recurrent Abdominal Pain

Introduction

This is another common paediatric gastrointestinal complaint. It occurs in as many as 10% of school going children. The majority of these are functional in origin, but can be equally distressing for the child, his parents and primary care physicians alike. There is also the tendency for parents to associate the lack of an obvious organic cause with a more serious pathology. At the same time, the health care physician may become frustrated by the difficulty in identifying the cause of the symptoms and by pressure from the family to “get to the bottom of the problem”. This may lead to excessive investigations for an organic pathology when a careful history, social evaluation and physical examination may suffice.

Common Etiologies for RAP

Non-organic causes

1. Recurrent abdominal pain syndrome:
   - non-specific abdominal pain
   - often peri-umbilical
   - does not have a characteristic temporal pattern
   - may be better on weekends and school holidays
   - may have dysfunctional families or psychosocial problems

2. Irritable bowel syndrome
   - intermittent cramps, constipation and diarrhoea
   - lower abdomen most common site

3. Non-ulcer dyspepsia
   - peptic ulcer like symptoms
   - possible psychosocial overlay
   - may respond to antacids

Organic causes

1. Lactose intolerance
   - not uncommon in the older child
   - symptoms may be associated with lactose ingestion
   - sensations of bloating, gas, cramps, diarrhoea

2. Chronic constipation

3. Parasitic infection
• bloating, gas, cramps, diarrhoea
• stools may be blood stained

Rare but pathological causes of RAP

1. Urinary tract infection

2. Helicobacter pylori gastritis
   • this has been recognised as a cause of chronic gastritis in children as well as adults
   • may also be associated with peptic ulcer disease
   • child may have epigastric tenderness and nocturnal symptoms

2. Surgical causes
   • Choledochal cyst: right hypochondrial pain with/without a mass or jaundice
   • Meckel’s diverticulum: may have occult blood in stool or even anaemia
   • Intermittent volvulus

3. Abdominal migraine
   • episodic abdominal pain with/without headache
   • characteristic episodes almost always associated with nausea
   • vomiting may be a feature
   • can last for hours, ends when child falls asleep and awakens better

4. Abdominal epilepsy
   • an unusual cause of RAP
   • may have an associated prodrome
   • child may have an altered sensorium during attacks
DIAGNOSTIC APPROACH AND MANAGEMENT

Child with RAP

History and Physical Examination

Functional RAP likely
1. Age of child > 3 years
2. Periumbilical pain
3. Never disturbs child’s sleep
4. Child eating and growing well
5. Normal physical examination
6. Presence of psychosocial problems

1. Symptomatic
2. Dietary Advice
3. Trial of lactose-free diet x 2 weeks
4. Review

Investigations
and
Referral to Hospital

Organic cause to be excluded
1. Young child < 3 years
2. Pain away from umbilicus
3. Nocturnal pain
4. Child losing or not gaining weight
5. Blood in stool
6. Abnormal physical signs eg pallor, jaundice, abdominal mass

Tertiary care for children with RAP

It is the role of paediatric specialists to exclude significant pathology as a cause of RAP.
Investigations that can be performed include:
1. Urine FEME and culture
2. Stool examination and culture
3. Hydrogen breath test
4. H. pylori serology
5. Abdominal imaging such as ultrasound to exclude choledochal cyst
6. Barium studies
7. Endoscopy and biopsy

Some families may also need formal psychosocial assessment and counseling. This is available in the tertiary care setting, and it may thus be appropriate to refer such children and their families for further management.