Management of functional gastrointestinal disorders

Functional gastrointestinal disorders (FGIDs)

According to Rome IV diagnostic criteria [1] FGID cannot be attributed to structural or biochemical abnormalities and appear independent of feeding type in breast- or formula-fed infants alike [1,2]. It is a group of disorders classified by gastro-intestinal symptoms [1]. Parents should be reassured that FGID do not require medical intervention per se and are mostly self-limiting and self-resolving [1]. Rome IV identifies seven FGID for neonates and toddlers including [1,2]:

Infant Colic
"is a commonly reported observation of excessive crying in infancy with an enigmatic and distressing character" [3].

Common symptoms are non-consolable crying, irritability or fussiness [1]. Colic symptoms are often transitory and disappear within the first 5 months of life [1,4,5].

Constipation
often occurs in the first year of life with a "passage of dry and hard stools, which may cause painful defecation" and is present for two or more weeks [1,6].

Reflux
"refers to involuntary retrograde movement of gastric contents in and out of the stomach, and is often referred as gastroesopha-geal reflux" [1].

Regurgitation
describes when reflux is becoming visible and stomach content reaches throat and mouth [1,7].

Diarrhoea (functional)
is defined "by the daily painless recurrent passage of three or more large unformed stools for four or more weeks with onset in infancy or preschool years" [1].

Preventive Measures

- ☑ Continue breastfeeding support.
- ☑ Promote a relaxed atmosphere during feeding [1,8].
- ☑ Suggest feeding small portions [7] and more frequent meals.
- ☑ Consider adjusting nutrition of breastfeeding mothers [7,9].
- ☑ To reduce stress educate parents on the common nature of FGID [7].
- ☑ If applicable, educate on formula preparation [9].

Management options

Traditional remedies are experience-based, representing pragmatic management tools and may be beneficial to children and parents [8]. Warmth via a warm water bottle or a blanket on the stomach may relieve the gut [17,19]. Overfeeding should be avoided, especially for formula-fed children [9]. Children with constipation can be toilet-trained resulting in frequent defecation being free from pain [10]. In older children intake of too much fruit juice and/ or fructose can cause diarrhoea or indicate fructose intolerance [1]. Smaller feeding portions and positional changes may relief regurgitation symptoms for breastfed and non-breastfed infants [7].

Teas from herbs and their extracts can be fed to older children when complementary foods are introduced:

Infant colic

In 2016, Rome IV revised diagnostic criteria for infant colic. Earlier, the modified Wessel's criteria diagnosed infant colic as crying more than 3h per day on at least 3 days per week. Today, the Rome IV diagnostic criteria include the following:

1. "An infant who is below 5 months of age when the symptoms start and stop
2. Recurrent and prolonged periods of infant crying, fussing, or irritability reported by caregivers that occur without obvious cause and cannot be prevented or resolved by caregivers
3. No evidence of infant failure to thrive, fever, or illness" [1].

Constipation

The Rome IV diagnostic criteria for functional constipation include 1 month of at least 2 of the following criteria in infants and children up to 4 years of age:

1. "2 or fewer defecations per week
2. History of painful or hard bowel movements
3. History of large-diameter stools
4. Presence of a large fecal mass in the rectum
5. History of excessive stool retention

In toilet-trained children, the following additional criteria may be used:

6. At least one episode/week of incontinence after the acquisition of toileting skills
7. History of large-diameter stools that may obstruct the toilet" [1].

Regurgitation and Reflux

Gastroesophageal reflux that is high enough to be visualized is referred as regurgitation. The diagnostic criteria for regurgitation "include both of the following symptoms in otherwise healthy infants 3 weeks to 12 months of age:

1. Regurgitation 2 or more times per day for 3 or more weeks
2. No retching, hematemesis, aspiration, apnea, failure to thrive, feeding or swallowing difficulties, or abnormal posturing" [1].

Diarrhoea (functional)

According to Rome IV, functional diarrhoea is diagnosed when all of the following criteria apply:

1. "Daily painless, recurrent passage of 4 or more large, unformed stools
2. Symptoms last more than 4 weeks
3. Onset between 6 and 60 months of age
4. No failure to thrive if energy intake is adequate" [1].

Aspects for parents/caregivers to manage FGID

FGID symptoms as well as parental concerns should be considered in FGID management. A better understanding relieves parents of stress and may strengthen parent-child relationships [7]. Parents and caregivers should be reassured and educated that FGID are a normal part of infants' development. They may occur by itself, not caused by serious underlying conditions. Poor hygiene practice during preparation or improper dosing can cause FGID in formula-fed infants. Medical intervention is only required when specific warning signs are identified [1,2].

General warning signs include [1,2]**:**
- Failure to thrive, signs of organic cause, neurodevelop-mental delay

Warning signs for infant colic [1,4]**:**
- Frequent vomiting, diarrhoea or regurgitation, weight loss

Warnings signs of constipation [1,6]**:**
- Bloody stools, abdominal distension, anal abnormalities

Warning signs of regurgitation [1,7]**:**
- Poor weight gain, irritability, crying, fussiness, feeding problems, constipation, diarrhoea, spitting up blood

Warning signs of diarrhoea [1]**:**
- Signs of dehydration, malabsorption syndromes

Management options for breastfeeding mothers

Mothers are advised to follow their usual diet unless the child reacts to something she eats [16]. See if avoiding egg or cow's milk protein [16], cabbage, broccoli, cauliflower [11], bananas [12] or the like, caffeine, and reducing smoke exposure [13] for a week may reduce colic-like symptoms. Note that high intake of foremilk can cause colic-like symptoms because of high lactose intake: Check attachment and encourage the infant to empty one breast (with hindmilk) before switching breasts [9].

Check whether the infant swallows too much air while drinking causing greater regurgitation susceptibility [14].

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