Physiological Model of Encopresis

2 MAJOR FUNCTIONS OF COLON:
(a) Temporary storage of feces
(b) Resorption of water and salts from stored feces

NORMAL/DEFECATION PROCESS
- Rectum remains empty until feces, stored in the sigmoid colon, enter the rectal vault and initiate a series of coordinated autonomic reflexes.
- Distention of and/or pressure against the internal and external sphincter elicits the brain (via different neural pathways) that defecation is necessary and imminent.
- If defecation is inconvenient or socially inappropriate, the external anal sphincter is contracted voluntarily and defecation is postponed for a short period.
- When defecation is convenient and socially appropriate, closure of the glottis, voluntary contraction of the abdomen wall and application of downward pressure against the closure of the glottis, voluntary contraction of the abdomen

TREMENDOUS IMPORTANCE TO THE study of encopresis is the awareness that defecation is necessary and imminent.

Initial Symptoms of Chronic Constipation:
(a) Infrequent bowel movements (< 3 weekly)
(b) Palpable (visible) abdominal mass
(c) Fecal bowel movements
(d) Severe stool withholding

NOTE: painful defecation, chronic constipation, and toileting refusal appear involved in the pathogenesis of functional encopresis.

Toileting Refusal: Possible Contributing Factors
(a) Psychosocial stressors
(b) Constipation or experimental toileting training
(c) Fear of failure
(d) Differential maternal attention to refusal
(e) Lack of adequate foot supports required for bearing down during defecation
(f) Mild constipation, episodic hard stools, pain from defecation, and/or diaper irritation
(g) Oppositional behavior

Mechanism by which toileting refusal contributes to loss of bowel control:
(a) Voluntary bowel movement withholding prevents defecation and progressive impaction comes as peristaltic movements of the colon cough off bowel matter into a firm, hard mass.
(b) When normal bowel capacity is exceeded, a large caliber stool is passed painlessly.
(c) To avoid recurrence of painful event, the constipated child inadvertently initiates a vicious paradoxic cycle in which each stool withholding episode decreases colonic motility, increases constipation and local stool pressure, which further leads to progressive local hardening and impaction.
(d) Occasional liquid feedWatch out for diabetologists with food intolerance (e.g., milk, corn, dairy products).
(e) Web-intoxicated parents may misinterpret the overflow incontinence as constipation.
(f) Infants fed formula: parents may misinterpret the overflow incontinence as constipation.

Toilet training acquires the child with the relevant propagandistic feedback from the colon and rectum and helps the child coordinate abdominal pressures and relaxation of the external anal sphincter with timely positioning over the toilet.

Factors related to Constipation:
(a) Hereditary factors (e.g., long gastrointestinal transit time, overly efficient gastrointestinal absorption of water).
(b) Dietary habits (e.g., insufficient consumption of dietary fibers, excessive consumption of bland foods and/or dairy products).
(c) Environmental effects (e.g., local poisoning).
(d) Illnesses (e.g., irritable bowel syndrome) and medications.
(e) Behavioral factors (e.g., insufficient exercise, insufficient fluid intake, changes in daily routine, reunions with relatives, uncomfortable toilet training, voluntary bowel movement withholding to avoid painful defecation or to obtain secondary gain).

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ASSESSMENT
(a) Ruling Out organic causes (e.g., medical/pediatric consult)
(b) Stooling history from parents/caregivers:
   (1) Patterns of stooling
   (2) Stooling frequency
   (3) Stool size
   (4) Stool consistency
   (5) Other factors (e.g., anal skin irritation, fissures)
(c) Family medical history
(d) Diet history and dietary habits
(e) History of health habits (diet, exercise)
(f) Toilet training outcomes, soiling history, functional analysis

Basic Treatment Approach:
(a) Education of parents
(b) Toilet distraction
(c) Prevention of future impaction with daily administration of milk of magnesia taken by mouth
(d) Promotion of regular bowel habits with dietary fiber and milk of magnesia
(e) Positive reinforcement for toilet sitting and stool use for bowel movements

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