Chronic Diarrhea

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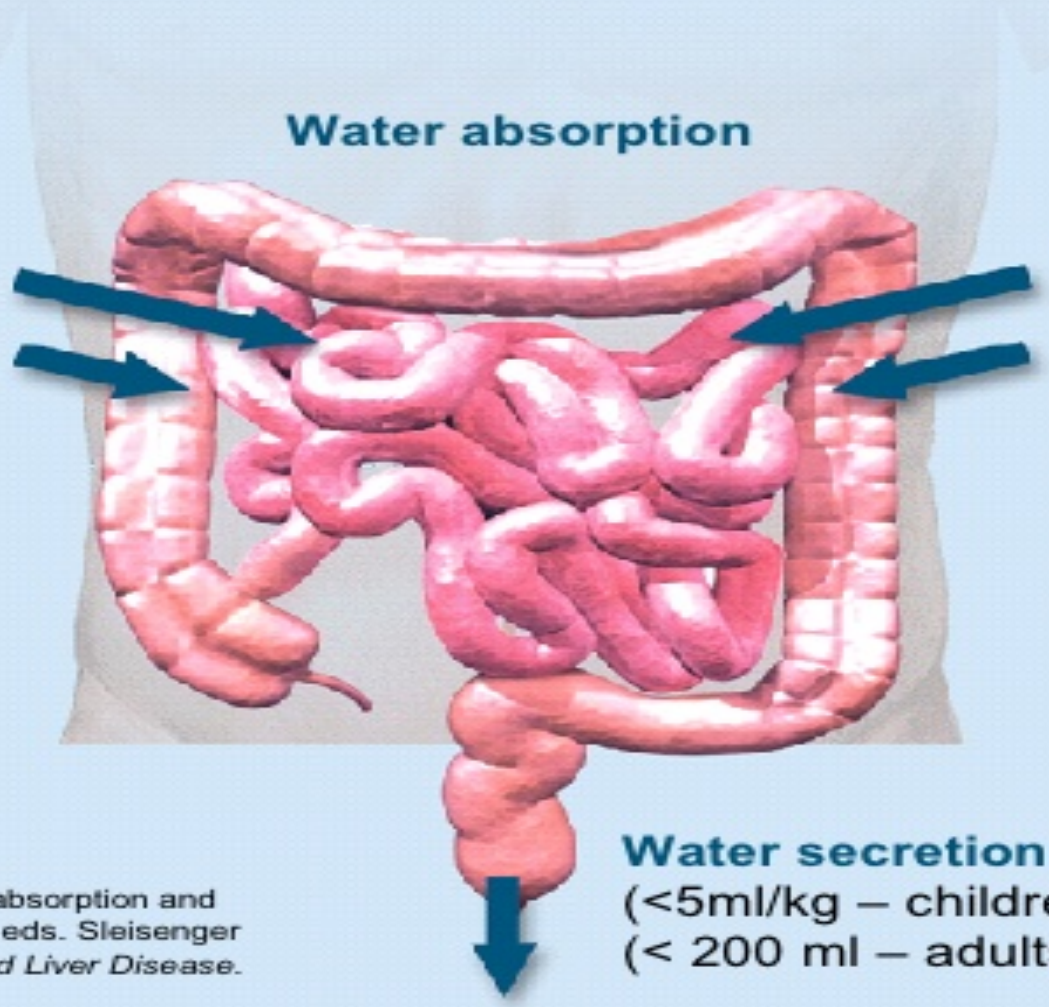
Chronic Diarrhea

Decrease of the consistency and/or increase of frequency and/or volume of stools lasting longer than two weeks, where the change in stool consistency is more important than stool frequency

DAILY WATER EXCHANGES

Exogenous sources:
(2 liters)

- Food
- Fluid intake

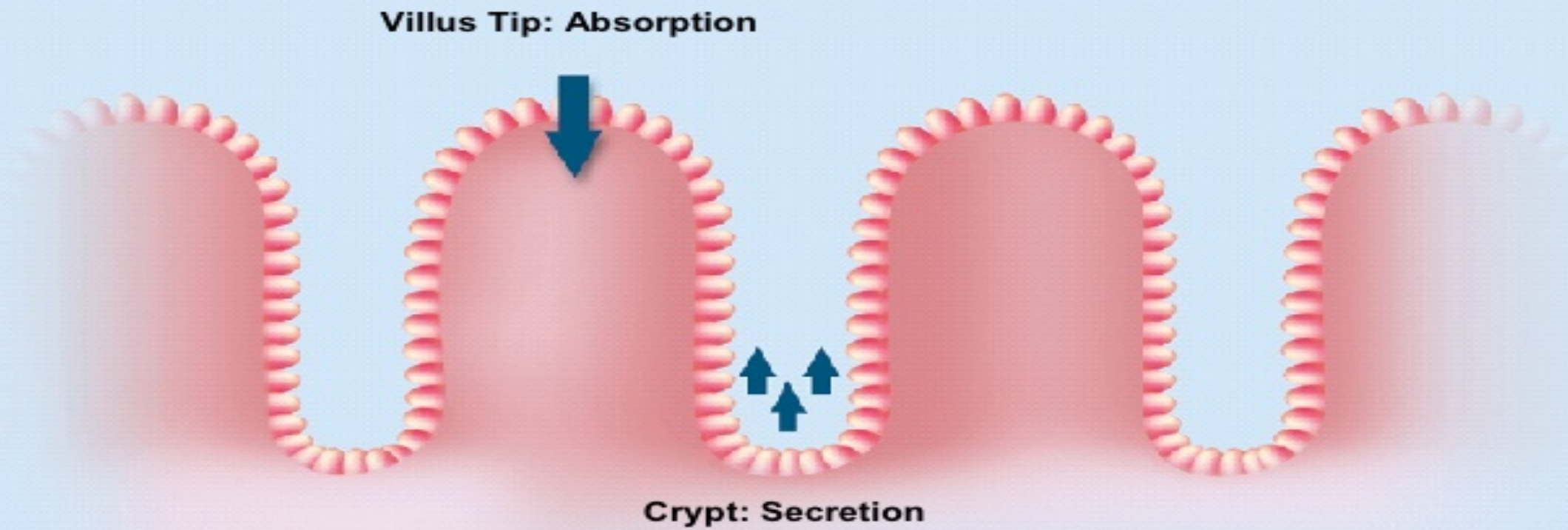


Endogenous sources:
(7 liters)

- Saliva
- Gastric juices
- Intestinal secretions
- Pancreatic juices
- Biliary secretions

Sellin JH. Intestinal electrolyte absorption and secretion. In: Feldman M, et al, eds. Sleisenger & Fordtrans *Gastrointestinal and Liver Disease.* 6th ed. 1998: 1451-1471

NORMAL STATE



Farthing M. *Digestive Diseases (Review Article)* 2006;24:47-58

Chronic Diarrhea: Pathogenesis

- Osmotic
- Secretory
- Inflammatory
- Dysmotility
- Factitial

Chronic Diarrhea: Evaluation

- Insidious, no fever
- Small bowel, profuse, watery, offensive, no blood
- Colon, small with blood or mucus (Dysentery)
- Dietetic history (formula, gluten, soy, eggs etc..)
- Drugs (antibiotics, laxatives, colchicine, propranolol etc..)

Chronic Diarrhea: History

Age

Family history

Growth

Associated symptoms

Dietary history

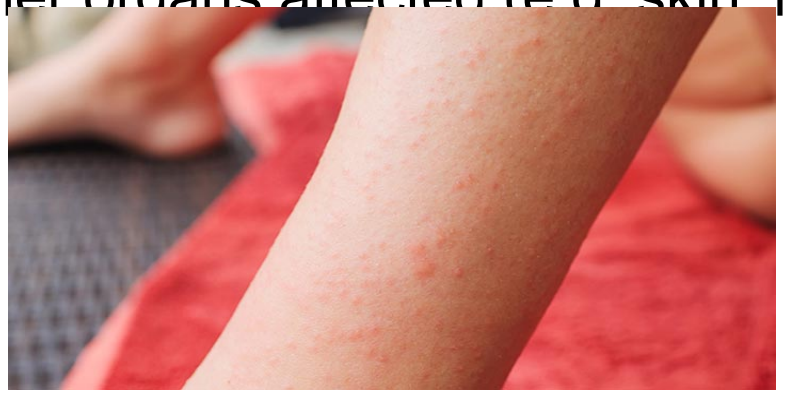
Stool characteristics

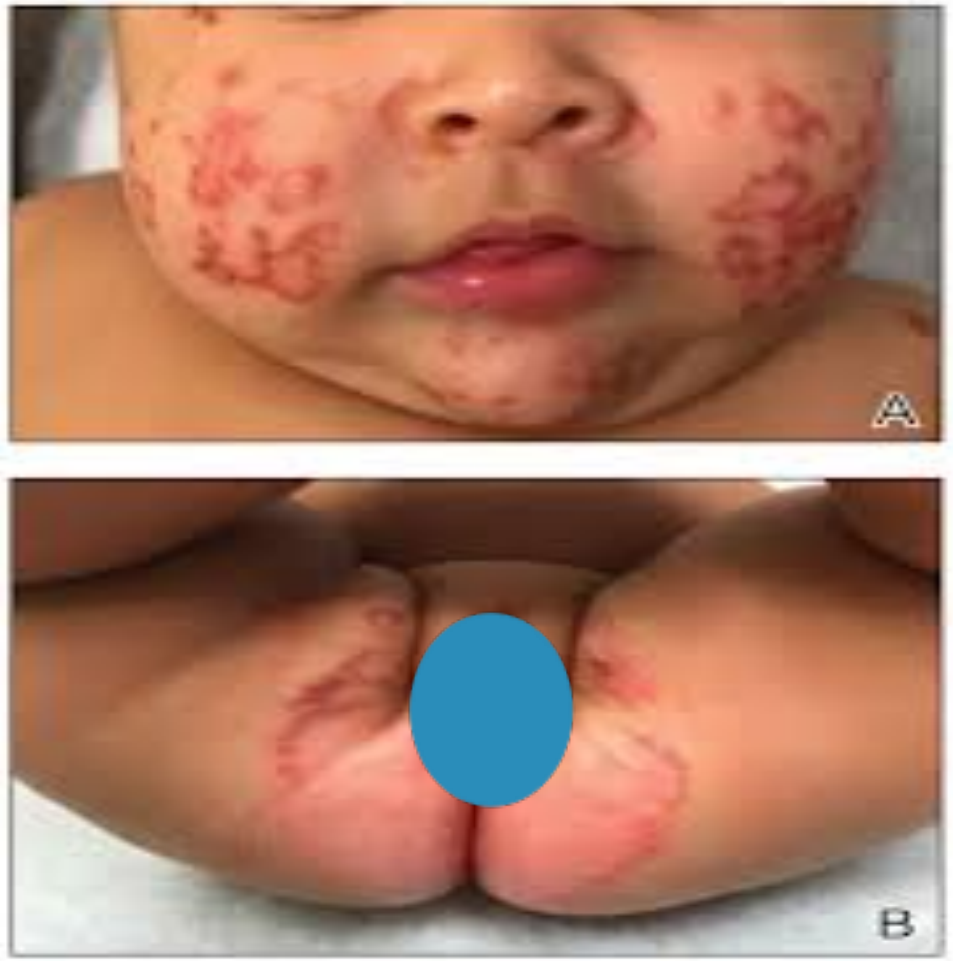
Stool characteristics

- Undigested food particles
- Mucus
- Blood
- Steatorrhea
- Offensive smell

Physical examination

- Weight and height for age
- Abdominal distension
- Tenderness
- Perianal area
- Oral lesions
- Other organs affected (e.g. skin, respiratory…)





Acrodermatitis

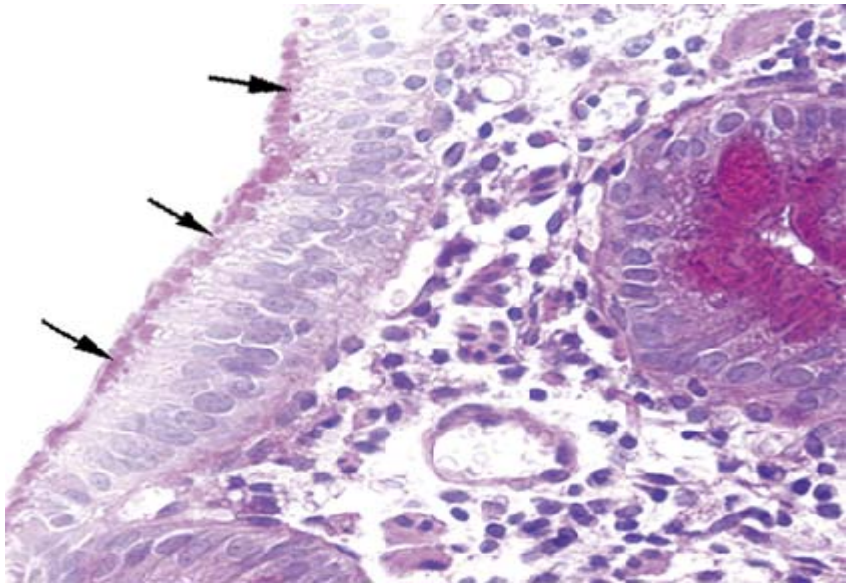
DH (Clusters of small, itchy bumps)

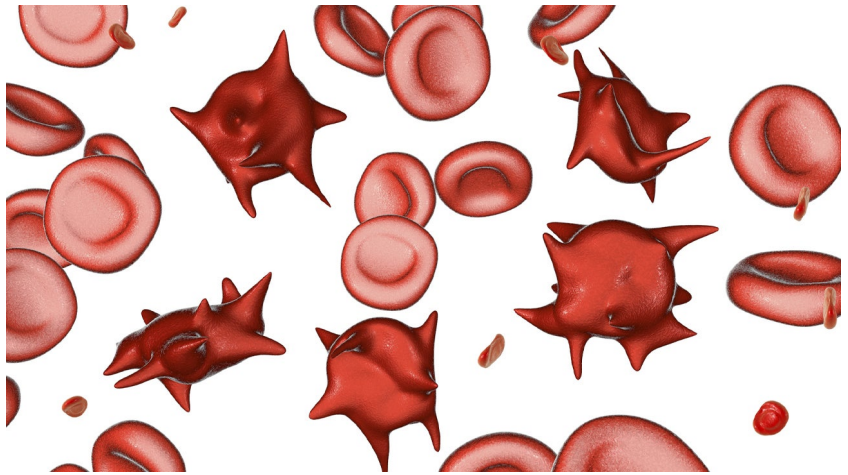
Chronic Diarrhea: Red Flags

- Poor weight gain, weight loss or FTT
- Night stool
- Acid stools with burning sensation and redness
- Presence of blood and mucus
- Associated symptoms of systemic disease, rash, fever, arthritis etc..

Chronic diarrhea and age (birth-30 days)

- Acrodermatitis enteropathica
- Congenital chloridorrhea
- Abetalipoproteinemia
- Congenital microvillus atrophy
- Glucose-galactose malabsorption
- Cystic Fibrosis
- Cow's milk protein allergy





Chronic diarrhea and later age

- Chronic infections
- Post-infectious diarrhea
- Food allergy
- Celiac disease
- Chronic non-specific diarrhea (Toddler's)
- Inflammatory bowel disease

Urgency


PEOPLE SAY LOVE IS
THE BEST FEELING
BUT I THINK FINDING A
TOILET WHEN HAVING
DIARRHEA
IS MUCH BETTER
بصراحة
صح

Chronic Diarrhea: Investigations

- Feces
- Blood
- Imaging
- Endoscopy & Pathology

Chronic Diarrhea: Investigations on feces

- Stool analysis and culture
- pH and Reducing substances
- Fat, Elastase
- Alpha 1 antitrypsin
- Calprotectin

Chronic Diarrhea: Blood tests

- CBC and blood film
- Serum electrolytes
- Inflammatory parameters (CRP, ESR), cultures
- Nutritional status (Ferritin, folate, serum protein…)
- Celiac disease serology
- The best way to test for celiac disease is with the Tissue Transglutaminase IgA antibody (tTG-IgA), plus an IgA antibody

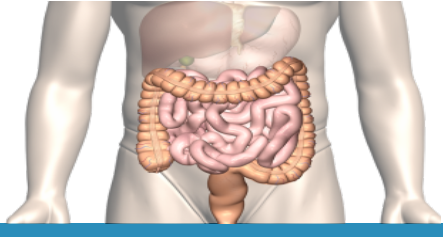
Chronic Diarrhea: Imaging

- Barium follow through
- CT
- MRI
- Ultrasound

Cow's milk protein allergy

- The most common food allergy in infancy (up to 5%)
- Very diverse presentation and DD
- Diagnosis by elimination and challenge
- Treatment by exclusive breastfeeding or hydrolyzed formula
- Resolves before 3 years

Celiac Disease



- Age of onset
- Implicated food
- Pathology
- Presentation

- Screening
- GFD

- Time of cereals introduction
- Wheat, barley, rye and ? Oats
- Villus atrophy, ↑crypts, ↑IEL
- Distention, diarrhea, FTT
- Associations
- Most
- Lifelong

Cystic Fibrosis

- In the neonatal period, with intestinal obstruction; meconium ileus
- With recurrent or persisting cough often associated with wheeze
- Malabsorption; large, pale, bulky and offensive stools
- Failure to thrive
- Rectal prolapse
- Rarely, heat stroke
- Sweat chloride concentration is ↑
- Staphylococcus + pseudomonas aeruginosa
- Physiotherapy
- Enzyme replacement
- Hot weather
  ↑ fluid and salt intake

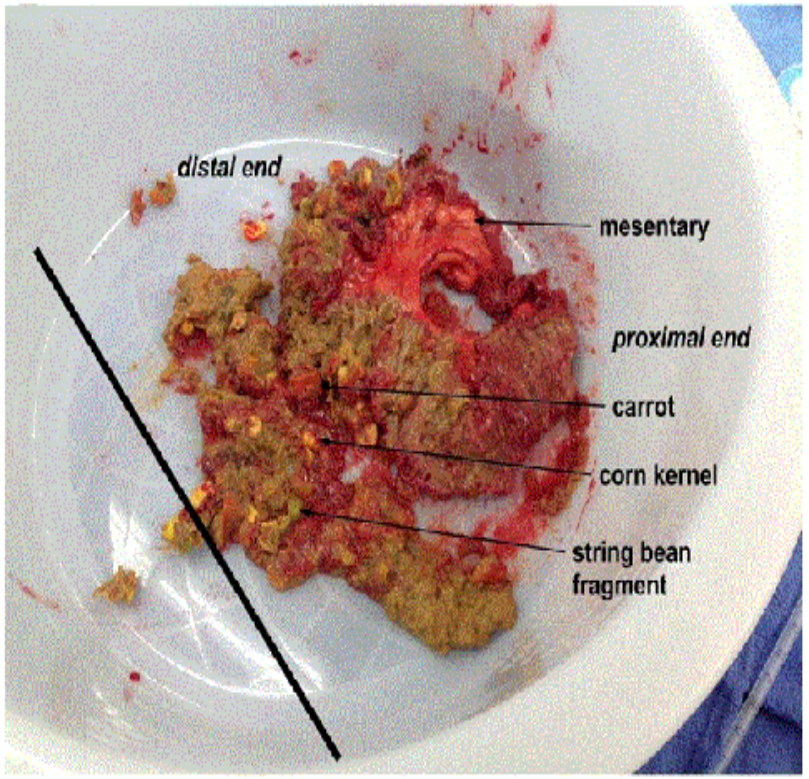
Inflammatory Bowel Disease

Differential Diagnosis Between Ulcerative Colitis and Crohn's Disease

Feature	Ulcerative colitis	Crohn's disease
Relative incidence of symptoms		Rare
Rectal bleeding (gross)	Common	Moderate or even absent
Diarrhea	Often severe	Almost always
Pain	Less frequent	Can be severe
Anorexia	Mild or moderate	Severe
Weight loss	Moderate	Often pronounced
Growth retardation	Usually mild	Common
Extraintestinal manifestations	Common	

Toddler's diarrhea (chronic non specific diarrhea)

- Most common cause between two and four years of age
- Intermittent and self limited
- No pain, no distension, no vomiting
- No effect on weight and on nutrition
- Large consumption of juices
- Undigested food particles



Chronic Diarrhea: Treatment

- Supportive
  - Dehydration
  - Electrolyte imbalance
  - Nutrients
- Empirical
  - Antidiarrheal drugs
- Curative
  - Antibiotics
  - Pancreatic enzymes
  - Dietary

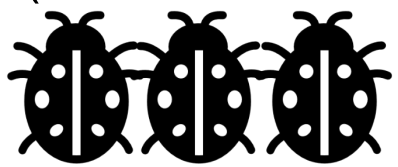
Chronic Diarrhea: Preventable?

- 1 % of acute diarrheas become chronic leading to
  - Malnutrition
  - High morbidity and mortality

- Poor management of AGE
- Bottle feeding
- Milk allergy
- Antibiotics use
- Age below 18 months
- Malnourished child (low Zn, vitamin A)

Chronic Diarrhea: Facts

- Most cases are not of infectious origin
- Need extensive work up of diverse diseases
  - Eosinophilic disorders
  - Inflammatory bowel disease
  - Cystic fibrosis
  - Exocrine pancreatic insufficiency
  - Celiac disease
  - Congenital and hereditary disorders
  - Functional (toddlers diarrhea, IBS)
  - Others




Thank You