Διαφορική Διάγνωση

The Orphan, or Fatal Cholera, 1832, Vigneron, Pierre Roch (1789-1872)

Ε` Παθολογική Κλινική

Διευθυντής: Δρ. Αθανάσιος Θ. Σκουτέλης, Καθηγητής Παθολογίας-Λοιμώξεων

Τότσικας Χαρίσης (ειδικευόμενος)

Διαφορική Διάγνωση

Άνδρας 59 ετών, διακομίστηκε από νοσοκομείο της περιφέρειας για έλεγχο, από 7-ετίας, αναφερόμενων διαλειπόντων επεισοδίων διάρροιας.

N Engl J Med 2013; 369:e21

Διάρροια

Δήλωση σύγκρουσης συμφερόντων:

Δεν υφίσταται καμία σύγκρουση συμφερόντων

Διάρροια

Φυσιολογικό βάρος κοπράνων	→	200 gr/d
Φυσιολογική συχνότητα κενώσεων	→	3/d – 3/w

Διάρροια

Χρόνια Διάρροια

Χρόνια Διάρροια

- Συνήθης πάθηση
- 4%-5% του γενικού πληθυσμού στις ανεπτυγμένες χώρες
- Σημαντική επίπτωση σε: ποιότητα ζωής
  δαπάνες στα συστήματα υγείας
  εργασία
- USA >350.000.000 **$**/έτος *(μόνο από τις χαμένες ώρες εργασίας)*

Uptodate, 2015; Schiller L.R. Diarrhea. Med Clin North Am. 2000;84(5):1259–1274

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Juckett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Διαφορική διάγνωση

Διάκριση οργανικής από λειτουργική διάρροια:

<u>Συμπτώματα:</u>

- Αναιμία
- Απώλεια αίματος από το ορθό
- Νυχτερινή αφύπνιση
- Γενικά συμπτώματα (Απώλεια βάρους, πυρετός)
- Πρόσφατη έναρξη

} **Οργανική**

- ✓ (-) Οικογενειακό ιστορικό
- ✓ (-) Εργαστηριακός έλεγχος
- ✓ Θετικά κριτήρια Ρώμης III

Διαφορική διάγνωση

Σύνδρομο ευερέθιστου εντέρου:

Κριτήρια Ρώμης ΙΙΙ:

Υποτροπιάζον κοιλιακό άλγος ή δυσφορία τουλάχιστον 3 ημέρες/ μήνα τους τελευταίους 3 μήνες, συνοδευμένο από 2 ή περισσότερα από τα παρακάτω:

1. Βελτίωση με την αφόδευση
2. Η έναρξη συνοδεύεται από αλλαγή της συχνότητας των κενώσεων
3. Η έναρξη συνοδεύεται από αλλαγή της σύστασης των κενώσεων

Τα κριτήρια πρέπει να πληρούνται τους τελευταίους 3 μήνες αλλά η έναρξη των συμπτωμάτων τουλάχιστον 6 μήνες πριν.

GASTROENTEROLOGY 2006;130:1480 –1491

Διαφορική διάγνωση

Σύνδρομο ευερέθιστου εντέρου:

Συμπτώματα που υποστηρίζουν τη διάγνωση:

1. Παθολογική συχνότητα κενώσεων (>3/d - <3/ wk)
2. Παθολογική σύσταση κενώσεων (σκληρά ή υδαρή κόπρανα)
3. Διαταραχή αφόδευσης (έντονη προσπάθεια, έπειξη, αίσθημα ατελούς αφόδευσης)
4. Αποβολή βλέννας
5. Αίσθημα κοιλιακής διάτασης, μετεωρισμός

GASTROENTEROLOGY 2006;130:1480 –1491

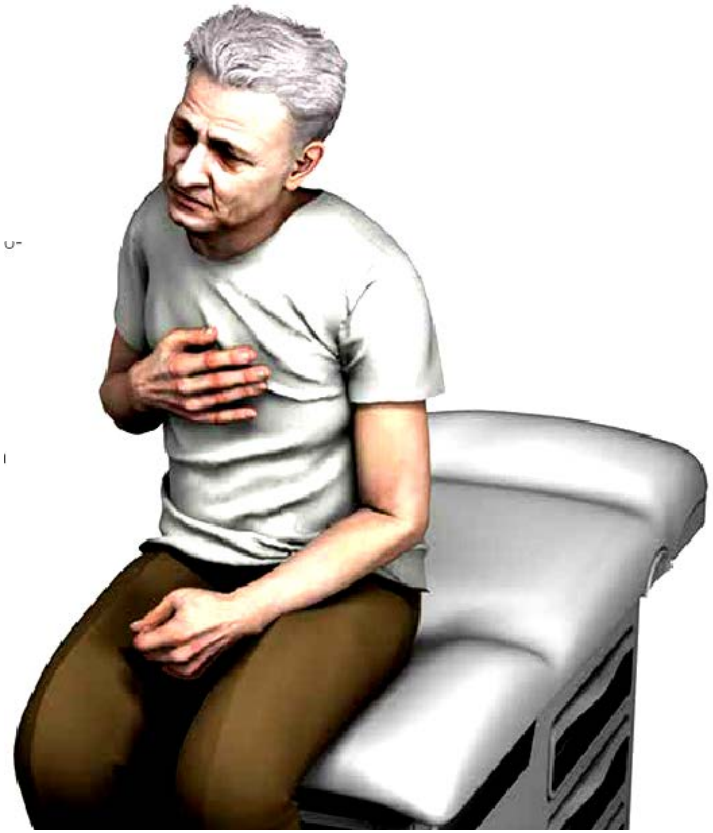
Διαφορική διάγνωση

Διάκριση οργανικής από λειτουργική διάρροια:

<u>Συμπτώματα:</u>

- Αναιμία (Hb= 11gr/dl)

✓ (+) Οικογενειακό ιστορικό
✓ Δεν πληρεί τα κριτήρια Ρώμης III



N Engl J Med 2013; 369:e21

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

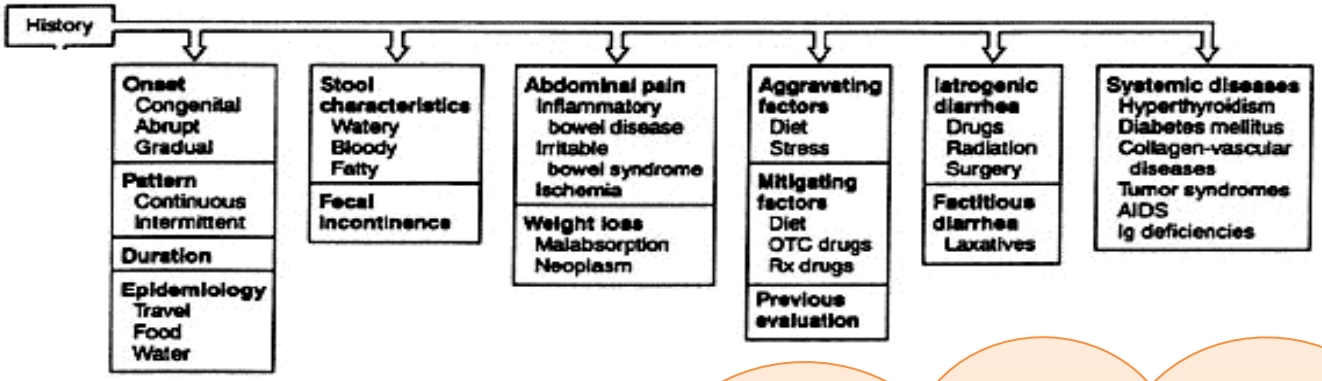
Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Jackett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Φλεγμονώδη αίτια

Εκτίμηση Χρόνιας Διάρροιας



1. Δεν πυρέσει
2. Δεν αναφέρει κοιλιακό άλγος
3. Δεν αναφέρει απώλεια βάρους

N Engl J Med 2013; 369:e21

Gastroenterology 1999 116, 1464-1486

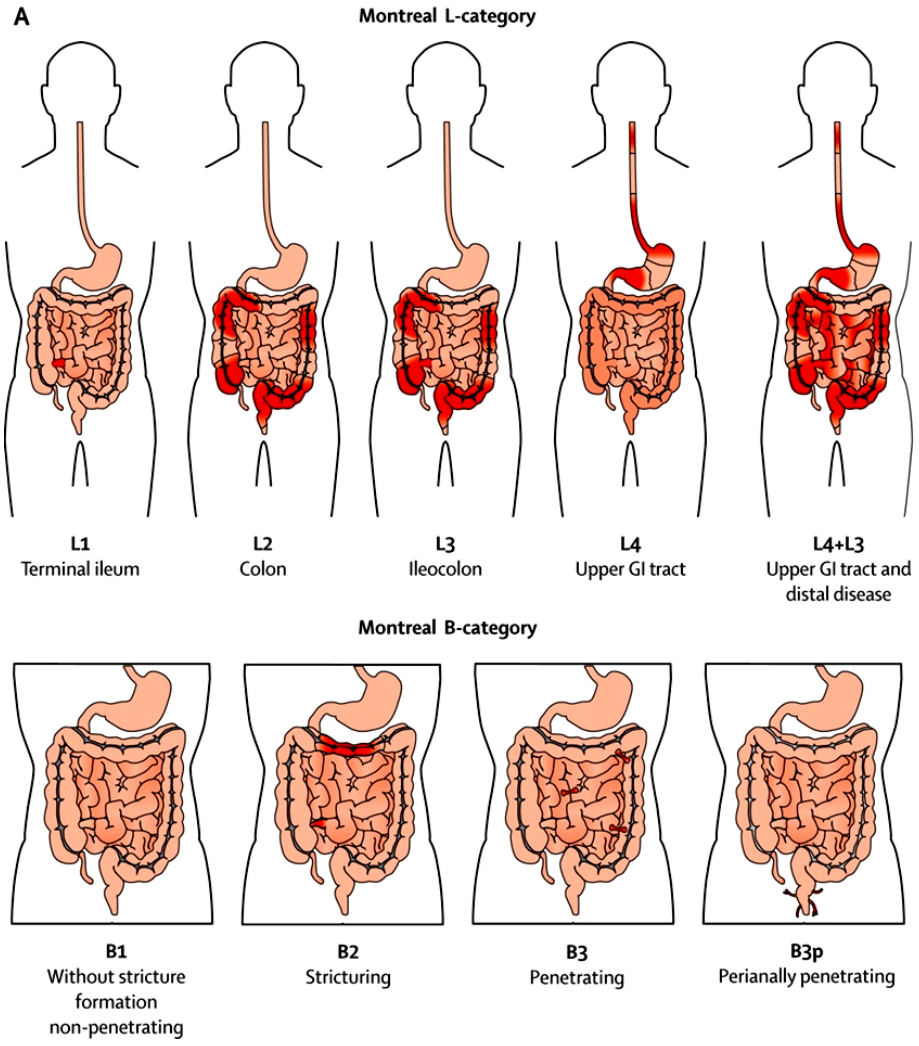
Εκτίμηση Χρόνιας Διάρροιας

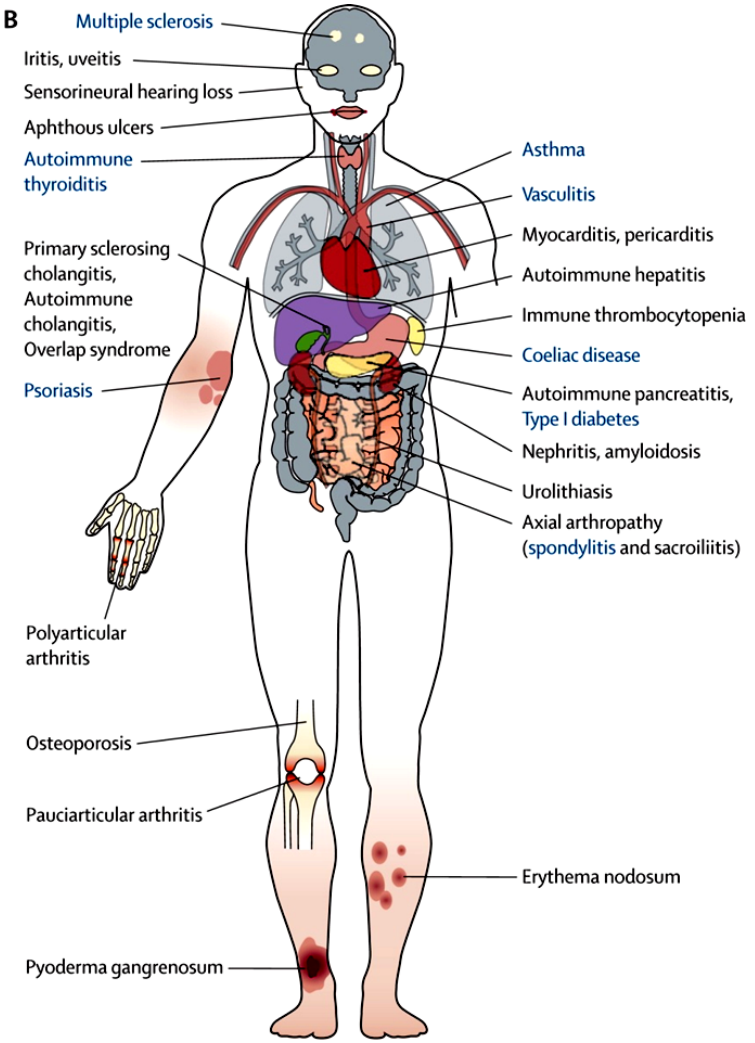
ΙΦΕΝ:

1. Χωρίς πυρετό, κοιλιακό άλγος
2. Χωρίς αιματηρές διάρροιες
3. Χωρίς δείκτες φλεγμονής
4. Η ιστολογική εξέταση (κολονοσκόπηση-γαστροσκόπηση), δεν ανέδειξε στοιχεία ΙΦΕΝ

Εκτίμηση Χρόνιας Διάρροιας

Νόσος Crohn:





Baumgart DC, Sandborn WJ; Lancet 2012 Nov 3;380(9853):1590-605

Εκτίμηση Χρόνιας Διάρροιας

Ελκώδης κολίτιδα:

Clinical features

- Rectal bleeding
- Diarrhoea
- Urgency
- Tenesmus
- Abdominal pain
- Fever (severe cases)
- Extraintestinal manifestations

Endoscopic features

- Loss of vascular pattern
- Erythema
- Granularity
- Friability
- Erosions
- Ulcerations
- Spontaneous bleeding

Pathological features

- Distortion of crypt architecture
- Crypt abscesses
- Lamina propria cellular infiltrate (plasma cells, eosinophils, lymphocytes)
- Shortening of the crypts
- Mucin depletion
- Lymphoid aggregates
- Erosion or ulceration

Ordás I, Eckmann L, Talamini M, Baumgart DC, Sandborn WJ; Lancet. 2012 Nov 3;380(9853):1606-19

Διαφορική διάγνωση

Watery

- *Secretory* (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
  - Alcoholism
  - Bacterial enterotoxins (e.g., cholera)
  - Bile acid malabsorption
  - Endocrine disorders (e.g., hyperthyroidism [increases motility])
  - Medications
  - Microscopic colitis (lymphocytic and collagenous subtypes)
  - Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
  - Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
  - Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
  - Vasculitis
- *Osmotic* (fecal osmotic gap > 125 mOsm per kg*)
  - Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
  - Celiac disease
  - Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
  - Sugar alcohols (e.g., mannitol, sorbitol, xylitol)
- *Functional* (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
  - Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

- *Malabsorption syndrome* (damage to or loss of absorptive ability)
  - Amyloidosis
  - Carbohydrate malabsorption (e.g., lactose intolerance)
  - Celiac sprue (gluten enteropathy)–various clinical presentations
  - Gastric bypass
  - Lymphatic damage (e.g., congestive heart failure, some lymphomas)
  - Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
  - Mesenteric ischemia
  - Noninvasive small bowel parasite (e.g., *Giardia*)
  - Postresection diarrhea
  - Short bowel syndrome
  - Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
  - Tropical sprue
  - Whipple disease (*Tropheryma whippelii* infection)
- *Maldigestion* (loss of digestive function)
  - Hepatobiliary disorders
  - Inadequate luminal bile acid
  - Pancreatic exocrine insufficiency

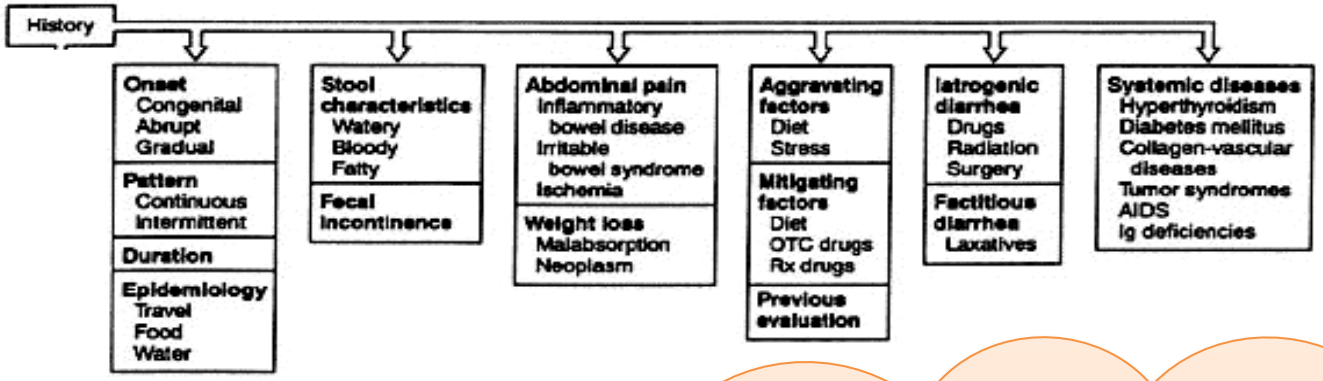
Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)

- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Jackett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Λοιμώδη νοσήματα

Εκτίμηση Χρόνιας Διάρροιας



1. Δεν πυρέσει
2. Δεν αναφέρει κοιλιακό άλγος
3. Δεν αναφέρει απώλεια βάρους
4. Δεν αναφέρει ταξίδια

N Engl J Med 2013; 369:e21

Gastroenterology 1999 116, 1464-1486

Εκτίμηση Χρόνιας Διάρροιας

N Engl J Med 2013; 369:e21

Ασθενής με HIV?

Εκτίμηση Χρόνιας Διάρροιας
Σε HIV (+)

- Συχνότητα εμφάνισής μεταξύ 0,9 και 14%.
- Αυξάνεται σε ομοφυλόφιλους άνδρες και σε ασθενείς με χαμηλό αριθμό CD4 ενώ σε νοσηλευόμενους ασθενείς αγγίζει το 50%
- Ο HIV μπορεί από μόνος του να προκαλέσει διάρροια
- Συνήθως σε έδαφος σαρκώματος Kaposi και N.H.L.

Μαργιολης Η. Γαστρεντερικές εκδηλώσεις σε ασθενείς με HIV/AIDS www.iatrikionline.gr/Gastro_47/8.pdf

Εκτίμηση Χρόνιας Διάρροιας
Σε HIV (+)

Protozoal
Microsporidium*
Cryptosporidium*
Isospora belli
Giardia lamblia
Entamoeba histolytica
Leishmania donovani
Blastocystis hominis
Cyclospora sp

Viral
Cytomegalovirus*
Herpes simplex
Adenovirus
Rotavirus
Norwalk
HIV

Bacterial
Salmonella*
Campylobacter*
Mycobacterium avium complex
Mycobacterium tuberculosis
Clostridium difficile
Shigella
Small bowel bacterial overgrowth
Vibrio sp

Fungal
Histoplasmosis
Coccidiomycosis
Candida albicans

Gut neoplasms
Lymphoma
Kaposi's sarcoma

Pancreatic insufficiency
Infectious pancreatitis
Cytomegalovirus
Mycobacterium avium complex
Drug-induced pancreatitis
Didanosine
Pentamidine
Tumor invasion
Lymphoma
Kaposi's sarcoma

Uptodate, 2015

Εκτίμηση Χρόνιας Διάρροιας

N Engl J Med 2013; 369:e21

1. Δεν ανήκει σε ομάδα υψηλού κινδύνου
2. Φυσιολογικός αριθμός λευκών αιμοσφαιρίων, λεμφοκυττάρων και αιμοπεταλίων
3. Συνήθως μεγάλη απώλεια βάρους, δυσαπορρόφηση
4. Επτά έτη χωρίς αγωγή?
5. Υποχωρεί με PPI?

Εκτίμηση Χρόνιας Διάρροιας

Ψευδομεμβρανώδης κολίτιδα:

1. **Δεν αναφέρεται λήψη αντιβιοτικών**

2. **Η εξέταση κοπράνων δεν ανέδειξε τοξίνη Α ή Β ή Ag *Cl. Difficile* στα κόπρανα *(ευαισθησία εώς 91% και ειδικότητα εώς 98%)***

3. **Ενδοσκοπικός έλεγχος αρνητικός**

Corsello PM, Micic D, Rao K, Waljee AK; Gastroenterology.,2014 Jun;146(7):1820-2

Εκτίμηση Χρόνιας Διάρροιας

Λοιμώδεις παράγοντες:

Άλλα βακτηριακά αίτια:

- *Aeromonas*
- *Campylobacter*
- *Plesiomonas*
- *Yersinia*

Παρασιτώσεις:

- *Cryptosporidium*
- *Cyclospora*
- *Entamoeba*
- *Giardia*
- Microsporida
- *Strongyloides*

Juckett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26; J Infect Dev Ctries.2008 Apr 1;2(2):81-98;

Εκτίμηση Χρόνιας Διάρροιας

Λοιμώδεις παράγοντες:

Enteropathogen		Areas of High Risk	Mode of Transmission	Amount of Inoculum Required for Infection	Incubation Period	Common Symptoms	Diagnostic Method	Adult Treatment	Pediatric Treatment
Giardia		South Asia, Middle East, South America	Drinking water, human contact	Low (<100 CFU/ml)	7–10 Days	Abdominal pain, nausea, persistent watery diarrhea	Stool microscopical examination and stool giardia antigen assay	Metronidazole, 250 mg, 3 times/day for 7–10 days or 500 mg twice a day for 5–7 days	Metronidazole, 5 mg/kg of body weight, 3 times/day for 7–10 days (maximum of 250 mg/dose)
Entamoeba histolytica		South Asia, Southeast Asia, Middle East, South America	Human contact, drinking water	Low (<100 CFU/ml)	11–21 Days	Abdominal pain, fever, persistent watery diarrhea	Stool *E. histolytica* antigen assay	Metronidazole, 500–750 mg, 3 times/day for 7–10 days; plus paromomycin, 500 mg, 3 times/day for 7 days	Metronidazole, 50 mg/kg, in 3 divided doses/day for 7–10 days (maximum of 750 mg/dose)
Strongyloides		Caribbean, Latin America, South America, Africa, Asia, Oceania	Contaminated soil	Low (third-stage larvae)	11–21 Days	Larva currens, abdominal pain, persistent diarrhea	Stool microscopical examination	Ivermectin, 200 μg/kg of body weight/day for 2 days	Ivermectin, 200 μg/kg/day for 2 days (for weight >15 kg)
Schistosoma		Africa, Asia, South America	Fresh-water contact where schistosoma is endemic	Low (few cercariae)	14–84 Days	Katayama syndrome, abdominal pain, persistent diarrhea, hematuria	Kato–Katz stool examination, urine microscopical examination	Praziquantel, 40 mg/kg twice a day for 1 day for *S. hematobium* and *S. mansoni*, and 50 mg/kg 3 times/day for 1 day for *S. japonicum*	Praziquantel (for patients ≥4 yr of age), 40 mg/kg twice a day for 1 day for *S. hematobium* and *S. mansoni*, and 60 mg/kg 3 times a day for 1 day for *S. japonicum*
Campylobacter		South Asia, Southeast Asia	Poultry, milk, drinking water	Low (<100 CFU/ml)	1–4 Days	Acute watery diarrhea, fever	Stool culture	Azithromycin, 500 mg once a day for 3 days	Azithromycin, 10 mg/kg/day for 3–5 days
Shigella		North Africa, South Asia, Southeast Asia, Oceania	Human contact, food, drinking water	Low (<100 CFU/ml)	1–8 Days	Severe diarrhea, dysentery, fever	Stool culture	Ciprofloxacin, 500 mg twice a day for 3 days	Azithromycin, 10 mg/kg/day for 3 days
Salmonella									
Serovar Typhi		South Asia, Africa	Human contact, food, drinking water	High (<100,000 CFU/ml)	5–14 Days	Fever, headache, malaise, abdominal pain, diarrhea	Blood and stool cultures	Ciprofloxacin, 20 mg/kg/day for 7 days; or azithromycin, 20 mg/kg/day for 7 days	Ciprofloxacin, 20 mg/kg/day for 7 days; or azithromycin, 20 mg/kg/day for 7 days
Nontyphoidal		Southeast Asia, Oceania	Poultry, eggs, meat	Medium (1000–100,000 CFU/ml)	8–24 Hr	Fever, headache, malaise, abdominal pain, diarrhea	Blood and stool cultures	Ciprofloxacin, 20 mg/kg/day for 7 days; or azithromycin, 20 mg/kg/day for 7 days	Ciprofloxacin, 20 mg/kg/day for 7 days; or azithromycin, 20 mg/kg/day for 7 days

Ross AG, Olds GR, et al; Enteropathogens and Chronic Illness in Returning Travelers N Engl J Med.2013 May 9;368(19):1817-25

Εκτίμηση Χρόνιας Διάρροιας

Λοιμώδεις παράγοντες:

Tropheryma whipplei

- **1- 11% στην Ευρώπη**
- **8♂ : 1♀**
- **Αρνητική βιοψία**

Feature	Patients with Whipple's Disease
	no./total no. (%)
Male sex	770/886 (87)
Arthralgia or arthritis	244/335 (73)
Diarrhea	272/335 (81)
Weight loss	223/240 (93)
Fever	128/335 (38)
Adenopathy	174/335 (52)
Melanoderma	99/240 (41)
Neurologic signs†	33/99 (33)
Ocular signs†	6/99 (6)
Pleural effusion	26/190 (14)

Fenollar F et al. N Engl J Med 2007;356:55-66

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Jackett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Νεόπλασμα- λέμφωμα

Εκτίμηση Χρόνιας Διάρροιας

N Engl J Med 2013; 369:e21

Ca παχέος εντέρου

- Κολονοσκόπηση αρνητική
- Επτά έτη χωρίς αγωγή?

Εκτίμηση Χρόνιας Διάρροιας

Λεμφώματα λεπτού εντέρου:

- **Ανοσουπερπλαστική νόσος του λεπτού εντέρου (IPSID) ή μεσογειακό λέμφωμα ή νόσος α βαρειών αλύσεων**
- **Τ- λέμφωμα του εντέρου (EATL)**
- **«Δυτικού τύπου» (non-IPSID)**

Uptodate, 2015

Εκτίμηση Χρόνιας Διάρροιας

Λεμφώματα λεπτού εντέρου:

Feature	IPSID-associated lymphoma	Non-IPSID-associated lymphoma
Median age	25 years	37 years
Gender	Primarily males	Slight male predominance
Symptoms and signs	Abdominal pain Chronic diarrhea Malabsorption Severe weight loss Clubbing Ankle edema	Abdominal pain Palpable abdominal mass Bleeding Intestinal obstruction Intestinal perforation
Paraprotein	Usually present	Usually absent

Συσχέτιση με εντερικές λοιμώξεις

Συσχέτιση με κοιλιοκάκη

Uptodate, 2015

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

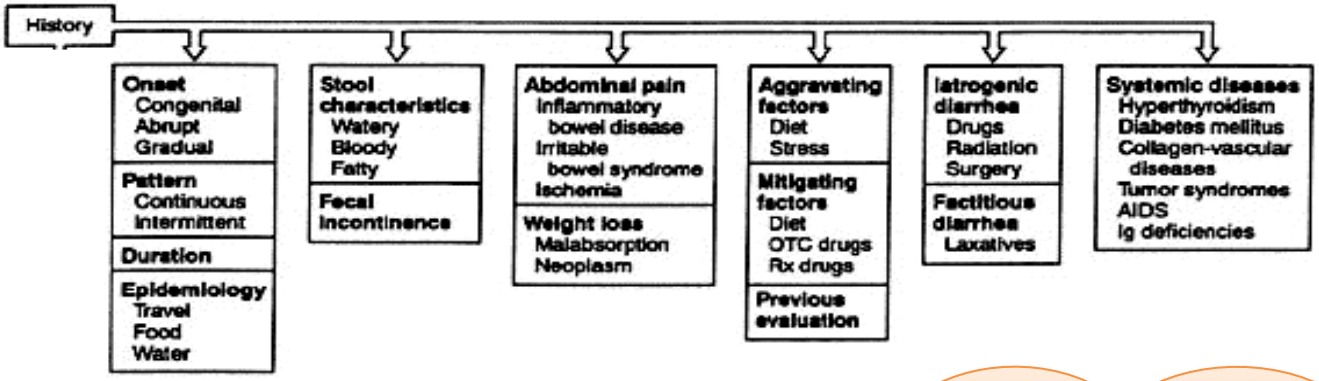
Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Jackett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Δυσαπορρόφηση

Εκτίμηση Χρόνιας Διάρροιας



1. Αλκοόλ διακοπή προ έτους
2. Όχι χρήση αντιβιοτικών
3. Όχι χρήση υπακτικών
4. Σακχαρώδης διαβήτης τύπου 2
5. Φάρμακα: αντιδιαβητικά δισκία
6. Όχι επέμβαση στο έντερο-στομάχι

N Engl J Med 2013; 369:e21

Gastroenterology 1999 116, 1464-1486

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Jackett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Εκτίμηση Χρόνιας Διάρροιας

Κατάχρηση αλκοόλ:

1. **Δυσαπορρόφηση**
2. **Χρόνια παγκρεατίτιδα**

Ωστόσο διακοπή της κατάχρησης σχετίστηκε με επιδείνωση των συμπτωμάτων

4. **Διαταραχή μικροβιώματος**

Keshavarzian, A., *et al* (1986) Intestinal-transit and lactose intolerance in chronic alcoholics. *American Journal of Clinical Nutrition*, **44**, 70–76

Εκτίμηση Χρόνιας Διάρροιας

Σακχαρώδης Διαβήτης τύπου 2:

Due to autonomic neuropathy

Abnormal small intestinal motility

Bacterial overgrowth

Abnormal colonic motility

Anorectal dysfunction - lowered rectal sensory threshold, weak internal anal sphincter

Ωστόσο τα συμπτώματα προηγήθηκαν της διάγνωσης ΣΔτ2

Due to associated factors

Dietetic foods - sorbitol

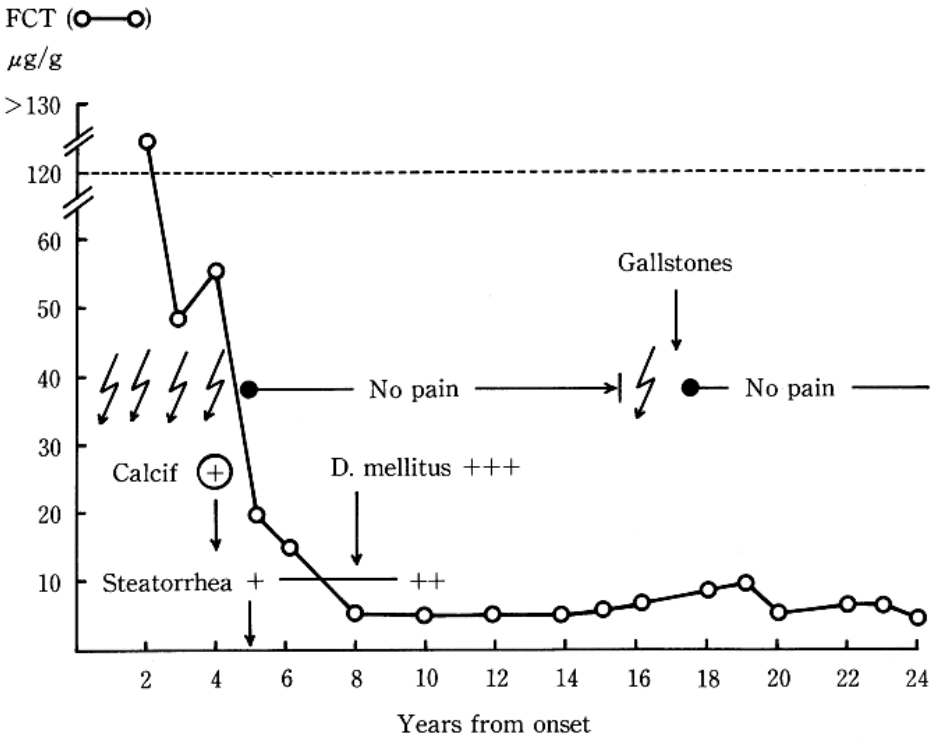
Concurrent celiac sprue - similar genetic predisposition

Bile acid malabsorption (?)

Uptodate, 2015

Εκτίμηση Χρόνιας Διάρροιας

Χρόνια παγκρεατίτιδα:



1. Πόνος στο επιγάστριο και στο αριστερό υποχόνδριο, αντανακλά γύρω από την κοιλιά ή εντοπίζεται στην πλάτη, ήπιας, μέτριας ή σοβαρής έντασης, συσχετίζεται ή μη με τα γεύματα.

2. Απώλεια σωματικού βάρους

3. Κενώσεις ογκώδεις και λιπαρές (στεατόρροια), γκρίζου χρώματος, που επιπλέουν στην λεκάνη της τουαλέτας

Internal Medicine Vol. 40, No. 5

Εκτίμηση Χρόνιας Διάρροιας

N Engl J Med 2013; 369:e21

- Δεν αναφέρει κοιλιακό άλγος
- Οι κενώσεις είναι υδαρείς
- Χωρίς μακροκυττάρωση
- Φυσιολογικό INR

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

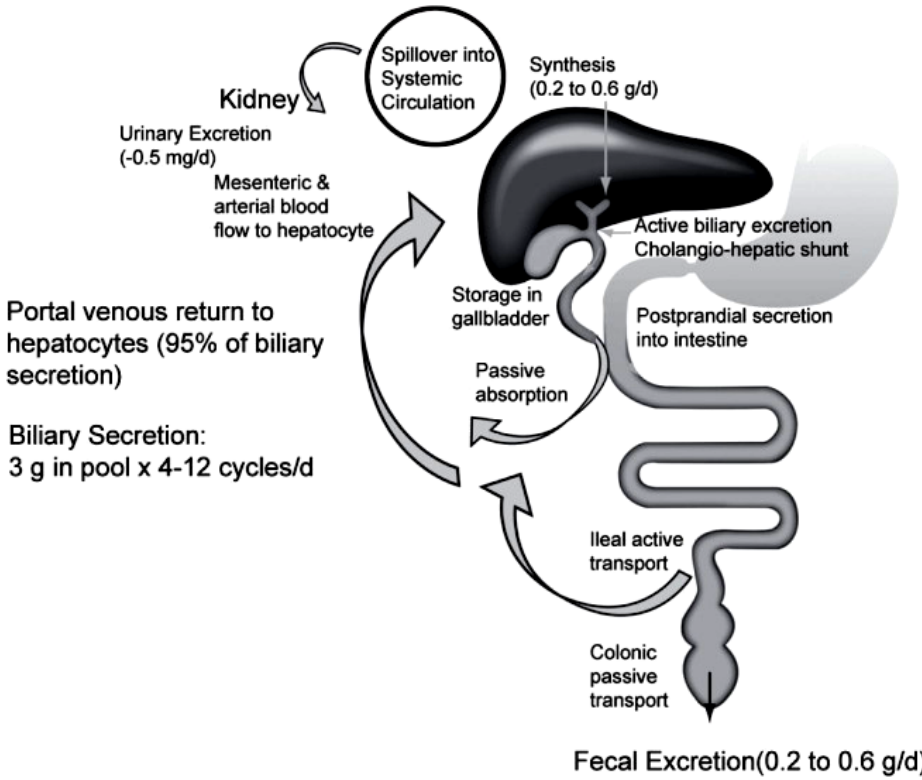
Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Jackett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Εκτίμηση Χρόνιας Διάρροιας

Δυσαπορρόφηση χολικών οξέων:



Μεγάλη ποσότητα ή παραμονή χολικών οξέων στον ΓΕΣ, προκαλεί διάρροια:

1. Εμποδίζοντας την επαναρρόφηση νερού και νατρίου
2. Αυξάνοντας την κινητικότητα
3. Βλάπτοντας το επιθήλιο

Can J Gastroenterol. 2013 Nov; 27(11): 653–659

Εκτίμηση Χρόνιας Διάρροιας

Δυσαπορρόφηση χολικών οξέων:

1. Τύπος 1: πάθηση, εκτομή ή παράκαμψη του ειλεού
2. Τύπος 2: πρωτοπαθής δυσαπορρόφηση χολικών οξέων
3. Τύπος 3: δυσαπορρόφηση χολικών οξέων μετά από στελεχιαία βαγοτομή ή χολοκυστεκτομή

Can J Gastroenterol. 2013 Nov; 27(11): 653–659

Εκτίμηση Χρόνιας Διάρροιας

Δυσαπορρόφηση χολικών οξέων:

N Engl J Med 2013; 369:e21

- Δεν αναφέρει χολοκυστεκτομή, στελεχιαία βαγοτομή ή επέμβαση στον τελικό ειλεό (τύπος 1 και 3)
- Έχουμε αποκλείσει CD, UC (τύπος 1)
- Ο τύπος 2 συνοδεύεται από ιστολογικές αλλοιώσεις στον τελικό ειλεό (μερική ατροφία των λαχνών, υπερπλασία των πτυχών)

Ημέρες παθολογίας 1999, Απρίλιος, σελ: 115

Εκτίμηση Χρόνιας Διάρροιας

Παθήσεις του ηπατοχολικού συστήματος

- Χωρίς κλινικά και εργαστηριακά σημεία κίρρωσης
- Χωρίς κλινικά και εργαστηριακά σημεία χολόστασης

Διαφορική διάγνωση

Watery

- *Secretory* (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
  - Alcoholism
  - Bacterial enterotoxins (e.g., cholera)
  - Bile acid malabsorption
  - Endocrine disorders (e.g., hyperthyroidism [increases motility])
  - Medications
  - Microscopic colitis (lymphocytic and collagenous subtypes)
  - Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
  - Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
  - Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
  - Vasculitis
- *Osmotic* (fecal osmotic gap > 125 mOsm per kg*)
  - Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
  - Celiac disease
  - Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
  - Sugar alcohols (e.g., mannitol, sorbitol, xylitol)
- *Functional* (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
  - Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

- *Malabsorption syndrome* (damage to or loss of absorptive ability)
  - Amyloidosis
  - Carbohydrate malabsorption (e.g., lactose intolerance)
  - Celiac sprue (gluten enteropathy)–various clinical presentations
  - Gastric bypass
  - Lymphatic damage (e.g., congestive heart failure, some lymphomas)
  - Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
  - Mesenteric ischemia
  - Noninvasive small bowel parasite (e.g., *Giardia*)
  - Postresection diarrhea
  - Short bowel syndrome
  - Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
  - Tropical sprue
  - Whipple disease (*Tropheryma whippelii* infection)
- *Maldigestion* (loss of digestive function)
  - Hepatobiliary disorders
  - Inadequate luminal bile acid
  - Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)

- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Jackett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Διαφορική διάγνωση

Φάρμακα:

Osmotic

Citrates, phosphates, sulfates

Magnesium-containing antacids and laxatives

Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Secretory

Antiarrhythmics (e.g., quinine)

Antibiotics (e.g., amoxicillin/clavulanate [Augmentin])

Antineoplastics

Biguanides

Calcitonin

Cardiac glycosides (e.g., digitalis)

Colchicine

Nonsteroidal anti-inflammatory drugs (may contribute to microscopic colitis)

Prostaglandins (e.g., misoprostol [Cytotec])

Ticlopidine

Motility

Macrolides (e.g., erythromycin)

Metoclopramide (Reglan)

Stimulant laxatives (e.g., bisacodyl [Dulcolax], senna)

Malabsorption

Acarbose (Precose; carbohydrate malabsorption)

Aminoglycosides

Orlistat (Xenical; fat malabsorption)

Thyroid supplements

Ticlopidine

Pseudomembranous colitis (*Clostridium difficile*)

Antibiotics (e.g., amoxicillin, cephalosporins, clindamycin, fluoroquinolones)

Antineoplastics

Immunosuppressants

Juckett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Εκτίμηση Χρόνιας Διάρροιας

Αντιδιαβητική αγωγή:

Comparison	Type and Number of Studies*	Participants, *n*	Range in Risk Estimates†	Strength of Evidence; Conclusion
Met vs. TZD	RCT: 5	5021	Diarrhea: Met, 15%–24%; TZD, 3%–8%	High; favors TZD
Met vs. SU	RCT: 11	5745	Diarrhea: Met, 2.4%–50%; SU, 0%–13%	Moderate; favors SU
TZD vs. SU	RCT: 4	6083	Diarrhea: TZD, 6%–9%; SU, 6%–10%	High; neither favored
SU vs. GLP-1	RCT: 2	895	Diarrhea: SU, 3.8%–9%; GLP-1, 6%–19%	Low; favors SU

Μετφορμίνη > GLP-1 > πιογλιταζόνη ~ σουλφονυλουρίες

Ωστόσο τα συμπτώματα προηγήθηκαν της έναρξης αντιδιαβητικής αγωγής

Bennett WL et al; Comparative effectiveness and safety of medications for type 2 diabetes: an update including new drugs and 2-drug combinations; Ann Intern Med. 2011;154(9):602-613

Εκτίμηση Χρόνιας Διάρροιας

PPI‘s:

1. Διάρροια στο 1,9%- 4,1% σε χρόνια λήψη PPI‘s

2. Η χρόνια λήψη έχει συσχετισθεί για κολίτιδα από *Cl*

Ωστόσο τα συμπτώματα βελτιώθηκαν με τη λήψη PPI’s

μικροσκοπική κολίτιδα (lansoprazole-associated collagenous colitis)

Umeno J et al. Gastrointest Endosc. 2008;67:1185–1191;Thomson ABR, et al. World J Gastroenterol. 2010;16:2323–2330; Dial S, et al. JAMA, 2005 Dec 21;294(23):2989-95

Εκτίμηση Χρόνιας Διάρροιας

N Engl J Med 2013; 369:e21

- Δεν αναφέρονται στοιχεία ενδεικτικά καρδιακής ανεπάρκειας
- Δεν αναφέρεται άλγος μετά τη λήψη τροφής
- Δεν αναφέρεται στεφανιαία νόσος ή σημεία περιφερικής αγγειοπάθειας

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Jackett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Εκτίμηση Χρόνιας Διάρροιας

Βακτηριακή υπερανάπτυξη:

1. Διαταραχή κινητικότητας του εντέρου (ΣΔ, Φάρμακα, Αμυλοειδές)
2. Νεοπλάσματα
3. Διαταραχές της δομής του εντέρου (σύνδρομο τυφλής έλικας)
4. Χρόνια εντερική ψευδοαπόφραξη
5. Αχλωρυδρία (γαστρεκτομή, κακοήθης αναιμία, PPIs κλπ)
6. Διαταραχές της ανοσίας (υπογαμασφαιριναιμία, HIV, λέμφωμα)

Ημέρες παθολογίας 1999, Απρίλιος, σελ: 115

Εκτίμηση Χρόνιας Διάρροιας

N Engl J Med 2013; 369:e21

- Κοιλιακή διάταση, μετεωρισμός
- Απώλεια βάρους
- Δυσαπορρόφηση
- Στεατόρροια
- Στην περίπτωσή μας, ύφεση όχι με αντιβίωση αλλά με PPIs

Ημέρες παθολογίας 1999, Απρίλιος, σελ: 115

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

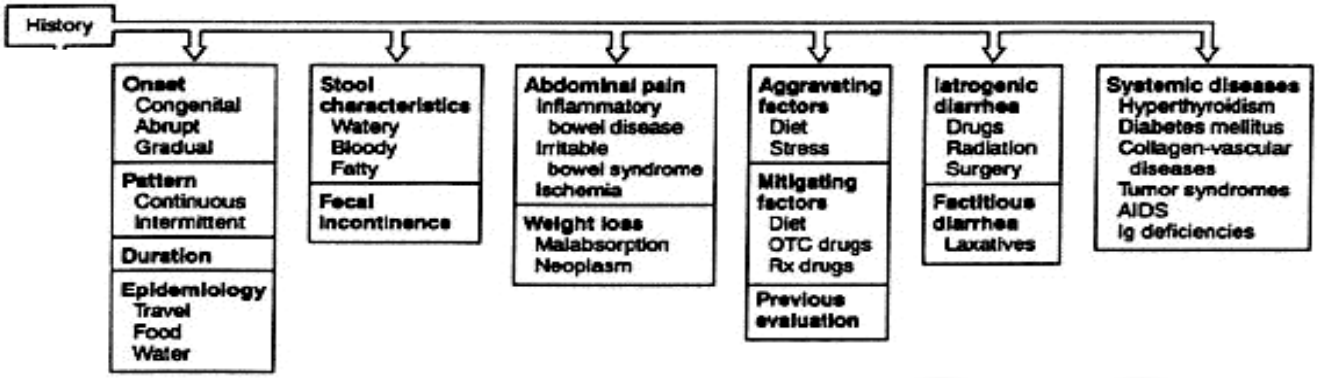
Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Jackett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Εκτίμηση Χρόνιας Διάρροιας

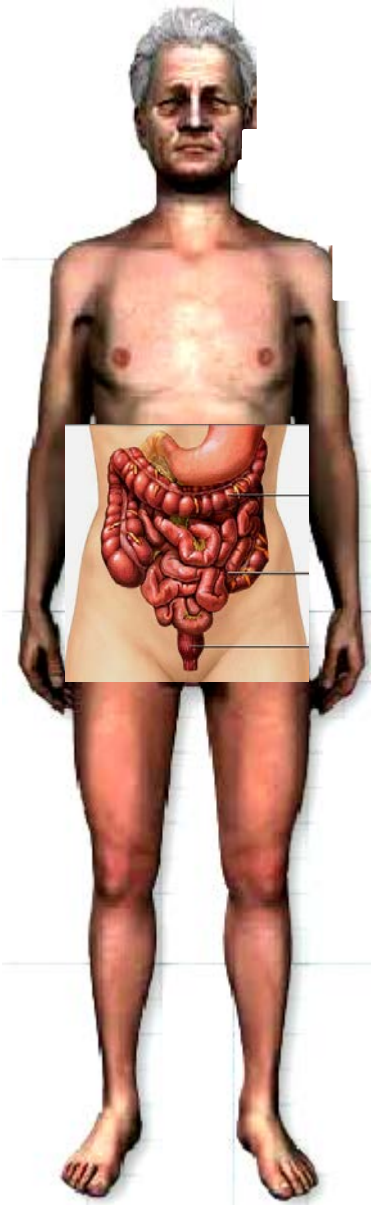


1. Δε βελτιώνεται με τη νηστεία
2. Μεγάλος όγκος υδαρών κενώσεων

N Engl J Med 2013; 369:e21

Gastroenterology 1999 116, 1464-1486

Εκτίμηση Χρόνιας Διάρροιας



Διάρροιες λεπτού	Διάρροιες παχέος
Μεγάλος όγκος κοπράνων	Μικρός όγκος κοπράνων
	Μεγάλη συχνότητα
	Τεινεσμός
	Βλέννη και αίμα

N Engl J Med 2013; 369:e21

Εκτίμηση Χρόνιας Διάρροιας

Ωσμωτική διάρροια	Εκκριτική διάρροια
Ωσμωτικό χάσμα > 125 mosm/kgr	Ωσμωτικό χάσμα < 50 mosm/kgr
Μετά το γεύμα, διακόπτεται με τη νηστεία	Νηστεία, βράδυ
	> 1lt/ ημέρα υδαρείς

Ωσμωτικό χάσμα = {μετρούμενη– υπολογιζόμενη} ωσμωτικότητα κοπράνων
υπολογιζόμενη ωσμωτικότητα κοπράνων= $(Na^{+}+K^{+})$ x 2

Εκτίμηση Χρόνιας Διάρροιας

Κοιλιοκάκη:

Test	Sensitivity (Range)	Specificity (Range)	Comments
	percent		
IgA anti-tTG antibodies	>95.0 (73.9–100)	>95.0 (77.8–100)	Recommended as first-level screening test
IgG anti-tTG antibodies	Widely variable (12.6–99.3)	Widely variable (86.3–100)	Useful in patients with IgA deficiency
IgA antiendomysial antibodies	>90.0 (82.6–100)	98.2 (94.7–100)	Useful in patients with an uncertain diagnosis
IgG DGP	>90.0 (80.1–98.6)	>90.0 (86.0–96.9)	Useful in patients with IgA deficiency and young children
HLA-DQ2 or *HLA-DQ8*	91.0 (82.6–97.0)	54.0 (12.0–68.0)	High negative predictive value

Ωστόσο η βιοψία από τη 2η μοίρα του 12 δακτύλου δεν ανέδειξε:

1. Αλλαγή του επιθηλίου από κυλινδρώδη σε κυβοειδή
2. Αύξηση λεμφοκυττάρων (> 30/100)
3. Φλεγμονώδης διήθηση χορίου
4. Επιμήκυνση και υπερπλασία των κρυπτών
5. Αύξηση του μιτωτικού δείκτη των κρυπτών
6. Σταδιακή επιπέδωση των λαχνών

Fasano A et al; N Engl J Med 2012; 367:2419-2426

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Jackett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Εκτίμηση Χρόνιας Διάρροιας

Μικροσκοπική κολίτιδα:

Λεμφοκυτταρική	Κολλαγονική
♂ 1 : 1 ♀	♂ 1 : 20 ♀
3.1/100 000/ έτος	0.6-2.3/100 000/ έτος
ticlopidine, carbamazepine, ranitidine, vinburine, tardyferon, acarbose	cimetidine, non-steroid anti-inflammatory drugs, lansoprazole
Αυξημένος αριθμός ενδοεπιθηλιακών λεμφοκυττάρων(>20/100 επιθηλιακά κύτταρα)	έντονα πεπαχυσμένη υποεπιθηλιακή στοιβάδα κολλαγόνου > 10mm με ανώμαλο εσωτερικό χείλος και παγίδευση ερυθρών-φλεγμονωδών κυττάρων

Ιστολογική τεκμηρίωση μη συμβατή με τον ασθενή μας

Ianiro G et al; World J Gastroenterol.2012 Nov 21;18(43):6206-15

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Jackett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Εκτίμηση Χρόνιας Διάρροιας

Άλλες παθήσεις:

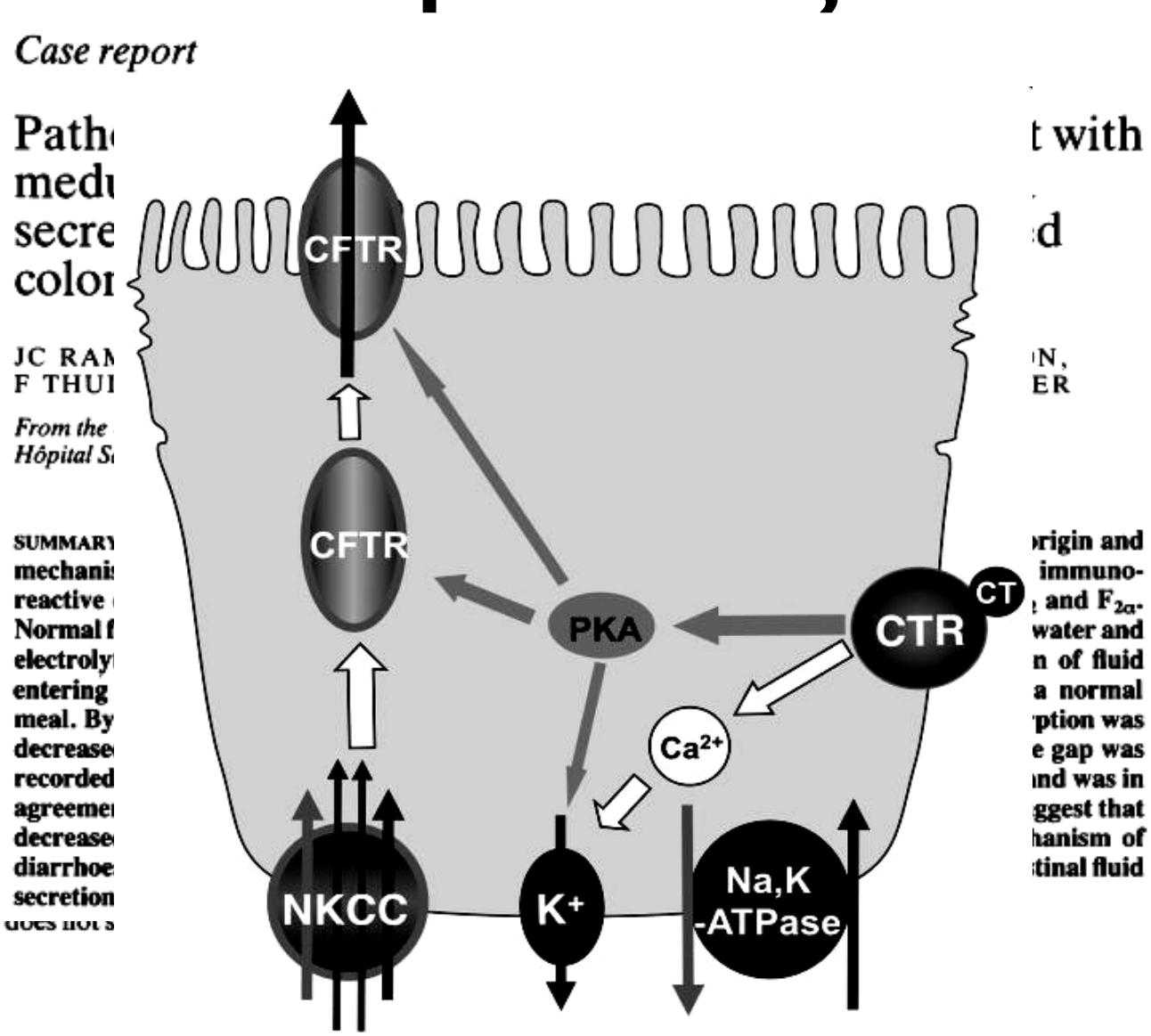
1. **Υπερθυρεοειδισμός: TSH κ.φ.**

2. **Επινεφριδιακή ανεπάρκεια: φυσιολογική ΣΑΠ, χωρίς ηλεκτρολυτικές διαταραχές**

3. **Μαστοκυττάρωση: απουσία κνιδωτικού εξανθήματος, απουσία διήθησης από μαστοκύτταρα στη βιοψία στομάχου**

Jensen RT. Hematol Oncol Clin North Am 2000;14:579-623

Μυελοειδές καρκίνωμα του θυρεοειδούς

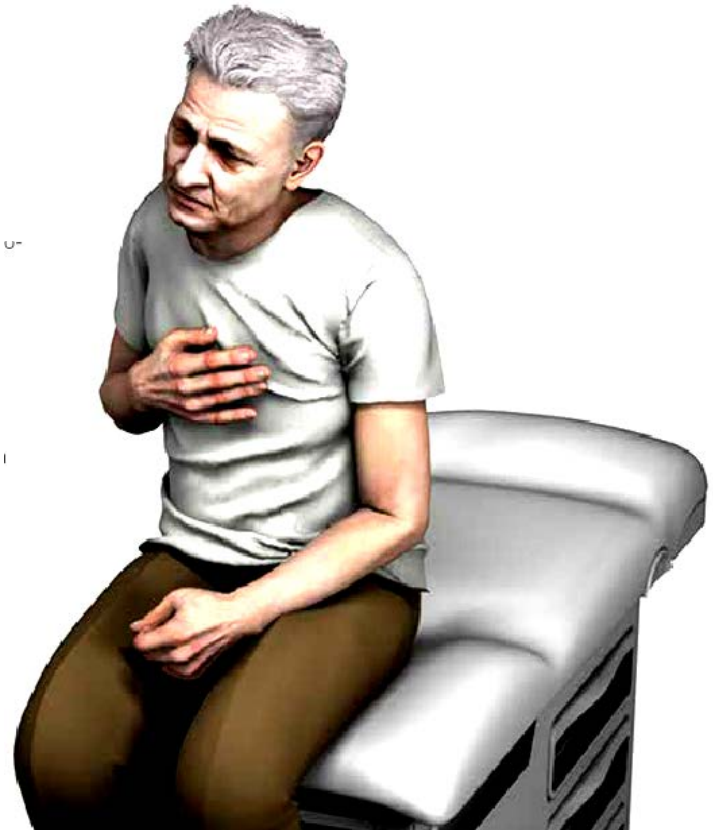


J Cell Mol Med. 2011 Dec;15(12):2697-705

Μυελοειδές καρκίνωμα του θυρεοειδούς

Ca:10.4 mg/dl
Alb: 3 gr/dl → * **Ca:11.2 mg/dl**

1. **Οστικές μεταστάσεις**
2. **Στη δράση της καλσιτονίνης στην παραγωγή 1,25 (OH) D_3**



N Engl J Med 2013; 369:e21

***Ca = SerumCa + 0.8 * (NormalAlbumin - PatientAlbumin)**

Zhong Y, Armbrecht HJ, Christakos S J Biol Chem 284: 11059–11069, 2009

Εκτίμηση Χρόνιας Διάρροιας

Μυελοειδές καρκίνωμα του θυρεοειδούς (MTC):

1. Συχνά μακρυνές μεταστάσεις με τη διάγνωση του MTC, κυρίως σε ασθενείς με σποραδικό MTC

2. Οι μεταστάσεις αφορούν πνεύμονες, οστά, ήπαρ και σπάνια εγκέφαλο, συχνά συνυπάρχουν με εμμένουσα τοπική νόσο

3. Ασθενείς με μακρυνές μεταστάσεις στη διάγνωση έχουν πτωχή πρόγνωση και η επιβίωση τους στη 10- ετία είναι 40-50%

Roy M, Chen H, Sippel RS; Oncologist. 2013 Oct; 18(10): 1093–110

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Jackett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Εκτίμηση Χρόνιας Διάρροιας

Νευροενδοκρινικοί Όγκοι:

N Engl J Med 2013; 369:e21

1. Καρκινοειδές
2. VIP-ωμα
3. Γαστρίνωμα- Zollinger–Ellison σύνδρομο

N Engl J Med 2013;368:757-65

Εκτίμηση Χρόνιας Διάρροιας

Καρκινοειδές:

N Engl J Med 2013; 369:e21

Εκδήλωση	Συχνότητα
Διάρροια	75-85%
Flushing	70-80%
Κοιλιακό άλγος	30-40%
Καρδιακή νόσος	
Δεξιά	30-40%
Αριστερά	5-15%
Τηλαγγειεκτασία	20-25%
Συριγμός	10-20%
Πελλάγρα	1-2%

Βήμα Κλινικής Ογκολογίας 2008, 7 (1):36-46

Εκτίμηση Χρόνιας Διάρροιας

VIP- ωμα:

N Engl J Med 2013; 369:e21

Pathophysiology of clinical manifestations of the VIPoma syndrome

Biologic action of VIP	Clinical signs
Stimulates secretion and inhibits absorption of sodium, chloride, and water in the bowel	Secretory diarrhea
	Dehydration
	Weight loss
Stimulates potassium secretion in the large bowel	Hypokalemia
Inhibits gastric acid secretion	Hypochlorhydria
Induces vasodilation	Flushing
Stimulates bone resorption	Hypercalcemia
Enhances glycogenolysis	Hyperglycemia

VIP: vasoactive intestinal polypeptide.

UpToDate®

Εκτίμηση Χρόνιας Διάρροιας

Γαστρίνωμα:

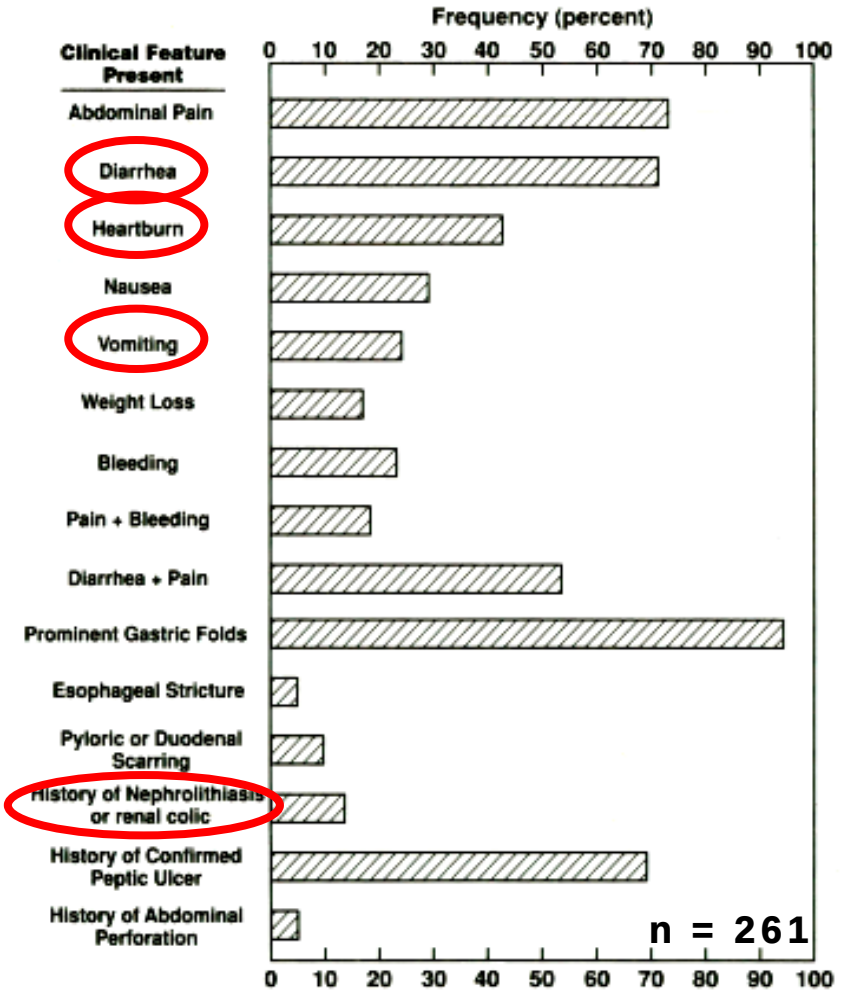
1. Το γαστρίνωμα ανήκει στους νευροεδοκρινείς όγκους {neuroendocrine tumors (NETs)} που παράγουν γαστρίνη
2. Το κλινικό σύνδρομο του γαστρινώματος οφείλεται στην υπερέκκριση γαστρίνης και ονομάζεται σύνδρομο Zollinger-Ellison
3. Το δεύτερο σε συχνότητα ορμονοπαραγωγό όγκο του παγκρέατος, με επίπτωση 0,1-3/1.000.000 πληθυσμού/έτος
4. Αναλογία ανδρών: γυναικών = 2:1
5. Μέση ηλικία διάγνωσης τα 50 έτη
6. 70% δωδεκαδάκτυλο- νήστιδα, 20- 25% πάγκρεας, 10% σε περιπαγκρεατικούς λεμφαδένες

Rindi G, Arnold R, Bosman FT, et al 4th ed, Bosman TF, Carneiro F, Hruban RH, Theise ND (Eds), International Agency for Research on cancer (IARC), Lyon 2010. p.13.

Εκτίμηση Χρόνιας Διάρροιας

N Engl J Med 2013; 369:e21

ZES:



Roy PK et al; Medicine (Baltimore). 2000;79(6):379

Εκτίμηση Χρόνιας Διάρροιας

Διάρροια στο ZES:

1. Αυξημένη έκκριση γαστρικού οξέος δημιουργεί μεγάλο όγκο υγρών, που δύσκολα απορροφάται από το λεπτό έντερο και το κόλο

2. Η αύξηση του PH στο λεπτό έντερο επηρεάζει τη μικροβιακή χλωρίδα, μειώνει τη δράση των παγκρεατικών ενζύμων και τη δημιουργία μικκυλίων από τα χολικά οξέα με αποτέλεσμα, στεατόρροια και βλάβη στο εντερικό επιθήλιο

3. Η υψηλή συγκέντρωση γαστρίνης στο αίμα αναστέλει την απορρόφηση νατρίου και νερού από το λεπτό έντερο

Uptodate, 2015

Εκτίμηση Χρόνιας Διάρροιας

N Engl J Med 2013; 369:e21

TABLE 10. Clinical symptoms and signs* that shou lead to suspicion of Zollinger-Ellison syndrome

Symptoms

1. Peptic ulcer disease or gastroesophageal reflux disease (GERD):
   - 1.1 with diarrhea
   - 1.2 with weight loss
   - 1.3 with a long history of persistent symptoms (i.e., > 5 yr)
   - 1.4 with a complication (bleeding, perforation, penetration) (54, 64, 98)
   - 1.5 without *Heliobacter pylori* (60, 206, 250) (peptic ulcer disease)
   - 1.6 with family history of peptic ulcer disease or GERD
   - 1.7 with any endocrinopathy
   - 1.8 with refractoriness to treatment (34, 54, 98, 142, 146)
2. Persistant diarrhea:
   - 2.1 with or without malabsorption that is unexplained
   - 2.2 with abdominal pain
   - 2.3 with esophageal disease

... τα συμπτώματα βελτιώθηκαν με τη λήψη PPI's

   - 2.7 secretory in nature (4, 61, 92, 194–196, 216)

Signs

1. Prominent gastric folds on UGI endoscopy or X-ray
2. Multiple peptic ulcers or ulcers in unusual locations (31, 54, 262)
3. Esophageal stricture due to peptic ulcer disease (17, 162, 203)
4. Gastric outlet obstruction due to peptic ulcer disease

Roy PK et al; Medicine (Baltimore). 2000;79(6):379

Εκτίμηση Χρόνιας Διάρροιας

ZES:

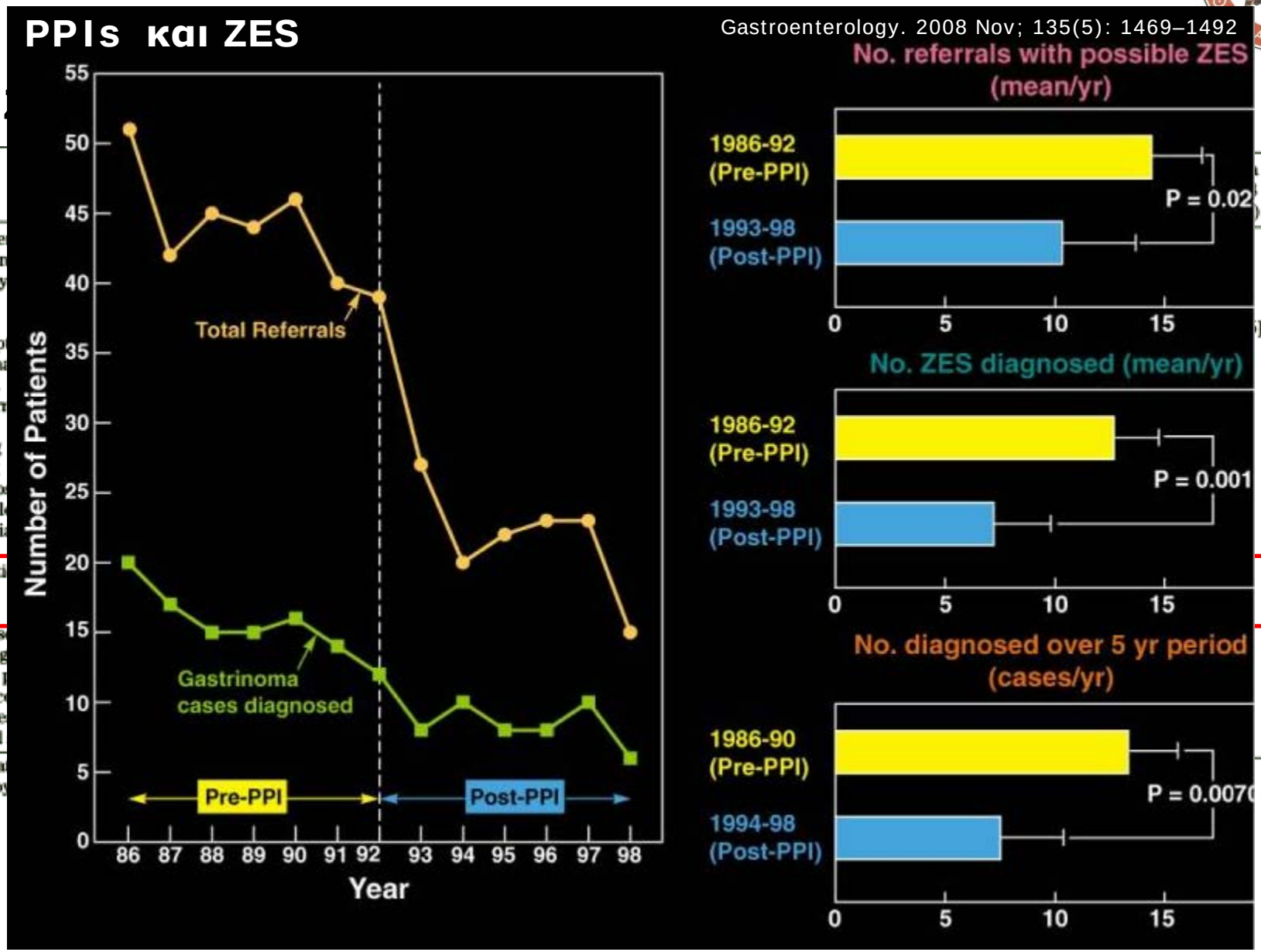
N Engl J Med 2013; 369:e21

TABLE 5. Misdiagnosis before recognition of Zollinger-Ellison syndrome

Misdiagnosis	All Patients (n = 197) No. (%)*
Crohn disease	4 (2%)
Irritable bowel syndrome	5 (3%)
Giardiasis	3 (2%)
Celiac sprue	5 (3%)
Lactose intolerance	2 (1%)
Infectious diarrhea	3 (2%)
Chronic idiopathic peptic disease	139 (71%)
Chronic idiopathic GERD	13 (7%)
Chronic idiopathic diarrhea	14 (7%)
Other‡	9 (5%)

Roy PK et al; Medicine (Baltimore). 2000;79(6):379

Εκτίμηση Χρόνιας Διάρροιας



Roy PK et al; Medicine (Baltimore). 2000;79(6):379

Εκτίμηση Χρόνιας Διάρροιας

25% - 30% των γαστρινωμάτων αφορούν σε MEN1

N Engl J Med 2013; 369:e21

Ca:10.4 mg/dl
Alb: 3 gr/dl → * **Ca:11.2 mg/dl**

Θετικό οικογενειακό ιστορικό

Πρωτοπαθής υπερπαραθυρεοειδισμός στα πλαίσια MEN1

***Ca = SerumCa + 0.8 * (NormalAlbumin - PatientAlbumin)**

Εκτίμηση Χρόνιας Διάρροιας

ZES:

	Sporadic (n = 203) No. (%)
Symptom	
Pain	159 (78%)
Diarrhea	146 (72%)
Heartburn	85 (42%)
Nausea	57 (28%)
Vomiting	52 (26%)
Weight loss	37 (18%)
Bleeding	55 (27%)
Pain + bleeding	44 (22%)
Pain + diarrhea	113 (56%)
Sign	
Prominent gastric folds*	
Present	155 (94%)
Absent (normal folds)	10 (6%)
Not documented†	38 (19%)
Esophageal stricture*	9 (4%)
Pyloric/duodenal scarring*	20 (10%)
Other pertinent findings	
History of nephrolithiasis and/or renal colic	9 (4%)
History of confirmed peptic ulcer‡	150 (74%)
History of abdominal perforations§	10 (5%)

Abbreviations: NS = not significant.

*Specifically commented on by esophagogastroduodenscopy in 210 patients (165 patients with sporadic disease and 45 with MEN-1) and not specifically commented on in 51 cases. Percentage for present or absent prominent gastric folds are based on findings in 210 patients.

†"Not documented" refers to patients with no comment on the gastric folds in the endoscopy report. Percentage is the percentage of total number of patients in the indicated category.

‡Patients with confirmed gastric or duodenal ulcers on upper gastrointestinal series or esophagogastroduodenoscopy including data from 261 cases.

§Patients with a prior history of abdominal perforations secondary to Zollinger-Ellison syndrome.

Roy PK et al; Medicine (Baltimore). 2000;79(6):379

Πιθανή διάγνωση

πιθανώς **νευροενδοκρινής όγκος του παγκρέατος: Γαστρίνωμα**

1. **Εκκριτική διάρροια**
2. **Ενδείξεις από γαστροσκόπηση**
3. **Υποχώρηση συμπτωμάτων με PPI**
4. **Χρόνια πορεία**

…πιθανώς στα πλαίσια MEN1

1. Θετικό οικογενειακό ιστορικό

2. Ιστορικό ουρολιθίασης σε μικρή ηλικία

3. Αύξηση ασβεστίου στο αίμα

Εν κατακλείδι…

1. CT άνω κοιλίας με σκιαγραφικό

2. Μέτρηση γαστρίνης νηστείας , χρωμογρανίνης Α ή δοκιμασία σεκρετίνης υπό την εποπτεία των ενδοκρινολόγων

Otto Dix. Dr. Mayer-Hermann. Berlin 1926; Museum of Modern Art, NY

ΣΑΣ ΕΥΧΑΡΙΣΤΩ

Διαφορική διάγνωση

… επεισόδια μεγάλων,υδαρών διαρροικών κενώσεων (1-2/ημερησίως),που αρχικά αποδόθηκαν σε ευερέθιστο έντερο.

Χορηγήθηκαν PPIs και συμπτωματική αγωγή με εντυπωσιακή υποχώρηση και επανεμφάνιση των διαρροιών με διακοπή της θεραπείας.

Σε διενεργηθείσα γαστροσκόπηση (04/2007) διαπιστώθηκε γαστρίτιδα άντρου, ήπια δωδεκαδακτυλίτιδα και οισοφαγίτιδα 2ου βαθμού…

Σε κολοσκοπικό έλεγχο (1/2008) βρέθηκαν πολλαπλοί πολύποδες παχέος εντέρου κατιόν,σιγμοειδές,ορθό)….

Κολοσκοπικός επανέλεγχος (01/2011) κατέδειξε οίδημα, υπεραιμία, με λίγα φλεγμονώδη κύτταρα στον εντερικό βλεννογόνο, καθώς και 2 μικρούς υπερλαστικούς πολύποδες…

- (+) Οικογενειακό ιστορικό
- Hb:11gr/dl

Διαφορική διάγνωση

Ωστόσο τα συμπτώματα προηγήθηκαν της αντιδιαβητικής αγωγής

Διαφορική διάγνωση

Watery

- *Secretory* (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
  - ~~Alcoholism~~
  - Bacterial enterotoxins (e.g., cholera)
  - Bile acid malabsorption
  - Brainerd diarrhea (epidemic secretory diarrhea)
  - Congenital syndromes
  - Crohn disease (early ileocolitis)
  - Endocrine disorders (e.g., hyperthyroidism [increases motility])
  - ~~Medications~~
  - Microscopic colitis (lymphocytic and collagenous subtypes)
  - Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
  - Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
  - Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
  - Vasculitis
- *Osmotic* (fecal osmotic gap > 125 mOsm per kg*)
  - Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
  - Celiac disease
  - ~~Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)~~
  - ~~Sugar alcohols (e.g., mannitol, sorbitol, xylitol)~~
- ~~*Functional* (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)~~
  - ~~Irritable bowel syndrome~~

Fatty (bloating and steatorrhea in many, but not all cases)

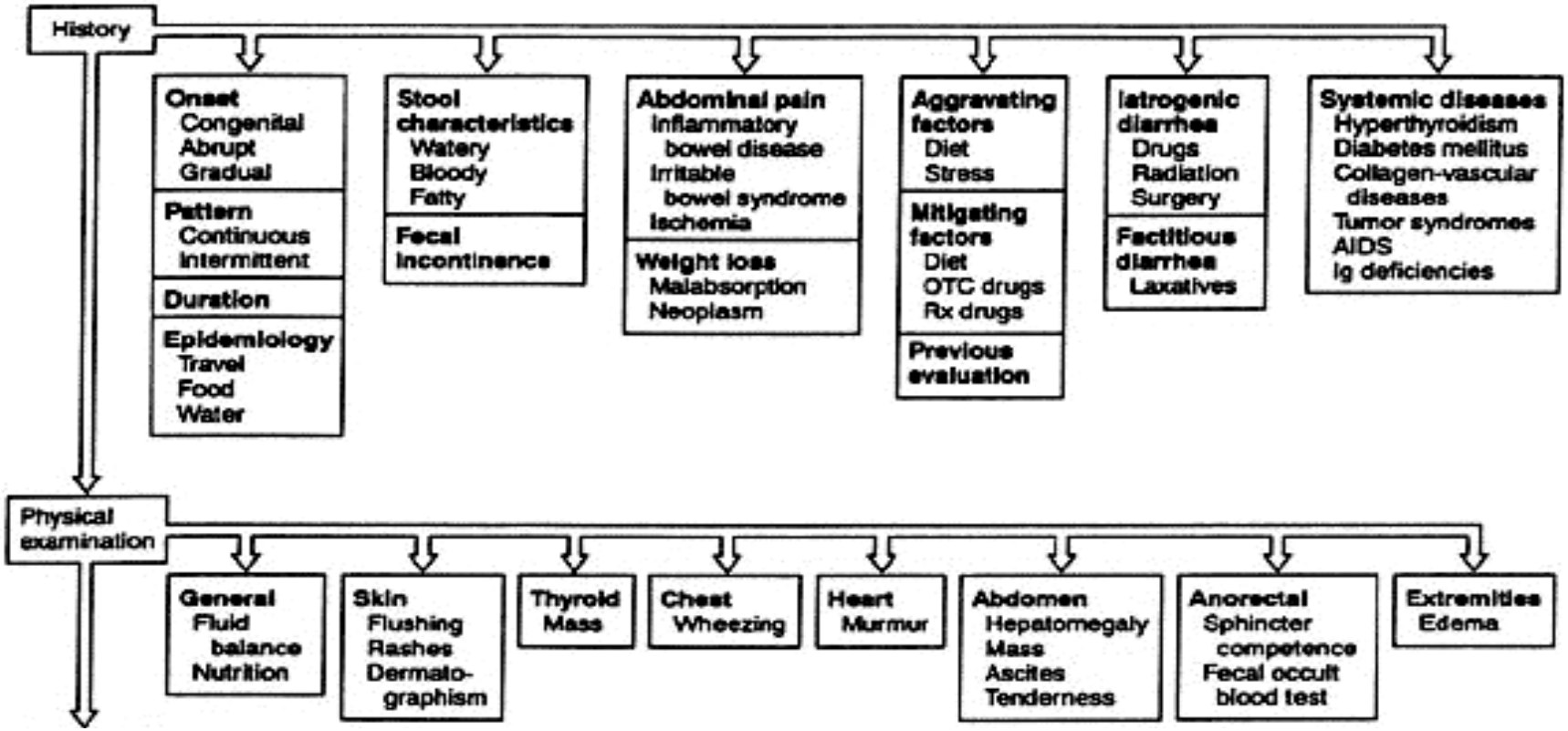
- *Malabsorption syndrome* (damage to or loss of absorptive ability)
  - Amyloidosis
  - Carbohydrate malabsorption (e.g., lactose intolerance)
  - Celiac sprue (gluten enteropathy)–various clinical presentations
  - Gastric bypass
  - Lymphatic damage (e.g., congestive heart failure, some lymphomas)
  - ~~Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])~~
  - Mesenteric ischemia
  - Noninvasive small bowel parasite (e.g., *Giardia*)
  - Postresection diarrhea
  - Short bowel syndrome
  - Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
  - Tropical sprue
  - Whipple disease (*Tropheryma whippelii* infection)
- *Maldigestion* (loss of digestive function)
  - Hepatobiliary disorders
  - Inadequate luminal bile acid
  - Loss of regulated gastric emptying
  - Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)

- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- ~~Radiation colitis~~

Jackett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Εκτίμηση Χρόνιας Διάρροιας



Gastroenterology 1999 116, 1464-1486

Διαφορική διάγνωση

Watery

- *Secretory* (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
  - Alcoholism
  - Bacterial enterotoxins (e.g., cholera)
  - Bile acid malabsorption
  - Brainerd diarrhea (epidemic secretory diarrhea)
  - Congenital syndromes
  - Crohn disease (early ileocolitis)
  - Endocrine disorders (e.g., hyperthyroidism [increases motility])
  - Medications
  - Microscopic colitis (lymphocytic and collagenous subtypes)
  - Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
  - Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
  - Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
  - Vasculitis
- *Osmotic* (fecal osmotic gap > 125 mOsm per kg*)
  - Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
  - Celiac disease
  - Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
  - Sugar alcohols (e.g., mannitol, sorbitol, xylitol)
- *Functional* (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
  - Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

- *Malabsorption syndrome* (damage to or loss of absorptive ability)
  - Amyloidosis
  - Carbohydrate malabsorption (e.g., lactose intolerance)
  - Celiac sprue (gluten enteropathy)–various clinical presentations
  - Gastric bypass
  - Lymphatic damage (e.g., congestive heart failure, some lymphomas)
  - Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
  - Mesenteric ischemia
  - Noninvasive small bowel parasite (e.g., *Giardia*)
  - Postresection diarrhea
  - Short bowel syndrome
  - Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
  - Tropical sprue
  - Whipple disease (*Tropheryma whippelii* infection)
- *Maldigestion* (loss of digestive function)
  - Hepatobiliary disorders
  - Inadequate luminal bile acid
  - Loss of regulated gastric emptying
  - Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)

- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Jackett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

ad

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Congenital syndromes
- Crohn disease (early ileocolitis)
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

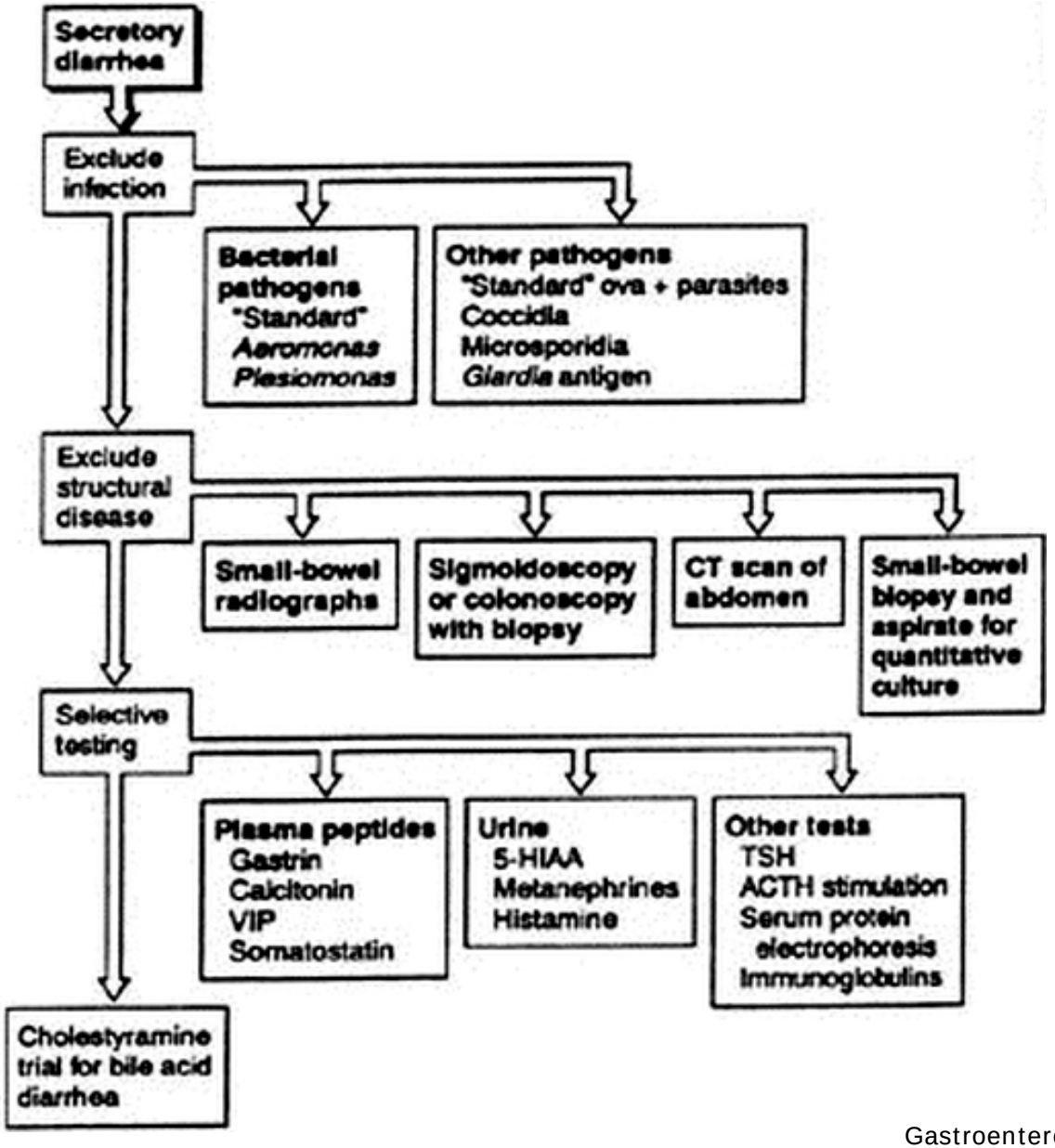
Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Loss of regulated gastric emptying
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Juckett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Εκτίμηση Εκκριτικής Διάρροιας



Gastroenterology 1999 116, 1464-1486

Διαφορική διάγνωση

Watery

- *Secretory* (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
  - Alcoholism
  - Bacterial enterotoxins (e.g., cholera)
  - Bile acid malabsorption
  - Brainerd diarrhea (epidemic secretory diarrhea)
  - Congenital syndromes
  - Crohn disease (early ileocolitis)
  - Endocrine disorders (e.g., hyperthyroidism [increases motility])
  - Medications
  - Microscopic colitis (lymphocytic and collagenous subtypes)
  - Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
  - Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
  - Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
  - Vasculitis
- *Osmotic* (fecal osmotic gap > 125 mOsm per kg*)
  - Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
  - Celiac disease
  - Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
  - Sugar alcohols (e.g., mannitol, sorbitol, xylitol)
- *Functional* (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
  - Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

- *Malabsorption syndrome* (damage to or loss of absorptive ability)
  - Amyloidosis
  - Carbohydrate malabsorption (e.g., lactose intolerance)
  - Celiac sprue (gluten enteropathy)–various clinical presentations
  - Gastric bypass
  - Lymphatic damage (e.g., congestive heart failure, some lymphomas)
  - Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
  - Mesenteric ischemia
  - Noninvasive small bowel parasite (e.g., *Giardia*)
  - Postresection diarrhea
  - Short bowel syndrome
  - Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
  - Tropical sprue
  - Whipple disease (*Tropheryma whippelii* infection)
- *Maldigestion* (loss of digestive function)
  - Hepatobiliary disorders
  - Inadequate luminal bile acid
  - Loss of regulated gastric emptying
  - Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)

- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Juckett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Brainerd diarrhea (epidemic secretory diarrhea)
- Congenital syndromes
- Crohn disease (early ileocolitis)
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Loss of regulated gastric emptying
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Juckett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Secretory

- higher stool volumes (greater than 1 L per day)
- continue despite fasting and occur at night.

Διάρροια

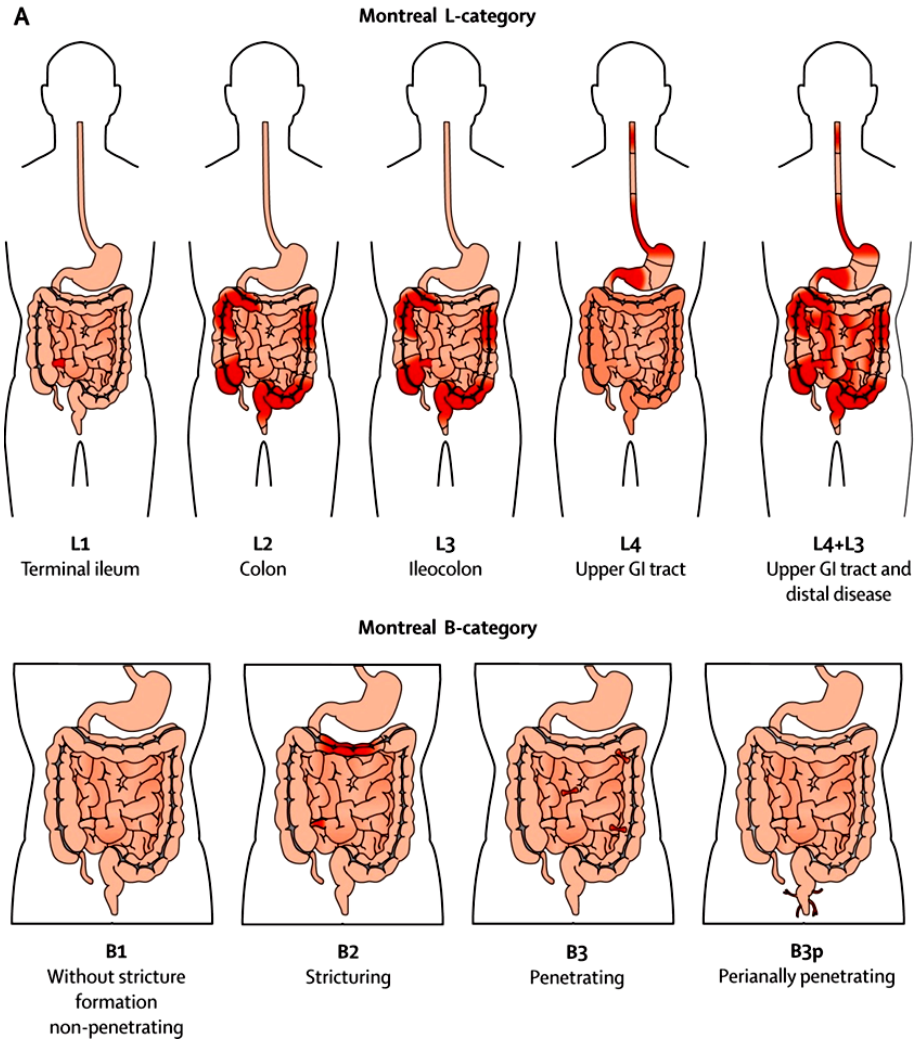
Εκτίμηση Χρόνιας Διάρροιας

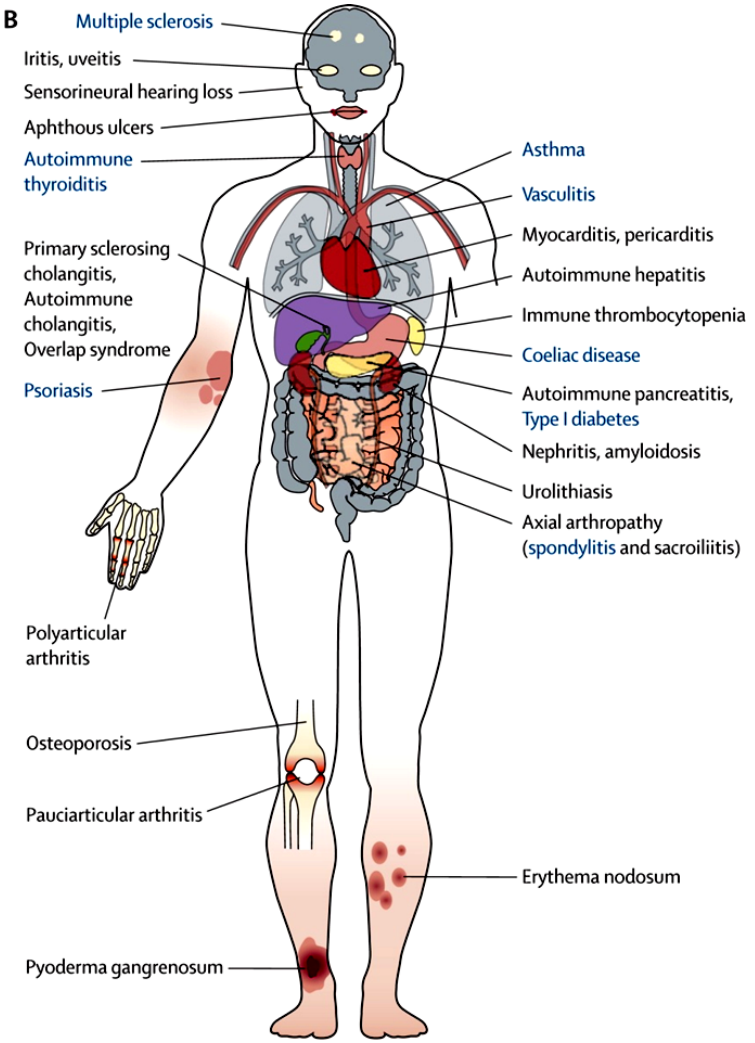
ΙΦΕΝ:

1. Χωρίς πυρετό, κοιλιακό άλγος
2. Χωρίς αιματηρές διάρροιες
3. Η ιστολογική εξέταση (κολονοσκόπηση-γαστροσκόπηση), δεν ανέδειξε στοιχεία συμβατά με ΙΦΕΝ

Εκτίμηση Χρόνιας Διάρροιας

Νόσος Crohn:





Baumgart DC, Sandborn WJ; Lancet 2012 Nov 3;380(9853):1590-605

Εκτίμηση Χρόνιας Διάρροιας

Ελκώδης κολίτιδα:

Clinical features

- Rectal bleeding
- Diarrhoea
- Urgency
- Tenesmus
- Abdominal pain
- Fever (severe cases)
- Extraintestinal manifestations

Endoscopic features

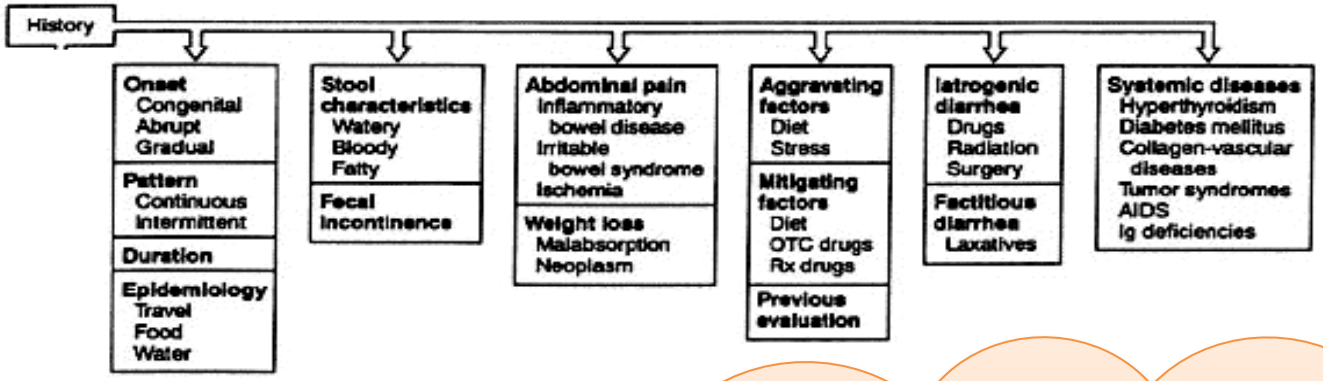
- Loss of vascular pattern
- Erythema
- Granularity
- Friability
- Erosions
- Ulcerations
- Spontaneous bleeding

Pathological features

- Distortion of crypt architecture
- Crypt abscesses
- Lamina propria cellular infiltrate (plasma cells, eosinophils, lymphocytes)
- Shortening of the crypts
- Mucin depletion
- Lymphoid aggregates
- Erosion or ulceration

Ordás I, Eckmann L, Talamini M, Baumgart DC, Sandborn WJ; Lancet. 2012 Nov 3;380(9853):1606-19

Εκτίμηση Χρόνιας Διάρροιας



1. Δεν πυρέσει
2. Δεν αναφέρει κοιλιακό άλγος
3. Δεν αναφέρει απώλεια βάρους
4. Δεν αναφέρει ταξίδια

N Engl J Med 2013; 369:e21

Gastroenterology 1999 116, 1464-1486

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Congenital syndromes
- Crohn disease (early ileocolitis)
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Loss of regulated gastric emptying
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
- Crohn disease (ileal or early Crohn disease may be secretory)
- Diverticulitis
- Ulcerative colitis
- Ulcerative jejunoileitis

Invasive infectious diseases
- *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
- Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
- Invasive parasitic infections (e.g., *Entamoeba*)–travel history
- Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)

Neoplasia
- Colon carcinoma
- Lymphoma
- Villous adenocarcinoma

Radiation colitis

Juckett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Congenital syndromes
- Crohn disease (early ileocolitis)
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Loss of regulated gastric emptying
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Juckett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Congenital syndromes
- Crohn disease (early ileocolitis)
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Loss of regulated gastric emptying
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
  - Crohn disease (ileal or early Crohn disease may be secretory)
  - Diverticulitis
  - Ulcerative colitis
  - Ulcerative jejunoileitis
- Invasive infectious diseases
  - *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
  - Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
  - Invasive parasitic infections (e.g., *Entamoeba*)–travel history
  - Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)
- Neoplasia
  - Colon carcinoma
  - Lymphoma
  - Villous adenocarcinoma
- Radiation colitis

Juckett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26

Διαφορική διάγνωση

Watery

Secretory (often nocturnal; unrelated to food intake; fecal osmotic gap < 50 mOsm per kg*)
- Alcoholism
- Bacterial enterotoxins (e.g., cholera)
- Bile acid malabsorption
- Congenital syndromes
- Crohn disease (early ileocolitis)
- Endocrine disorders (e.g., hyperthyroidism [increases motility])
- Medications
- Microscopic colitis (lymphocytic and collagenous subtypes)
- Neuroendocrine tumors (e.g., gastrinoma, vipoma, carcinoid tumors, mastocytosis)
- Nonosmotic laxatives (e.g., senna, docusate sodium [Colace])
- Postsurgical (e.g., cholecystectomy, gastrectomy, vagotomy, intestinal resection)
- Vasculitis

Osmotic (fecal osmotic gap > 125 mOsm per kg*)
- Carbohydrate malabsorption syndromes (e.g., lactose, fructose)
- Celiac disease
- Osmotic laxatives and antacids (e.g., magnesium, phosphate, sulfate)
- Sugar alcohols (e.g., mannitol, sorbitol, xylitol)

Functional (distinguished from secretory types by hypermotility, smaller volumes, and improvement at night and with fasting)
- Irritable bowel syndrome

Fatty (bloating and steatorrhea in many, but not all cases)

Malabsorption syndrome (damage to or loss of absorptive ability)
- Amyloidosis
- Carbohydrate malabsorption (e.g., lactose intolerance)
- Celiac sprue (gluten enteropathy)–various clinical presentations
- Gastric bypass
- Lymphatic damage (e.g., congestive heart failure, some lymphomas)
- Medications (e.g., orlistat [Xenical; inhibits fat absorption], acarbose [Precose; inhibits carbohydrate absorption])
- Mesenteric ischemia
- Noninvasive small bowel parasite (e.g., *Giardia*)
- Postresection diarrhea
- Short bowel syndrome
- Small bowel bacterial overgrowth (> 10^5 bacteria per mL)
- Tropical sprue
- Whipple disease (*Tropheryma whippelii* infection)

Maldigestion (loss of digestive function)
- Hepatobiliary disorders
- Inadequate luminal bile acid
- Loss of regulated gastric emptying
- Pancreatic exocrine insufficiency

Inflammatory or exudative (elevated white blood cell count, occult or frank blood or pus)
- Inflammatory bowel disease
- Crohn disease (ileal or early Crohn disease may be secretory)
- Diverticulitis
- Ulcerative colitis
- Ulcerative jejunoileitis

Invasive infectious diseases
- *Clostridium difficile* (pseudomembranous) colitis–antibiotic history
- Invasive bacterial infections (e.g., tuberculosis, yersiniosis)
- Invasive parasitic infections (e.g., *Entamoeba*)–travel history
- Ulcerating viral infections (e.g., cytomegalovirus, herpes simplex virus)

Neoplasia
- Colon carcinoma
- Lymphoma
- Villous adenocarcinoma

Radiation colitis

Juckett G, Trivedi R. Evaluation of chronic diarrhea. Am Fam Phys. 2011;84(10):1119-26