Common GI Problems for Board Examination

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Topics

- Basic skills for GI examination
- Long case/ASCE
- Abdominal CT
I. Basic Skills
General Techniques

- Good light but private
- Good exposure: xiphoid to pubic symphysis
- Warm hands and stethoscope
- Avoid long fingernails
- Approach calmly, avoid quick unexpected movement
- Watch patient face
- Examine pain area last
Special Techniques

- To relax patient’s abdomen
  - Drawing up patient’s knees
  - Deep breathing
  - Engaging patient with conversation

- To deal with ticklish patient
  - Self palpation, patient’s hand under yours
  - Use diaphragm of the stethoscope as palpating instrument
Liver Palpation

Parallel to costal margin

Parallel to rectus M.

Middleton or Hooking
Location of the Spleen

- Just posterior to the midaxillary line
- 9th-11th ribs ("3 ribs - 2 spaces")
Palpation of the Spleen

Supine

Decubitus

Middleton or Hooking
Percussion of the Spleen

- Percussion
  - 11th ICS, midaxillary line
  - Castell’s method
  - Nixon’s method
  - Traube’s space
Shifting Dullness
Cirrhosis

- Eyes
  - Anemia
  - Jaundice
  - Kayser-Fleischer’s rings
- Signs of chronic liver disease
- Flapping tremor
- Liver
- Spleen
- Ascites
Signs of Chronic Liver Diseases
Flapping Tremor (Asterixis)
Flapping Tremor (Asterixis)
II. Long Case/ASCE
Common Topics to be Approach

- Jaundice
- Dysphagia
- Dyspepsia
- Chronic diarrhea
- Ascites
- Hepatomegaly
- Splenomegaly
1. Jaundice
History Taking of Jaundice Patients

- Define the type
- Define the cause
- Define the severity
History Taking of Jaundice Patients

Define the type

- Anemia → hemolytic
- Malaise, fatigue, N-V, dark urine → hepatocellular
- Pruritus, pale stool, dark urine → cholestasis
- Jx only → hepatocellular or cholestasis → wait for LFT

Define the cause

Define the severity
History Taking of Jaundice Patients

- **Hemolytic**
  - Onset since childhood → Thalassemia, HS
  - Recent onset → AIHA

- **Hepatocellular**
  - Prodomes (flu-like) → VH
  - Drugs & herbs → DILI
  - Alcohol → AH
  - No clues → DILI, AIH, WD

- **Cholestasis**
  - Pain, wt loss, mass → obstructive jx
  - Pruritus precedes jx, no pain, → intrahepatic cholestasis
    - Drugs
    - PBC (fatigue, pruritus for years)
    - Sepsis
    - Thyrotoxicosis
    - Congestive hepatopathy
History Taking of Jaundice Patients

Define the type

- Somnolence, day-night reversal
- Bruise, ecchymosis
- Hypoglycemia

Define the cause

Define the severity
Physical Exam of Jaundice Patients

- **GA**
  - Jaundice, pallor, edema
  - Signs of CLD → CHB, AIH, WD, cirrhosis
  - Flapping tremor

- **Hepatomegaly**
  - Soft → hepatitis, congestive hepatopathy
  - Firm → cirrhosis, infiltrative liver disease
  - Hard → malignancy, amyloidosis
  - Left lobe hypertrophy → cirrhosis

- **Splenomegaly** → cirrhosis, thalassemia, HS

- **Ascites**
  - With edema → cirrhosis
  - No edema → malignant biliary obstruction + carcinomatosis peritonei → PR for rectal shelf

- **PR** for rectal shelf and stool color
LFT of Jaundice Patients

- Hemolytic
  - IB >70%

- Hepatocellular
  - DB >50%
  - ALT >5x

- Cholestasis
  - DB >50%
  - ALT <5x
  - ALP >3x
  - ALP normal

- Inherited
  - Elevated bilirubin only
  - IB
  - DB

- Gilbert or Crigger-Najja
- Dubin-Johnson or Rotor
2. Dysphagia
Dysphagia

Difficult in initiating swallowing & Choking

Yes

Oropharyngeal

Solid only

Progressive

Age >50
wt loss

Cancer

Heartburn

Peptic stricture

Heartburn

Regurgitation

Achalasia

EE Ring Web

Other motility disorders

No

Esophageal

Solid & liquid

Progressive

Scleroderma

Intermittent

Intermittent

Heartburn

Other motility disorders
3. Dyspepsia
Dyspepsia

Gastroduodenal
- FD, PU, Gastric CA
  - Meal-related
  - Improved by N-V
  - Burning

Hepatobiliary
- HB tumors
- Hepatomegaly (GS)
  - Jaundice, wt. loss
  - (Biliary colic)

Pancreatic
- Pancreatic CA
  - CP

Anemia, Epigastric tenderness, Mass (CA)

EGD

NSAID/night pain/UGIB
wt. loss/UGIB

Jaundice, wt. loss
(LFT + US)

Back pain/wt. loss
Alcoholic/steatorrhea

US/CT

EGD

LFT + US

US/CT
4. Chronic Diarrhea
Definition of Chronic Diarrhea

- **Diarrhea**
  - Loose or watery $\geq 3$ times/day
  - Mucous bloody once
- **Persists $>4$ weeks**

![Diagram showing the duration of acute and chronic diarrhea](chart.png)
# Etiology of Chronic Diarrhea

<table>
<thead>
<tr>
<th>Colon</th>
<th>Pancreatobiliary</th>
<th>Endocrine</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBS-D</td>
<td>Bile salt diarrhea</td>
<td>Hyperthyroidism</td>
<td>Drugs</td>
</tr>
<tr>
<td>Colonic cancer</td>
<td>Chronic pancreatitis</td>
<td>DM</td>
<td>Surgical (short bowel, fistula)</td>
</tr>
<tr>
<td>Infectious (CMV, Eh, Cd, Cj/Ye, TB)</td>
<td></td>
<td>Hypoparathyroidism</td>
<td>Factitious diarrhea</td>
</tr>
<tr>
<td>IBD (UC, CD)</td>
<td></td>
<td>Addison’s disease</td>
<td></td>
</tr>
<tr>
<td>Microscopic colitis</td>
<td></td>
<td>NET (VIPoma, carcinoid, gastrinoma)</td>
<td></td>
</tr>
<tr>
<td>Small bowel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parasitic and protozoan infection</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>TB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crohn’s disease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NHL</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Other small bowel enteropathies: celiac sprue, Whipple’s disease, eosinophilic gastroenteritis, SLE amyloidosis, intestinal lymphangiectasia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small bowel bacterial overgrowth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mesenteric ischemia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiation enteritis</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
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- **Colon**
  - IBS-D
  - Colonic cancer
  - Infectious (CMV, Eh, Cd, Cj/Ye, TB)
  - IBD (UC, CD)
  - Microscopic colitis

- **Small bowel**
  - Parasitic and protozoan infection
  - TB
  - Crohn’s disease
  - NHL
  - Other small bowel enteropathies: celiac sprue, Whipple’s disease, eosinophilic gastroenteritis, SLE amyloidosis, intestinal lymphangiectasia
  - Small bowel bacterial overgrowth
  - Mesenteric ischemia
  - Radiation enteritis

- **Pancreatobiliary**
  - Bile salt diarrhea
  - Chronic pancreatitis

- **Endocrine**
  - Hyperthyroidism
  - DM
  - Hypoparathyroidism
  - Addison’s disease
  - NET (VIPoma, carcinoid, gastrinoma)

- **Others**
  - Drugs
  - Surgical (short bowel, fistula)
  - Factitious diarrhea
Common Causes of Chronic Diarrhea

- **Western**
  - IBS
  - IBD
  - Celiac disease
  - Chronic infections
  - Idiopathic secretory diarrhea

- **Thailand**
  - IBS
  - Parasites
  - IBD
  - TB
  - Idiopathic

- **Board exam**
  - IBD
  - TB
  - Lymphoma
  - SLE
  - Thyrotoxicosis
  - Parasites
  - AAD
  - EoGE
Approach to Chronic Diarrhea

Functional VS Organic
Small bowel VS Large bowel
Watery VS Fatty VS Inflammatory
Clinical hints
Categorize

No WC/RC
- Watery diarrhea
  - 290 - 2(Na + K) < 100
    - Secretory
  - 290 - 2(Na + K) > 100
    - Osmotic

+WC/RC
- Inflammatory diarrhea

Stool fat >7 g/day
- Fatty diarrhea

Fine KD. *Gastroenterology* 1999;116:1464-86
Approach to Chronic Diarrhea

Functional VS Organic
Small bowel VS Large bowel
Watery VS Fatty VS Inflammatory
Clinical hints
Chronic diarrhea

- Organic
- Functional
## Organic & Functional Diarrhea

<table>
<thead>
<tr>
<th></th>
<th><strong>Organic</strong></th>
<th><strong>Functional</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration</strong></td>
<td>&lt; 3 mo</td>
<td>&gt; 3 mo</td>
</tr>
<tr>
<td><strong>Course of diarrhea</strong></td>
<td>Progressive</td>
<td>Wax &amp; wane</td>
</tr>
<tr>
<td><strong>Nocturnal diarrhea</strong></td>
<td>+</td>
<td>Rare</td>
</tr>
<tr>
<td><strong>Constitutional Sx</strong></td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><strong>Wt loss</strong></td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td><strong>Bloody/mucus bloody</strong></td>
<td>Probably present</td>
<td>Absent</td>
</tr>
<tr>
<td><strong>CBC/ESR/albumin</strong></td>
<td>Abnormal</td>
<td>Normal</td>
</tr>
</tbody>
</table>
Chronic diarrhea

Organic

Functional

Rome IV

IBS-D
Rome IV Criteria for IBS

- Recurrent abdominal pain or discomfort at least 1 day per week for 3 months
- Associated with 2 or more of
  - Associated with defecation
  - Onset associated with a change in frequency of stool
  - Onset associated with a change in form of stool

- Constipation-predominant IBS (IBS-C)
- Diarrhea-predominant IBS (IBS-D)
- Mixed type IBS (IBS-M)

Lacy BE. *Gastroenterology* 2016;150:1393-407
Chronic diarrhea

Organic

Small volume diarrhea (Lt-sided colon)

Functional

Large volume diarrhea (Small bowel / Rt-sided colon)

Rome IV

IBS-D

Steatorrhea
Steatorrhea
Chronic diarrhea

Organic

Functional

Rome IV

IBS-D

Small volume diarrhea (Lt-sided colon)

Large volume diarrhea (Small bowel / Rt-sided colon)

Steatorrhea

CP, SIBO

CT, H₂BT
# Small- & Large Volume Diarrhea

<table>
<thead>
<tr>
<th></th>
<th>Small volume</th>
<th>Large volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site of lesions</td>
<td>Left ½ colon</td>
<td>Small bowel or right ½ colon</td>
</tr>
<tr>
<td>Amount</td>
<td>Small</td>
<td>Large</td>
</tr>
<tr>
<td>Frequency</td>
<td>Frequent</td>
<td>Not frequent</td>
</tr>
<tr>
<td>Characteristic of stool</td>
<td>Watery or mucous-bloody</td>
<td>Watery</td>
</tr>
<tr>
<td>Urgency/tenesmuses</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>Lower abdomen</td>
<td>Periumbilical</td>
</tr>
</tbody>
</table>
Chronic diarrhea

Organic

Large volume diarrhea (Small bowel / Rt-sided colon)

Functional

Small volume diarrhea (Lt-sided colon)

Colon Ca

Colitis/Ulcer

UC/CD
TB
Infectious
Ischemic
Radiation

Colonoscopy

Large volume diarrhea (Small bowel / Rt-sided colon)

Rome IV

IBS-D

Steatorrhea

CP
SIBO

CT, H₂BT
Pseudomembranous colitis
Ulcerative Colitis

- Rectal involvement
- Normal mucosa above colitic segment
- Prolonged colitis (>3 mo) with history of unresponsive to antibiotics
- Exclude shigella, amoebiasis
Crohn’s Disease

- Normal intervening mucosa
- Cobble stone appearance
- Ileal involvement
- Anorectal lesions
Tuberculosis
Normal Colonoscopy

- Always taking random biopsy to rule out microscopic colitis
- If normal → IBS
Chronic diarrhea

Organic

Small volume diarrhea (Lt-sided colon)
- Colon Ca
- Colitis/Ulcer
  - UC/CD
  - TB
  - Infectious
  - Ischemic
  - Radiation
  - Colonoscopy

Functional

Large volume diarrhea (Small bowel / Rt-sided colon)
- Watery
- Malabsorption
- Dehydration
  - Hypo K+

Rome IV

IBS-D

Steatorrhea

CP, SIBO

CT, H₂BT
Malabsorption

- Anemia
- Edema
- Hypoproteinemia
- Glossitis
- Angular stomatitis
- Hair color change
- Nail change
Flocculation of barium
Luminal dilatation
Loss of normal folds
Flocculation of barium
Malabsorption
TB
Crohn’s Disease
Chronic diarrhea

Organic

Functional

Rome IV

IBS-D

Small volume diarrhea (Lt-sided colon)

Colon Ca

Colitis/Ulcer

Colonoscopy

Large volume diarrhea (Small bowel / Rt-sided colon)

Watery

Malabsorption

Dehydration Hypo K+

Steatorrhea

CP

SIBO

CT, H₂BT

Colon Ca

UC/CD

TB

Infectious

Ischemic

Radiation

Colonoscopy

Stool exam, SBFT, enterocopy

Parasites

TB

NHL

CD

SLE

EoGE
Chronic diarrhea

- Organic
  - Small volume diarrhea (Lt-sided colon)
    - Colon Ca
    - Colitis/Ulcer
      - UC/CD
      - TB
      - Infectious
      - Ischemic
      - Radiation
    - Colonoscopy
  - Colon Ca
  - UC/CD
  - TB
  - Infectious
  - Ischemic
  - Radiation

- Functional
  - Large volume diarrhea (Small bowel / Rt-sided colon)
    - Watery
      - Parasites
      - TB
      - NHL
      - CD
      - SLE
      - EoGE
    - Stool exam, SBFT, enterocopy
    - Malabsorption
      - CT
    - Dehydration
      - Hypo K+
      - NET
      - CT, H₂BT
  - Colonoscopy

- Rome IV
  - IBS-D

- Steatorrhea
  - CP
  - SIBO
Pancreatic VIPoma
Chronic diarrhea

Any hints?

Focused work-up

Organic

Functional

Rome IV

IBS-D

Small volume diarrhea

(Lt-sided colon)

Large volume diarrhea

(Small bowel / Rt-sided colon)

Steatorrhea

Colon Ca

Colitis/Ulcer

Colonoscopy

Stool exam, SBFT, enterocopy

Small volume diarrhea

(Lt-sided colon)

Colon Ca

Colitis/Ulcer

Colonoscopy

Small volume diarrhea

(Lt-sided colon)

Colon Ca

Colitis/Ulcer

Colonoscopy

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Colitis/Ulcer

Colonoscopy

Small volume diarrhea

(Lt-sided colon)

Colon Ca

Colitis/Ulcer

Colonoscopy

Small volume diarrhea

(Lt-sided colon)
Clinical Hints to Dx Chronic Diarrhea

- Flushing → carcinoid syndrome
- Tachycardia → thyrotoxicosis, carcinoid syndrome
- Aphthous ulcers → IBD, Behcet’s disease
- Arthritis → IBD, SLE, Whipple’s disease
- Lymphadenopathy → lymphoma, TB, AIDS, Whipple’s disease
- Peripheral neuropathy → amyloidosis
- Proteinuria → amyloidosis, SLE
- Dermatitis herpetiformis → coeliac disease
- Peptic ulcer → ZE syndrome
- Ataxia → Abetalipoproteinemia
Chronic Diarrhea with Fever

- Infectious diarrhea
  - Amoebiasis
  - TB enteritis
  - CMV colitis
  - *C. difficile*-associated diarrhea
- IBD
- Lymphoma
- SLE
Chronic Diarrhea with Clubbing of Fingers

- IBD
- IPSID
- Coeliac disease
- Cystic fibrosis
- Whipple’s disease
- Malignancy (paraneoplastic)
- Cronkhite-Canada Syndrome
- Sarcoidosis
- Long standing chronic diarrhea
Chronic Diarrhea with Eosinophilia

- Parasites
- Eosinophilic gastroenteritis
- Lymphoma
- SLE
- Drugs-induced
- Food allergy
5. Ascites
6. Hepatomegaly
Liver Abscess

Amoebic

Pyogenic
HCC
Cholangiocarcinoma
Liver Metastasis
Congestive Hepatopathy
7. Splenomegaly