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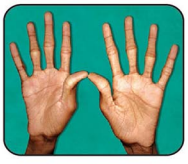
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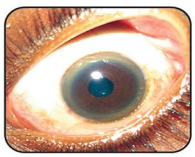




Mudit Khanna

14th Edition

JAYPEE







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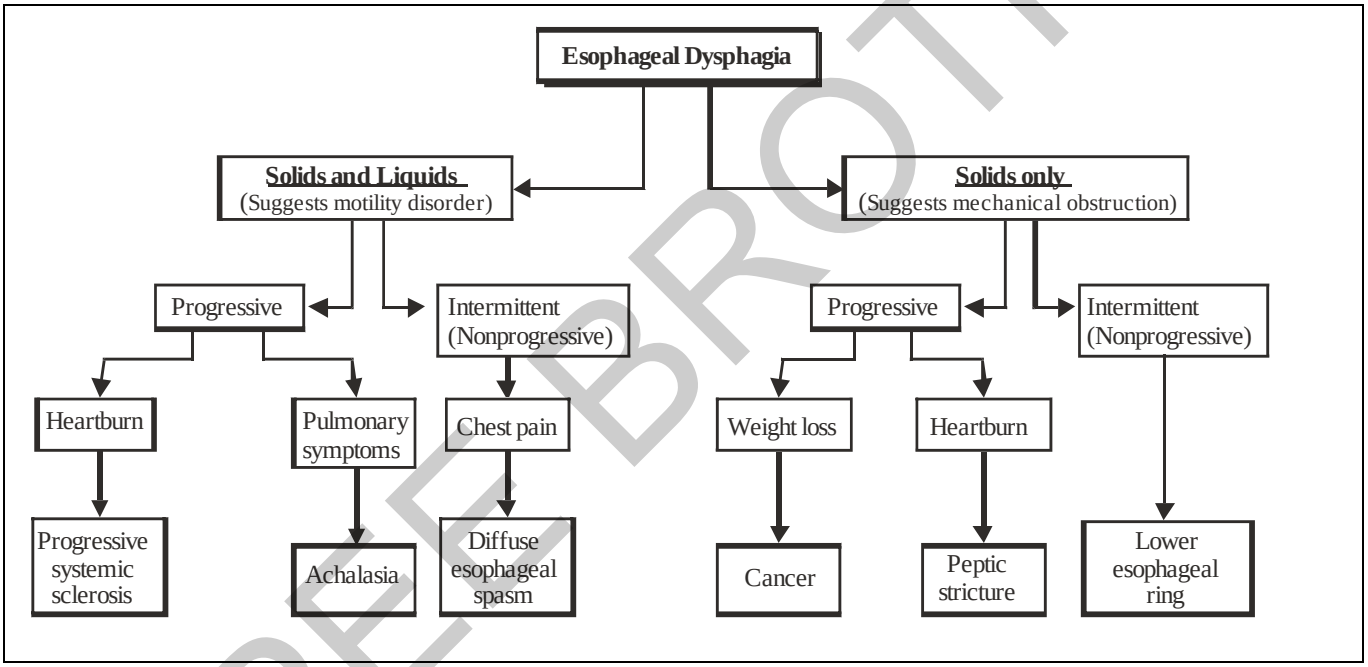
ESSENTIAL REVISION NOTES

Esophageal Conditions

Dysphagia (General / Differential Diagnosis)

Esophageal Dysphagia

Progressive	Intermittent
• *Achalasia* • *Progressive systemic sclerosis* • *Peptic stricture* • *Carcinoma*	• *Lower esophageal ring/Shatzki ring* • *Diffuse esophageal spasm* • *Zenker's diverticulum*



- **Achlasia Cardia** is associated with *Progressive dysphagia* to *both solids and liquids*
  Rat-tail esophagus with a dilated proximal esophagus and narrow lower end suggests a diagnosis of Achlasia cardia. (Dhingra 4th/305)
- **Esophageal carcinomas** are associated with *progressive dysphagia*. Dysphagia is *initially only for solids* at presentation (may prgress to cause dysphagia to liquids also)
  Narrow and irregular esophageal lumen suggests a diagnosis of esophageal carcinoma (Dhingra 4th/306)
- **GERD** is asociated with *progressive dysphagia* to *solids alone* at presentation.
  Stricture or ulcer in the esophagus suggests a diagnosis of Gastrophageal Reflux disease (GERD)
- **Diffuse esophageal spasm** is associated with non-progressive dysphagia to both solids and liquids.
  The charachteristic barium swallow findings in diffuse esophageal spasm is the corkscrew esophagus (appearance of curling or multiple ripples in the wall, sacculations and pseudodiverticula)
- **Lower esophageal rings (Schatzki's ring**) *is associated with Non- progressive (episodic) dysphagia only for solids. The ring is apparent as a constriction in the lower esophagus on barium swallow.*

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Investigations for Esophageal Dysphagia

Esophageal Dysphagia

Initial investigation should be Barium swallow^{Q}

Dysphagia for both liquids & solids	Dysphagia for solids alone
Suggests esophageal motility disorder - *Achalasia* - *Diffuse Esophageal spasm*	Suggests mechanical obstruction - *Carcinoma* - *Stricture* - *Web*
↓	↓
Investigation of choice is Manometry	***Investigation of choice is endoscopy***

- *Barium swallow is the recommended initial investigation for a case of Esophageal Dysphagia*
  'In evaluating a patient with dysphagia, a barium swallow should be the first test performed'-Current Otorhinology 2nd/488
- *Endoscopy is the investigation of choice for dysphagia from mechanical obstruction*
- *Manometry is the investigation of choice for dysphagia from esophageal motility disorders*

Dysphagia Lusoria

Dysphagia Lusoria refers to dysphagia arising from symptomatic compression of the esophagus by an aberrant blood vessel.

Types of Contractions seen in Esophagus

Three types of Contractions are seen in Esophagus

Primary Contractions (Primary Peristalsis)	Secondary Contractions (Secondary Peristalsis)	Tertiary Contractions (Tertiary Peristalsis)
• *Progressive contractions* • Triggered by voluntary swallowing	• *Progressive contractions* • Triggered by distension or irritation of esophagus (but not by voluntary swallowing)	• ***Non progressive contractions*** • Occur spontaneously and simultaneously between swallows

Simultaneous, Non progressive, Non Peristaltic waves are called Tertiary contractions

Achalasia Cardia

Achalasia Cardia (Primary esophageal motility disorder)
Physiological Characteristic
• Absence of esophageal peristalsis • Increased pressure of LES • Failure of LES to relax in response to swallowing
Pathogenesis
• True etiology unknown • Degeneration of Myenteric plexus of Aurerbach's with loss of postganglionic inhibitory neurons is noted (These neurons contain NO and VIP which mediate LEs relaxation) • Sparing of postganglionic cholinergic fibres (Increased Les resting pressure and insufficient relaxation)
Presentation
• Dysphagia is the most common symptom Dysphagia is present for both solids and liquids and is progressive • Regurgitation is the second most common symptom • Chest pain may also occur

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Investigations

- *Esophageal Manometry is the key test in establishing the diagnosis*

Physiological /Manometric features of Achalasia
•*Elevated Resting pressure of LES (>45 mmHg)*[Q]
•*Incomplete LES relaxation (in response to swallowing)*[Q]
•*Absence of distal esophageal peristalsis*[Q]

- *Barium swallow should be the initial test performed*

Diagnosis suggested by:
•*Dilated sigmoid oesophagus*
•*Persistant beak like narrowing of distal oesophagus*

Complications

- *Achalasia is a risk factor for Esophageal carcinomaQ*
- Achalasia predisposes to squamous cell carcinoma[Q]

Treatment

Surgical Treatment

- *Laparoscopic Heller's myotomy*[Q] *and partial fundoplication is the procedure of choice*

Esophagectomy is not used in the treatment

Non surgical treatment includes medications that reduces LES pressure

- Intrasphinteric injection of botulinum toxin and/or
- Pneumatic dilatation

Diffuse Esophageal Spasm

Diffuse Esophageal spasm (Corkscrew esophagus)

Diffuse Esophageal spasm is a poorly understood hypermotility disorder of the oesophagus

Presentation

- The clinical presentation is typically that of *Chest pain and Dysphagia*
- ***'The most common symptom is intermittent chest pain***[Q] (>dysphagia)
- Chest pain mimics angina or pain of coronary artery disease
  - *Squeezing pressure in the chest that may radiate to the Jaw, arms or upper back*
  - *Symptoms are aggravated by emotional stress, exertion (or related to eating)*

Chest pain[Q]
Dysphagia[Q]

Diagnosis

Manometry is the key to establish the diagnosis

The diagnosis is usually made by an esophagogram (Barium swallow) and monometric study

Ambulatory pH monitoring should be performed to rule out abnormal reflux

Esophagogram (Barium Swallow)

- *Corkscrew esophagus*[Q] is *classical of Diffuse esophageal* spasm (seen in about 30% of cases)

(Radiological evidence of tertiary contractions)

Ambulatory 24 hour pH monitoring
Gastro esophageal reflux disease may mimic diffuse esophageals spasm Ambulatory pH monitoring must be performed to rule out abnormal reflux which is the most common cause of non cardiac chest pain

Manometry

- ***Manometry is the key to establish the diagnosis (CSDT)*** *Correlation of subjective complains with evidence of spasm (induced by vagomimetic drug bethenechol) on manometric studies prvide convincing evidence*-Sabiston
- *Esophageal monometry is the only test that distinguishes diffuse esophageal spasm from other primary esophageal motor disorders* - CSDT
- *An ambulatory motility record (ambulatory manometry) is preferred over standard manometry* as contractions are intermittent and normal peristalsis is seen in between. *Ambulatory manometry is the single best investigation with a sensitivity of 90% and specificity of 100%*

Diffuse esophageal spasm is synonymous with 'corkscrew esophagus' or Rosary esophagus - Bailey

In diffuse esophageal spasm, barium swallow shows that normal sequential peristalsis below the aortic arch is replaced by uncoordinated simultaneous contractions that produce the appearance of curling or multiple ripples in the wall, sacculations, and pseudodiverticula- the "corkscrew" esophagus.

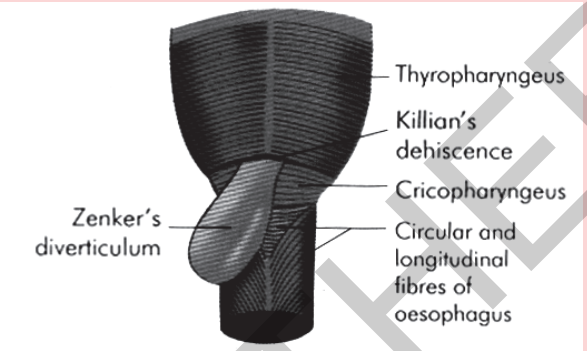
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Zenker's Diverticulum

What it is :

It is a *pulsion diverticulum*[Q], where pharyngeal *mucosa*[Q] herniates *through the Killihan's dehiscence*[Q] (a weak area *between two parts of Inferior Constrictor*[Q]). **(Zenker's Diverticulum occurs in the pharynx and not in the esophagus)**

- Zenker's diverticulum originates from the *posterior wall* of the pharynx through the killian's dehiscence
- Killian's dehiscence is a weak area between
  - Oblique fibres of the Thyropharyngeus (part of inferior constrictor muscle) superiorly
  - Transverse fibres of the cricopharyngeus (part of the inferior constrictor muscle) inferiorly
- Herniation *starts in the midline posteriorly*, however as the out pouching enlarges, it localizes to one side of the oesophagus most commonly on the left side.



Hypopharyngeal (Zenker's) diverticulum.

Hypopharyngeal mucosa herniates through the Killian's dehiscence a weak area between two parts of inferior constrictor

- **Zenker's diverticulum is an acquired diverticulum and not a congenital diverticulum**
  These are *acquired pulsion diverticulae* that usually occur in people older than 60 years as their pharyngeal muscle tone and elasticity decreases.
- **Zenker's diverticulae are false diverticulae**
  Zenker's diverticulum *is a false diverticulum* because it does not contain all the anatomic layers of the esophageal wall
  Zenker's diverticulum involves protrusion of *only the mucosa (and submucosa)* through the posterior muscle layers

Age of presentation

This condition is usually seen after 60 years of age (*elderly*) [Q]

Symptomatology / presentation

- ***Dysphagia***[Q] : As mouth of the sac is wider than the opening of esophagus, food preferentially enter the sac. When the pouch gets filled with food, it presses on the esophagus & produces ***Dysphagia***. [Q]
- ***Gurgling Sound***[Q] is produced during swallowing.
- ***Halitosis*** or foul smell is frequently associated
- ***Cough & Aspiration pneumonia***[Q] : food eaten *over the last few days*[Q] may regurgitate as it collects in the pouch causing cough and aspiration pneumonia.
- ***Malnutrition***[Q] : Patient is often malnourished due to dysphagia.

> *The most frequent complications of Zenker diverticulum is 'aspiration' into the tracheobronchial tree which can in turn present with pneumonia and Lung Abscess.*

Investigations

- Barium swallow is the diagnostic procedure of choice for Zenker's diverticulum
  Zenker's diverticulum are often identified by Lateral x-rays on Barium swallow

Treatment

- *Simple Excision of pouch*
- *Excision of pouch and cricopharyngeal myotomy* [Q]
- *Dahlman's procedure*[Q] : Done in poor-risk debilitated patients. The partition wall between esophagus and pouch is divided by diathermy.

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MULTIPLE CHOICE QUESTIONS

Esophageal Conditions

Dysphagia (General / Differential Diagnosis):

1. A 30 year old female patient presents with non progressive dysphagia, for both solids and liquids. The charachteristic finding on baruim swallow that will confirm the probable diagnosis is: *(AI 2008)*
   A. Dilated esophagus with narrow lower end (Rat tail esophagus)
   B. Multiple sacculations and pseudodiverticulae (Corkscrew esophagus)
   C. Narrow and irregular esophageal lumen
   D. Stricture ulcer in the esophagus
2. A lady presented with non progressive dysphagia only for solids. Barium study showed proximal esophageal dilatation with distal constriction. The most likely diagnosis is. *(AI 2010)*
   A. Peptic Stricture
   B. Carcinoma Esophagus
   C. Achalasia Cardia
   D. Lower Esophageal Ring
3. A 40 year old female patient with dysphagia to both liquids and solids and regurgitation for 3 months. The dysphagia was non-progressive. What is the most likely diagnosis? *(AIIMS May 2006)*
   A. Carcinoma of the esophagus
   B. Lower oesophageal mucosal ring
   C. Achalasia cardia
   D. Reflux esophageal with esophageal stricture
4. Intermittent dysphagia is caused by (select two best options): *(PGI June 04)*
   A. Stricture
   B. Achalasia cardia
   C. Pharyngeal diverticulum
   D. Diffuse esophageal spasm
5. Oesophageal motility disorder are best diagnosed by? *(NBE)*
   A. Barium studies
   B. Endoscopy
   C. 24 hour p H monitoring
   D. Manometry
6. Investigation of choice for dysphagia for solids:
   A. Barium swallow *(PGI Dec 03)*
   B. Endoscopy
   C. X-ray chest
   D. C. T. scan
7. A patient present with dysphagia of 4 weeks duration. Now he is able to swallow liquid food only. Which of the following is the one investigation to be done:
   A. Barium studies are the best to be done
   B. Upper GI endoscopy is to be done
   C. CT scan is needed *(PGI June 2000)*
   D. Esophageal manometry
8. Dysphagia lusoria is due to: *(AIIMS Nov 03)*
   A. Oesophageal diverticulum
   B. Aneurysm of aorta
   C. Oesophageal web
   D. Compression by aberrant blood vessel
9. Non progressive contraction of Esophagus are:
   A. Primary *(AI 2009)*
   B. Secondary
   C. Tertiary
   D. Quaternary

Achalasia Cardia

10. True about achalasia cardia is (select two best options)
    A. Dysphagia is a presenting symptom
    B. The cause is the absence of Auerbach's plexus
    C. Esophagectomy is the treatment *(PGI June 02)*
    D. Motility-improving agents are used in treatment
    E. Barium swallow shows irregular filling defect in lower esophagus
11. In achalasia cardia, true is: *(PGI June 2000)*
    A. Pressure at distal end increased with no peristalsis
    B. Low pressure at LES with no peristalsis
    C. Pressure > 50 mmHg with peristalsis
    D. Pressure at the distal end increased with normal relaxation
12. A young patient with dysphagia more for liquids than solids. He regurgitates food often at night. Radiography shows a rat tailed appearance. Likely diagnosis is : *(AIIMS May 1996)*
    A. Achlasia cardia
    B. CA oesophagus
    C. Zenker's diverticulum
    D. Diffuse esophageal spasm
13. A young patient presents with history of dysphagia more to liquid than solids. The first investigation you will do is: *(AIIMS June 03)*
    A. Barium swallow
    B. Esophagoscopy
    C. Ultrasound of the chest
    D. C.T. scan of the chest
14. Heller's operation is done for: *(AIIMS Nov 93)*
    A. Achalasia cardia
    B. Pyloric stenosis
    C. Peptic ulcer
    D. CA Esophagus
15. In which of the following cases is Heller's operation done? *(NBE)*

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A. Achalasia cardia
B. Carcinoma esophagus
C. Strictures of esophagus
D. Hypertorphic pyloric stenosis

Diffuse Esophageal Spasm

16. Diffuse esophageal spasm is best diagnosed by:
A. Endoscopy *(AI 2008)*
B. Manaometry
C. Barium swallow
D. CT
17. Corkscrew esophagus is seen in which of the following conditions? *(AI 2002)*
A. Carcinoma esophagus
B. Scleroderma
C. Achalasia cardia
D. Diffuse esophagus spasm
18. A young patient has dysphagia and symptoms of GERD. The barium swallow showed a corkscrew esophagus. What would be the MOST likely diagnosis? *(NBE)*
A. Achalasia cardia
B. Esophageal stricture
C. Carcinoma esophagus
D. Diffuse esophageal spasm
19. On barium swallow,'corkscrew esophagus' is seen in which of the following? *(NBE)*
A. Esophagitis
B. Achlasia cardia
C. Carcinoma esophagus
D. Diffuse esophageal spasm

Zenker's Diverticulum

20. All of the following statements about Zenker's diverticulum are true Except: *(AI 2009)*
A. Acquired diverticulum
B. Pulsion Diverticulum
C. False Diverticulum
D. Out pouching of the anterior pharyngeal wall
21. A male aged 60 years has foul breath; He regurgitates food that is eaten 3 days ago. A gurgling sound is often heard on swallowing : Likely diagnosis is: *(AI 2001)*
A. Zenkers diverticulum
B. Meckels diverticulum
C. Scleroderma
D. Achalasia cardia
22. A man aged 60 years presents with intermittent dysphagia & foul breath. He regurgitates food that is eaten few days ago: Likely diagnosis is:
A. Zenker's diverticulum *(AI 91)*
B. Meckel's diverticulum
C. Scleroderma
D. Achalasia cardia
23. Commonest complication of Zenker's diverticulum is: *(AIIMS Nov 96)*
A. Dysphonia
B. Gastroesophageal reflux
C. Lung abscess
D. Perforation
24. Which of the following is TURE about Zenker's diverticulum: *(AI 1995)*
A. It is asymptomatic
B. Occurs in the mid-esophagus
C. Treatment is simple excision
D. It occurs in children

Oesophageal Ring / Web

25. Schatazki's ring is: *(PGI Dec 98)*
A. Mucosal ring at squamous columnar junction
B. Muscular ring
C. Dysphagia is the presenting symptom
D. Inflammatory stricture
26. All are true regarding Plummer Vinson syndrome, ***except***: *(AIIMS Dec 97)*
A. Oesophageal web
B. Predisposes to malignancy
C. Koilonchia
D. Common in elderly males

Barret's Esophagus

27. Barret's esophagus is diagnosed by: *(AIIMS Nov 06)*
A. Squamous metaplasia
B. Intestinal metaplasia
C. Squamous dysplasia
D. Intestinal dysplasia
28. All except one are true regarding Barret's oesophagus: *(AIIMS Feb 97)*
A. More incidence of squamous cell carcinoma
B. Metaplasia
C. Columnar epithelium
D. Involves lower oesophagus
29. Barret's esophagus can lead to: *(AIIMS June 98)*
A. Stricture
B. Reflux esophagitis
C. Peptic ulcer
D. Achalasia
30. All of the following are true about Barret's esophagus, Except: *(PGI June 03)*
A. Consequence of prolonged GER
B. It is premalignant
C. Lower oesophageal mucosa is replaced by intestinal type of epithelium
D. Associated with oesophageal varices
E. Predisposes to adenocarcinoma
31. False about Barret's Esophagus is: *(PGI Dec 03)*
A. Premalignant conditions
B. Can be diagnosed by seeing under endoscope

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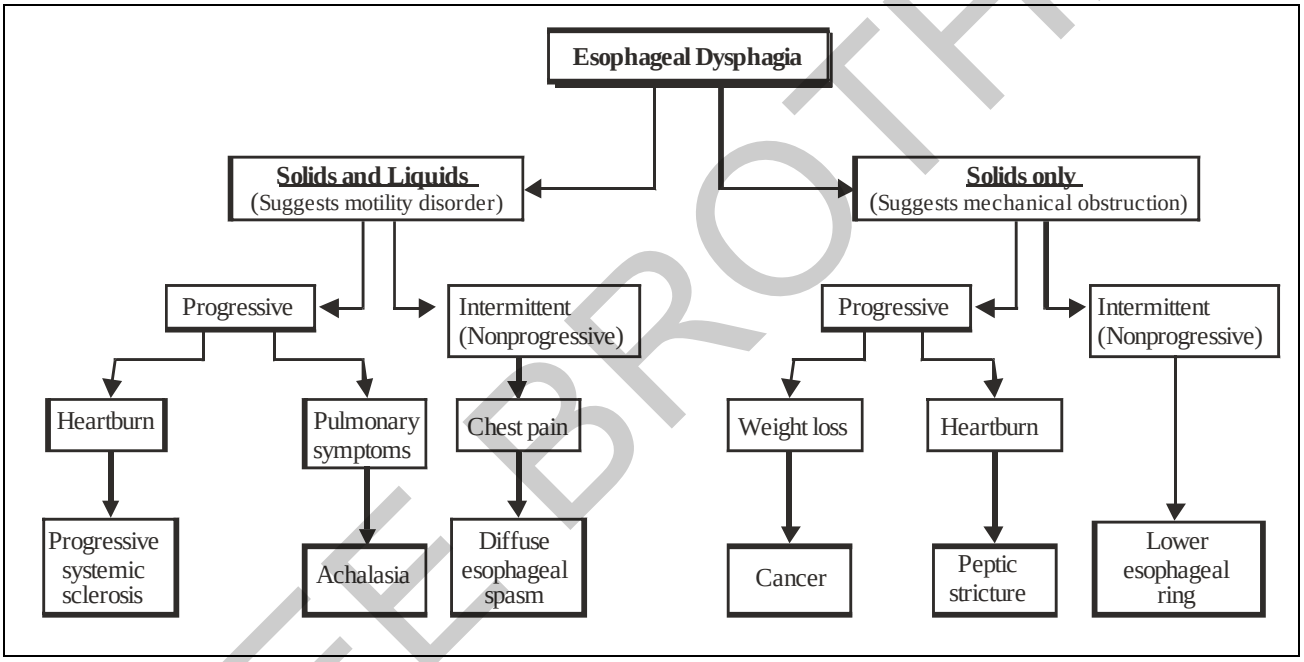
ANSWERS, REFERENCES, EXPLANATIONS AND RELEVANT HIGH YIELD FACTS

Esophageal Conditions

Dysphagia (General / Differential Diagnosis):

1. Answer is B (Multiple sacculations and pseudodiverticulae Corkscrew esophagus): *Current Diagnosis and Treatment in Gastroenterology; Harrisons*

The presence of non progressive dysphagia to both solids and liquids suggests the diagnosis of diffuse esophageal spasm. The charachteristic barium swallow findings in diffuse esophageal spasm is the corkscrew esophagus (appearance of curling or multiple ripples in the wall, sacculations and pseudodiverticula)



- Rat tail esophagus with a dilated proximal esophagus and narrow lower end suggests a diagnosis of Achlasia cardia. *(Dhingra 4th/305)*
  Achlasia is associated with *Progressive dysphagia* to *both solids and liquids*
- Narrow and irregular esophageal lumen suggests a diagnosis of esophageal carcinoma *(Dhingra 4th/306)*
  Esophageal carcinomas are associated with *progressive dysphagia*. Which is *initially only for solids* at presentation (may prgress to cause dysphagia to liquids also)
- Stricture or ulcer in the esophagus suggests a diagnosis of Gastrophageal Reflux disease (GERD) *(H16th/1743)*
  GERD is asociated with *progressive dysphagia* to *solids alone* at presentation.

2. Answer is D (Lower esophageal ring) : *Current Diagnosis and Treatment in Gastroenterology; Harrison's*

Non progressive (episodic) dysphagia only for solids is characteristic of lower esophageal rings (Schatzki's ring). The ring is apparent as a constriction in the lower esophagus on barium swallow.

Peptic stricture and carcinoma esophagus present with ***progressive*** *dysphagia for solids while Achalasia presents with* ***progressive*** *dysphagia for both solids and liquids.*

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3. Answer is C (Achalasia Cardia): *Harrison; Refer previous question*

Carcinoma Esophagus, lower esophagus ring and esophageal stricture are all associated with dysphagia for solids alone.

Presence of dysphagia for both solids and liquids suggests a diagnosis of Achalasia cardia.

Although dysphagia in Achalasia is progressive absence of progression does not exclude the diagnosis. Also amongst the options provided Achalasia is the single best answer of exclusion.

4. Answer is C and D (Pharyngeal diverticulum) and (Diffuse esophageal spasm): *Current Gastroenterology; Harrisons; CMDT*

Progressive	Intermittent
• *Achalasia* • *Progressive systemic sclerosis* • *Peptic stricture* • *Carcinoma*	• *Lower esophageal ring/Spatzki ring* • *Diffuse esophageal spasm* • *Zenker's diverticulum*

5. Answer is B (Endoscopy): *CMDT; Refer text below*

Dysphagia for solids alone suggests a probable mechanical cause for dysphagia such as carcinoma, stricture or esophageal web. The investigation of choice for such cases is Endoscopy.

Esophageal Dysphagia

Initial investigation should be Barium swallow^{Q}

Dysphagia for both liquids & solids	Dysphagia for solids alone
Suggests esophageal motility disorder - *Achalasia* - *Diffuse Esophageal spasm*	Suggests mechanical obstruction - *Carcinoma* - *Stricture* - *Web*
↓	↓
Investigation of choice is Manometry	***Investigation of choice is endoscopy***

6. Answer is D (Manometry): *Mayo Clinic Gastroenterology and Hepatology Board Review*

Esophageal manometry is the gold standard test for esophageal motility disorders.

Esophageal Motility Disorders : Manometry is the test of choice
Achalasia Cardia
Diffuse Oesophageal Spasm (Discoordinated motility)
Nutcracker Oesophagus (Hypercontractile motility)
Hypertensive LES (Hypercontractile motility)
Hypotensive LES(Hypocontractile motility)
Ineffective Oesophageal motility (Hypocontractile motility)

7. Answer is B (Upper GI endoscopy is to be done): *Refer previous question*

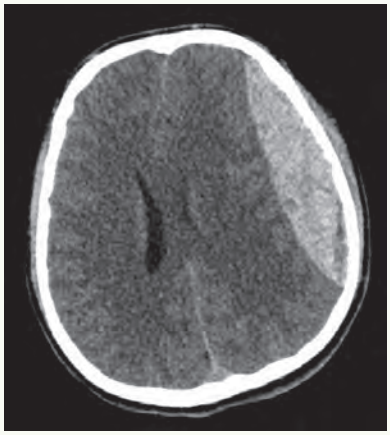
The patient is presenting with new onset dysphagia for solids alone (able to swallow liquids). This suggests dysphagia due to mechanical obstruction (carcinoma, stricture, web) which is best diagnosed by endoscopy.

Note:
Barium swallow is the recommended initial investigation
Endoscopy is the investigation of choice.

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Image-based Questions

1. **Identify the condition shown in the CT Scan below.** *(NBE)*

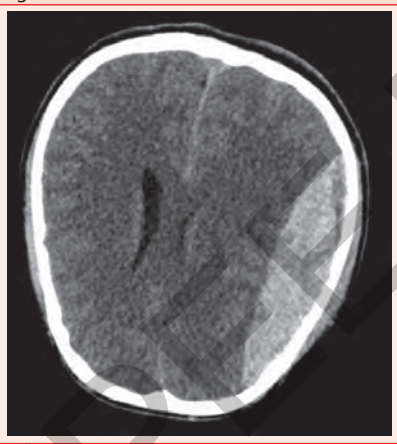
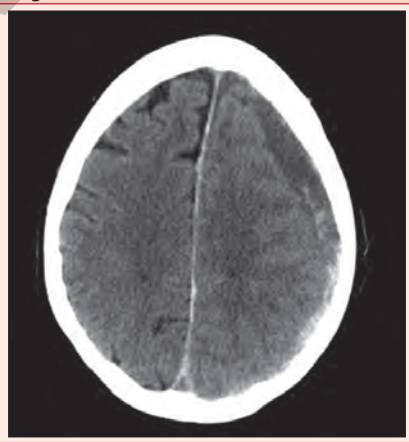


A. Extradural haemorrhage
B. Subdural haemorrhage
C. Subarachnoid haemorrhage
D. Intraventricular haemorrhage

Ans. A

(Extradural haemorrhage): ***Refer text***

Typical lens-shaped (lenticular), Biconvex, Hyperdensity on the CT scan suggest a diagnosis of Extradural Hematoma/ Hemorrhage

Extradural/Epidural Epidural bleeding occurs between the skull and dura	**Subdural** Subdural bleeding occurs between the dura and arachnoid.
	
• Lentiform (lens-shaped) • Biconvex • May be described as Lemon-shaped	• Typically crescentic (crescent or moon-shaped) • Concave • May be described as Banana-shaped
• Do not cross sutures as the periosteum crosses through the suture continuous with the outer periosteal layer	• More extensive than EDH, with the internal margin paralleling the cortical margin of the adjacent brain. As these occur in the subdural space, they cross sutures.
• May cross the midline	• Does not cross the midline
• Typically caused by laceration of arterial vessels, most commonly the middle meningeal artery.	• Typically caused by rupture of the bridging veins. The bridging veins are susceptible to rupture because the brain floats freely in CSF whereas the venous sinuses are fixed
• Tremendous force is usually required	• Can occur with minimal force especially in the elderly

2. **A woman presents with pain, swelling and redness of small joints of the hand. There were associated complaints of Morning stiffness. The swelling spared the DIP joints. The image of the patient's hands is shown below.What is the most likely diagnosis?**

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A. Rheumatoid arthritis
B. Osteoarthritis (Herbeden's nodes)
C. Tenosynovitis of extensor tendon of MCP joints
D. Post traumatic dystrophy with complex regional pain syndrome

Ans. A

(Rheumatoid arthritis): ***Refer text***

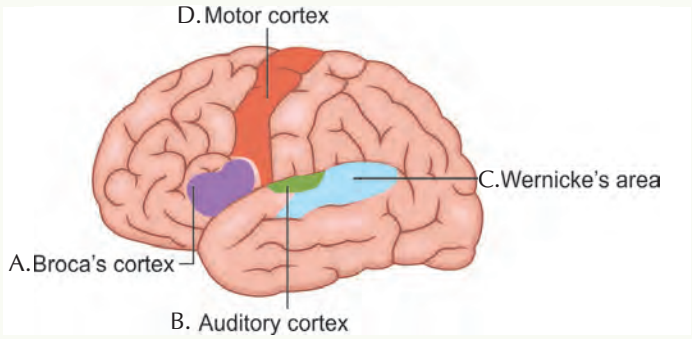
Involvement of small joints of the hand with features of joint inflammation (swelling and redness) and morning stiffness together with sparing of the Distal Interphalangeal Joint suggests a diagnosis of Rheumatoid Arthritis.

Rheumatoid Arthritis	Osteoarthritis
	
Sparing of the Distal Interphalangeal Joint (DIP)	**Sparing of the Wrist and Metacarpophalangeal Joint (MCP)**
Involvement of any other small joints of the hand (PIP; MCP; Wrist)	Involvement of PIP, DIP and First Carpometacarpal Joint (Base of Thumb)

Deformities in Rheumatoid Arthritis	Deformities in Osteoarthritis
• Boutonniere deformity (Flexion of PIPs, hyperextension of DIPs) • Swan-neck deformity (Hyperextension of PIP, flexion of DIPs)	• Bouchard's nodes (Bony enlargement of PIP joint in osteoarthritis) • Herbeden's nodes (Bony enlargement of DIP joint in osteoarthritis)

3. **A patient of RTA presents in emergency with inability to speak. On examination, the patient presented with difficulty in speak and impaired repetition. He was however able to understand what he wanted to speak. Which of following marked area of brain is involved in this?**

A. A B. B C. C D. D

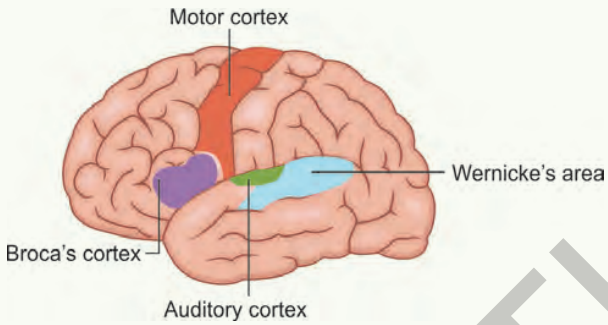


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Ans. A

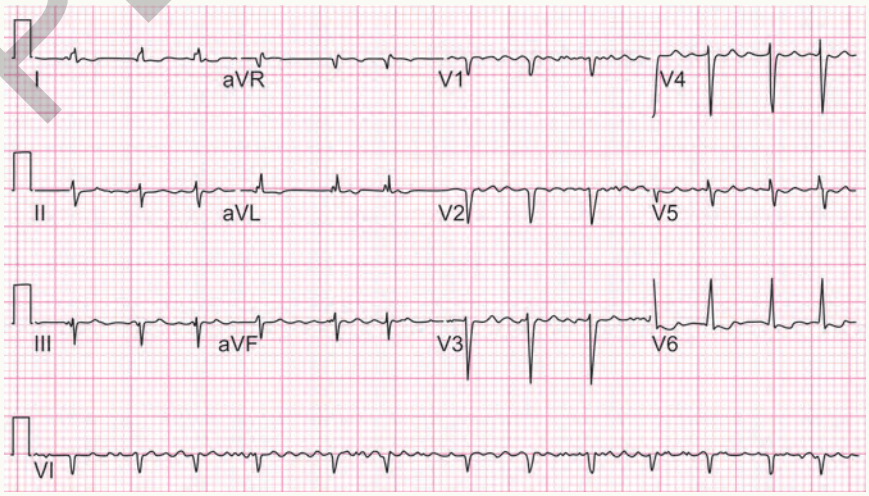
(A): *Refer text*

Preserved comprehension (able to understand) with difficulty in speaking and impaired repetition is typical of Broca's (Expressive) Aphasia. Broca's Aphasia is a Non-Fluent Expressive (Motor) Aphasia with preserved comprehension and impaired repetition and typically results from a lesion in the Broca's area (inferior frontal gyrus)



	Broca's Aphasia	Wernicke's Aphasia
Lesion Site[Q]	• Lesion in Broca's area • (Inferior Frontal Gyrus)	• Lesion lies in Wernicke's area (Supramarginal gyrus) of the parietal lobe and upper part of temporal
Cause[Q]	• Lesion is due to occlusion of superior branch of middle cerebral artery	• Lesion is due to occlusion of inferior division of middle cerebral artery.
Comprehension	• Comprehension is preserved • (except grammar)	• Comprehension is impaired
Fluency[Q]	• Decreased • Speech is not fluent, labored, Dysarthric, and interrupted with many word finding pauses. It is telegraphic but informative	• Preserved or increased • Speech is fluent but is highly paraphasic and associated with neologisms (Jargon Aphasia)
Naming[Q]	• Impaired	• Impaired
Repetition[Q]	• Impaired	• Impaired
Neologism[Q]	• Absent	• Present
Insight	• Insight into condition is preserved	• Not preserved

4. What is the diagnosis based on the ECG given below?



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Recent Questions with Answers

NEET-PG 2021

1. **A 56-year-old patient has been admitted with complaints of recurrent episodes of retrosternal chest pain with each episode lasting 3-5 minutes and is relieved on sublingual nitrate. TROP I is normal. ECG shows features of LVH with T wave flattening. He is already on statins, aspirin, metformin, and metoprolol 50 mg. What is next best step?**
   a. Increase beta blocker dose
   b. LMWH subcutaneous
   c. IV NTG drip
   d. Add tab Clopidogrel

2. **A 20-year-old woman presents with breathlessness and chest pain. She is a known case of mitral stenosis. Her pulse is irregularly irregular. No thrombus is seen on ECHO. What is the best agent to prevent future thrombotic events?**
   a. Dabigatran
   b. Aspirin plus clopidogrel
   c. Oral warfarin
   d. LMWH

3. **Chronic kidney disease (CKD) patient is having ECG findings of tall T waves. Which of the following derangement is likely to be found in this patient?**
   a. Hypokalemia
   b. Hypocalcemia
   c. Hypernatremia
   d. Hypophosphatemia

4. **A female patient with hysteria was hyperventilating. She subsequently developed carpopedal spasm. On work up, ABG value of pH = 7.53, pCO_2 = 20 mm Hg, HCO_3 = 26 mEq/L is seen. The clinical diagnosis is:**
   a. Respiratory acidosis
   b. Respiratory alkalosis
   c. Metabolic acidosis
   d. Metabolic alkalosis

5. **A 30-year-old patient was behaving strangely and developed an episode of seizure on presentation to ER. On work-up of patient, urine osmolality = 1000 mOsm/kg and plasma osmolality = 200 mOsm/kg. Which of the following is most probable dyselectrolytemia present in this case?**
   a. Hypernatremia
   b. Hypokalemia
   c. Hyperkalemia
   d. Hyponatremia

6. **A 30-year-old lady had moderate headache thrice in a week following which she was using medication for last three consecutive years. She says that in the recent six months she stopped using medication and her headache has decreased. Which of the following is most probable diagnosis?**
   a. Migraine
   b. Tension headache
   c. Cluster headache
   d. Medication overuse headache

7. **A 10 years old child with AIDS presented with fever, cough with purulent sputum and difficulty in breathing. On auscultation, bronchial sounds were heard with coarse crepitations in right infra-mammary and infra-scapular area. Chest X-ray showed right lower lobe consolidation. His current CD4 count is 55 and is not on regular medication. Which of the following is the etiological agent for this presentation?**
   a. Streptococcus pneumoniae
   b. Mycobacterium tuberculosis
   c. Mycoplasma
   d. Pneumocystis jirovecii

8. **An elderly diabetic female has presented with multiple episodes of vomiting after few hours of consuming food from outside. On admission BP is low and ABG shows pH = 7.5, pCO_2 = 45 mm Hg and HCO_3^- = 30 mEq. Na^+ = 130, K^+ = 3.5 and Chloride = 90 mEq/ L. What is the etiology of these findings?**
   a. Renal tubular acidosis
   b. Diabetic ketoacidosis
   c. Protracted vomiting
   d. Septic shock

9. **A 50 years old patient presents with nocturnal cough, breathlessness and wheezing episodes for 4 weeks. Absolute eosinophil count is 5000 (n = 40-400 cells/cu mm) and miliary pattern is noticed on chest X-ray. What is the likely diagnosis?**
   a. Miliary TB
   b. Tropical pulmonary eosinophilia
   c. Bronchial asthma
   d. Hypersensitivity pneumonitis

10. **Patient presents with breathlessness, easy fatigue, and peripheral edema. On auscultation, a mid-diastolic murmur with giant/steep 'a' wave in JVP was seen. What is the likely diagnosis?**
    a. Mitral stenosis
    b. Tricuspid stenosis
    c. Mitral regurgitation
    d. Tricuspid regurgitation

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Explanations

NEET-PG 2021

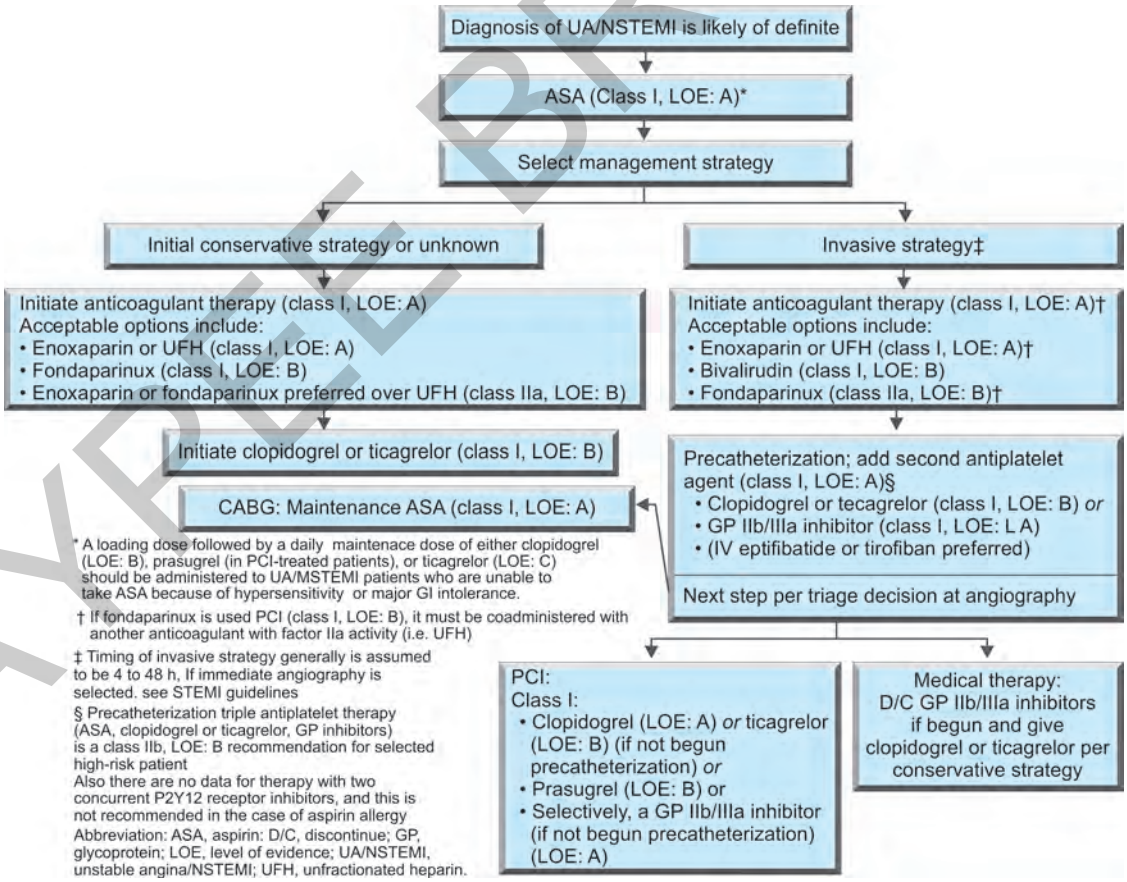
1. Ans. b. LMWH subcutaneous *(Ref: Harrison 20/e p75, 851, 1869; Robbin's 10/e p543)*

Complaints of recurrent episodes of retrosternal chest pain with each episode lasting 3-5 minutes and is relieved on sublingual nitrate with normal TROP I and T wave flattening on ECG suggest the diagnosis of Unstable angina. Since the patient is already on statins, aspirin, metformin, and metoprolol 50 mg, the next best step is LMWH (given subcutaneously) for the microemboli.

"Unstable or crescendo angina refers to a pattern of increasingly frequent, prolonged (>20 min), or severe angina, precipitated by progressively lower levels of physical activity or even occurring at rest. Unstable angina is associated with plaque disruption and superimposed thrombosis, distal embolization of the thrombus, and/ or vasospasm; it is an important harbinger of MI, potentially portending complete vascular occlusion."- Robbin's 10/e p543

"Stable angina usually begins gradually and reaches its maximal intensity over a period of minutes before dissipating within several minutes with rest or with nitroglycerin. The discomfort typically occurs predictably at a characteristic level of exertion or psychological stress. By definition, unstable angina is manifest by anginal chest discomfort that occurs with progressively lower intensity of physical activity or even at rest. Chest discomfort associated with MI is typically more severe, is prolonged (usually lasting ≥30 min), and is not relieved by rest."- Harrison 20/e p75

"In patients with unstable angina, LMWH is given SC on a twice-daily basis at a dose of 100–120 units/kg." - Harrison 20/e p851



Initial management of unstable angina/NSTEMI

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Self Assessment & Review
MEDICINE

The structure of Postgraduate Medical Entrance Examinations has undergone a dramatic change over the past few years with the pattern of examination moving from a 'Paper-based' All India Postgraduate Medical Entrance Examination (AIPGMEE) conducted by All India Institute of Medical Sciences (AIIMS), to a 'Computer-based' AIPGMEE conducted by National Board of Examinations

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