ROYAL COLLEGE
OF PHYSICIANS AND SURGEONS OF CANADA
COLLÈGE ROYAL
DES MÉDECINS ET CHIRURGIENS DU CANADA

Sample Applied Exam – Internal Medicine

Case 1

Station
Dysphagia Work-Up

Case Objective(s)
- Assess a patient with dysphagia to determine cause.
- Give a differential diagnosis for medical causes of dysphagia.
- Approach initial therapy of eosinophilic esophagitis.

Setting
Outpatient clinic

Instructions to Candidates
A 48-year-old woman has been referred to your office by her family physician because of difficulty swallowing for the past 6 months.

She has a history of environmental allergies and mild asthma.

She is on no medications.

Vitals: BP 120/80 mm Hg, HR 70 bpm, weight 65 kg, BMI 21 kg/m2. Physical examination is otherwise normal.

You will be asked to outline your differential diagnosis for the cause of the dysphagia and take a history to help narrow your differential diagnosis.

Question 1

What is your differential diagnosis for the cause of the dysphagia?

MODEL ANSWER
**Candidate expected to give all the possible causes but should have an organized differential.*
- Oropharyngeal
  - Structural tumor, Zenker's diverticulum, foreign body
  - Neuromuscular/toxic/metabolic myasthenia gravis, CNS tumors, CVA, MS, ALS, polymyositis, generalized weakness from another medical condition.
- Esophageal
  - Mechanical obstruction: Schatzki ring, Esophageal web, Eosinophilic esophagitis, Reflux esophagitis, Peptic Stricture, Esophageal neoplasm (squamous cell carcinoma or adenocarcinoma), Gastric cardia neoplasm (adenocarcinoma)
  - Motility disorder: Achalasia, diabetic neuropathy, distal esophageal spasm, systemic sclerosis/scleroderma

Question 2

What key elements of the history will you ask about to delineate the cause of the patient's dysphagia?

MODEL ANSWER

- Choking or voice change, nasal regurgitation, immediately difficulty/difficulty initiating swallowing – more likely in **oropharyngeal**
- Food getting stuck part way down (delayed difficulty) – more likely in **esophageal**
- **Solids only** – more likely mechanical
  - Progressive symptoms – more likely malignancy or progressive stricture (reflux)
  - Intermittent symptoms - more likely esophageal web, eosinophilic esophagitis, schatzski ring
- **Solid and liquids** – More likely motility disorder
  - Progressive symptoms – scleroderma, achalasia, diabetic neuropathy
  - Intermittent symptoms – esophageal spasm

Examiner to provide the following information to candidate:

For the past year, food seems to stop **"part way down"** her esophagus. She experiences symptoms **intermittently**, and it only occurs with **solid foods**. She also experiences frequent reflux symptoms. She has had **no coughing or choking**. She has adjusted her diet due to these symptoms and is primarily drinking milkshakes.

Question 3

What investigations would you order and why?

MODEL ANSWER

- Gastroscopy: *Gastroscopy shows multiple rings in the esophagus with some linear furrowing and some white papules throughout the entire esophagus. The biopsy returns, showing 60 eosinophils per high-powered field in both the distal and proximal esophagus.*

If ordered:
Upper GI Series (i.e. barium swallow): reported as *normal*
Esophageal Manometry: reported as *normal*

Question 4

What is the MOST likely diagnosis for this patient?

MODEL ANSWER

- Eosinophilic esophagitis

Question 5

What would you initiate as treatment for this patient?

MODEL ANSWER

- PPI (fist line)
- Lifestyle Measures including: careful chewing and swallowing; take liquids with meals
- Topical esophageal steroids (fluticasone inhaler swallowed, viscous budesonide) are often added
- Elimination diets or systemic therapies (prednisone or Dupilumab (anti IL-4) may be considered for more advanced cases

Domains tested:

- Data interpretation
- Clinical reasoning/judgement (synthesis/integration of data)
- Knowledge
- Clinical/patient management
- Organization, logic, and flow