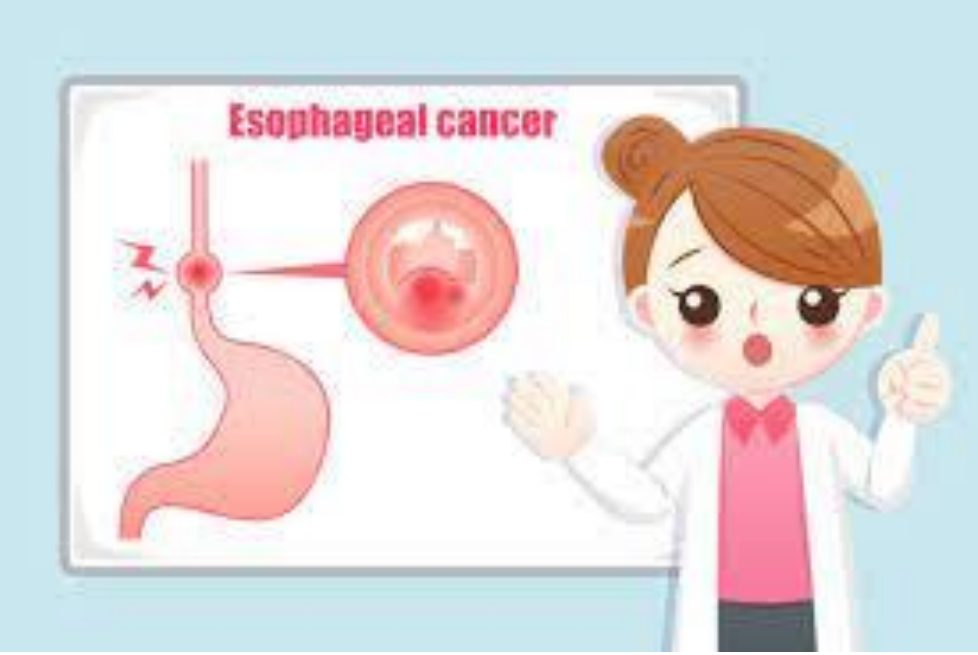
Oesophageal carcinoma



- Sixth most common cancer in the world
- Disease of mid to late adulthood
- Poor survival rate
- 5–10 % of those diagnosed will survive for five years

Microscopically there are mainly 2 types

- Squamous cell carcinoma
- Adenocarcinoma

Macroscopically

- Polypoid
- Stenosing
- Ulcerative

Squamous cell carcinoma

- Endemic area- Transkei region of South Africa
  Asian ‘cancer belt’
- Most frequently involve middle 1/3 and upper 1/3
- Multicentric
- Sensitive to radiotherapy

- Risk factors
- Alcohol
- Smoking
- Tylosis
- Achalasia cardia
- Plummer vinson syndrome
- Nitrosamines
- Fungal toxins

Adenocarcinoma

- Common in western world
- Common in distal 1/3
- Less likely to be multicentric
- In sensitive to radio therapy
- Poor prognosis
- Shows extensive intra oesophageal spread
- 60–75 % of all oesophageal cancers in several countries

Risk factors

- Gastro-oesophageal reflux disease
- Barrett's oesophagus
- Obesity
- Smoking

Clinical features

- Dysphagia (most common)- initially for solids, eventually progressing to include liquids (usually occurs when esophageal lumen < 13 mm)
- Weight loss (second most common) due to dysphagia and tumor-related anorexia
- Bleeding (leading to iron deficiency anemia)
- Epigastric or retrosternal pain
- Bone pain with metastatic disease
- Hoarseness (due to the involvement of the recurrent laryngeal nerve)

- Persistent cough
- Intractable coughing or frequent pneumonia
- Horner's syndrome
- Chronic spinal pain
- Diaphragmatic paralysis
- Early disease may have non-specific dyspeptic symptoms or a vague feeling of 'something that is not quite right' during swallowing

Physical examination

- Typically, normal examination results unless the cancer has metastasized
- Hepatomegaly (from hepatic metastases)
- Lymphadenopathy in the laterocervical or supraclavicular areas

Spread

Invasion

- Directly throughoesophageal wall
- Via lymphatics
- In the bloodstream
- Transperitoneal spread

Direct

- Spread occurs ,
- Laterally, through the component layers of the oesophageal wall
- Longitudinally within the oesophageal wall. Longitudinal spread is mainly via the submucosal lymphatic channels of the oesophagus

Via lymphatics

- Direction of spread to regional lymphatics is predominantly caudal
- The involvement of lymph nodes is potentially widespread
- Can also occur in a cranial direction

Haematogenous

- Liver
- Lungs
- Brain

- Tumors arising from the intra-abdominal portion of the oesophagus - disseminate **transperitoneally**

Investigations

To diagnose

- Upper gastrointestinal endoscopy (UGIE)
- Biopsy – to confirm the diagnosis
- If UGIE fails- barium swallow

Tumor markers

- CA 19-9
- Tumor antigen 4
- EGF-DNA

To stage

- Chest X-ray
- Ultrasound scan abdomen
- CT scan abdomen and thorax
- MRI
- Endoscopic ultrasound scan
- Bronchoscopy
- Diagnostic laparoscopy

Staging

- Tis - High-grade dysplasia
- T1 - Tumour invading lamina propria or submucosa
- T2 - Tumour invading muscularis propria
- T3 - Tumour invading beyond muscularis propria
- T4a - Tumour invading adjacent structures (pleura, pericardium, diaphragm)
- T4b - Tumour invading adjacent structures (trachea, bone, aorta)

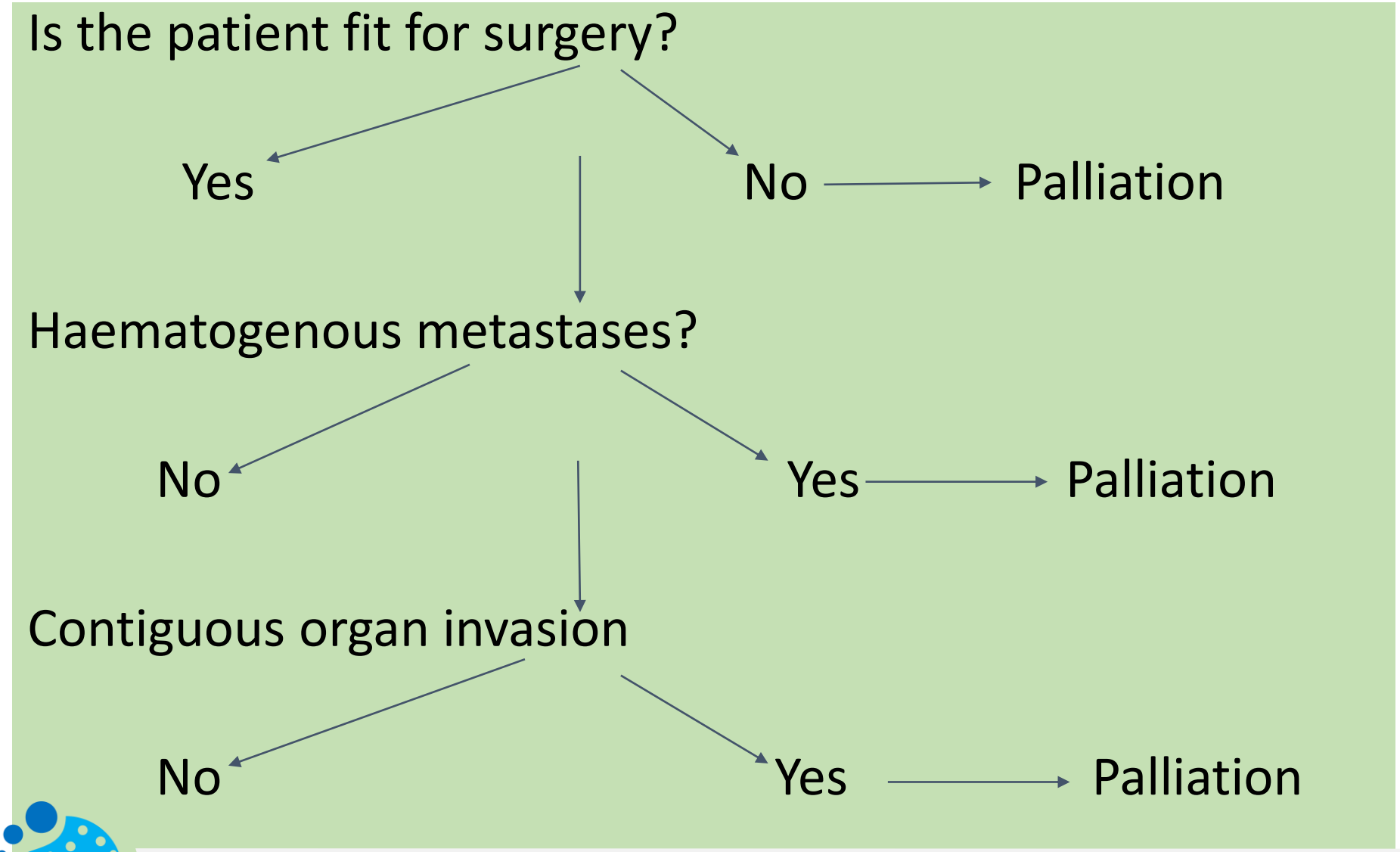
- N0 No lymph node metastases
- N1 Lymph node metastases in 1–2 nodes
- N2 Lymph nodes metastases in 3–6 nodes
- N3 Lymph node metastases in 7 or more lymph nodes

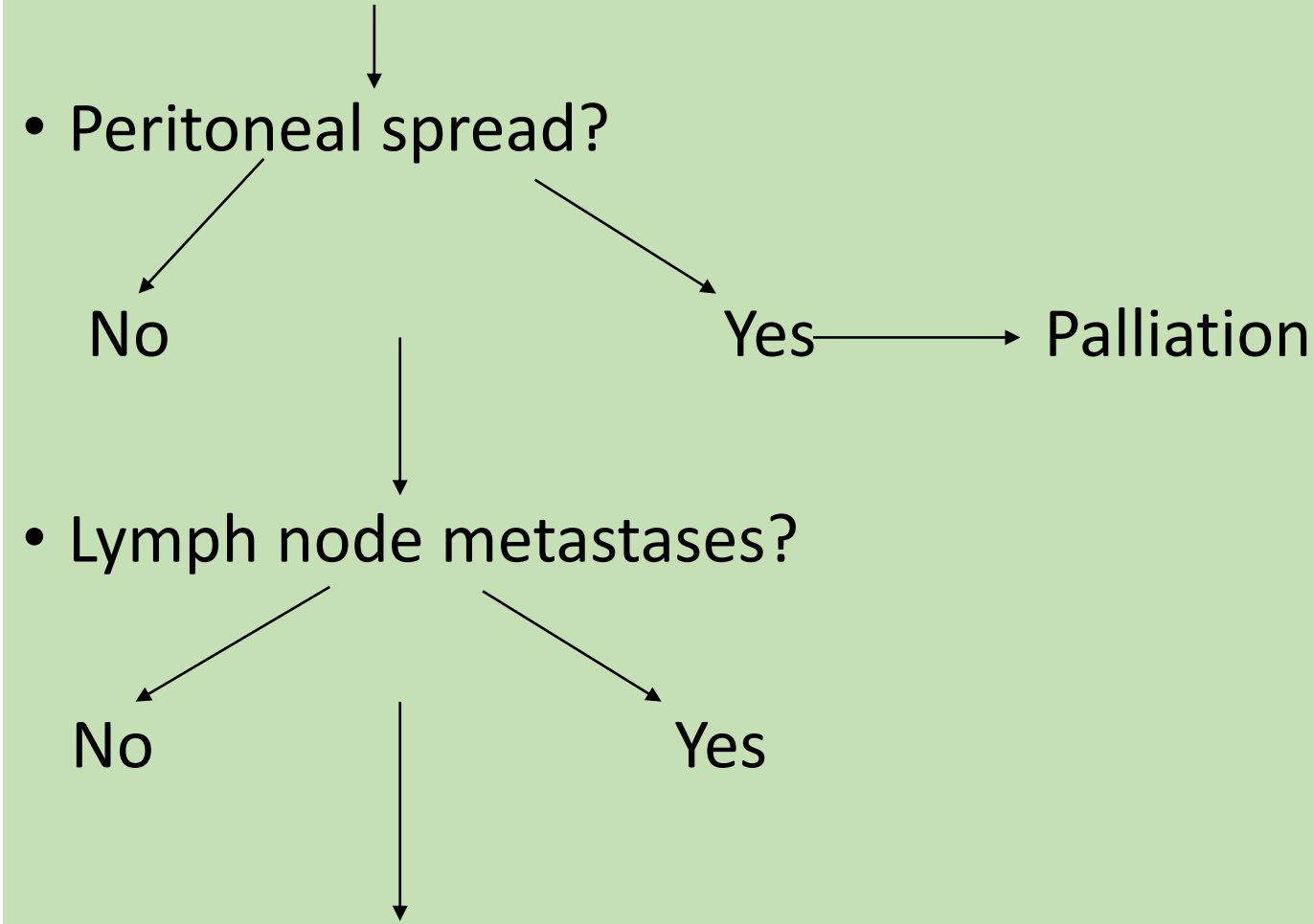
- M0 No distant metastases
- M1 All other distant metastases

Stage

- 1A: T1N0M0
- 1B: T2N0M0
- 2A: T3N0M0
- 2B:T1/2N0M0
- 3A: T4aN0M0, T3N1M0, T1/2N2M0
- 3B: T3N2M0
- 3C: T4aN1/2M0, T4bN0-3M0, T1-4N3M0
- 4: T1-4N1-3M1

Management


Is the patient fit for surgery?
Yes
No
Palliation
Haematogenous metastases?
No
Yes
Palliation
Contiguous organ invasion
No
Yes
Palliation


• Peritoneal spread?
No
Yes
Palliation
• Lymph node metastases?
No
Yes
• Surgery alone Multimodal therapy

Treatments with curative intent

Depend on,

- Histological tumor type
- Location
- Extent

- Radical oesophagectomy
- Neoadjuvant treatments before surgery may improve survival
- Chemoradiotherapy alone may cure selected patients,
- particularly those with squamous cell cancers

- Types of oesophagecomy

1. Two-phase oesophagectomy- Ivor Lewis (Incision in abdomen and right chest)

2. Three-phase operation - McKeown (Incision in the neck, abdomen and right chest)- For lesion of the upper thoracic oesophagus

3. Transhiatal oesophagectomy (without thoracotomy)- For lesions of the lower oesophagus

Non-surgical treatments

- Chemoradiotherapy does offer a prospect of cure for patients who may not be fit for surgery, particularly in squamous cell carcinoma
- High rate of locoregional failure
- Surgery remains the mainstay of attempted curative treatments

Palliative treatment

- Relief of dysphagia
- Surgical resection
- External beam radiotherapy
- Expanding metal stent - These are inserted under radiographic or endoscopic control
- Endoscopic laser treatment
- Brachytherapy

Prognosis

- Survival in patients with esophageal cancer depends on the stage of the disease.
- Without lymph node involvement have a significantly better prognosis and 5-year survival rate than patients with involved lymph nodes
- Stage IV lesions with distant metastasis are associated with a 5-year survival rate of around 5%.
- HER-2 positivity and gene amplification are independently associated with poor survival