

# Tumors of the esophagus

1. **Benign** - most often a leiomyoma.
2. **Malignant** - squamous cell carcinoma (90%), adenocarcinoma and melanoblastoma (10%).

## Benign tumors of the esophagus

1. **Intramural** (solid or cystic) - leiomyoma, fibroma, lipoma, hemangioma, congenital or retention cysts.
  2. **Intraluminal** (pedunculated or sessile polyps) - adenoma, papilloma, fibrolipoma, myxoma.
- Mostly no problems, rarely bleeding or dysphagia;
  - Diagnosis endoscopically or X-ray (contrast passage);
  - Indications for removal are clinical difficulties or the impossibility of excluding malignancy - it is performed endoscopically, enucleation of intramural tumors or wedge resection from thoracotomy or thoracoscopically.

## Malignant tumors of the esophagus

- Esophageal cancer is most common between the ages of 50 and 70. per year, more in men, the highest incidence is in China;
- Risk factors are exogenous (smoking, alcohol, spicy diet, lack of vitamins) and endogenous (precancers - hiatal hernia, Barrett's esophagus, achalasia, Plummer-Vinson syndrome, post-cautery strictures);
- Five-year survival prognosis is 10%.

### Microscopy

- 90% squamous cell carcinoma;
- 10% adenocarcinoma (mainly distal esophagus and GE junction underlying Barrett's esophagus); currently, adenocarcinoma predominates.
- Melanoblastoma.

File:Spinocel.esophagusJPG.JPG

Esophageal squamous cell carcinoma, endoscope view.

### Macroscopy

- The tumor can be *exophytic* (polyp), superficially infiltrating (circular narrowing of the lumen of the esophagus with subsequent longitudinal submucosal spread) or *ulcerous*;
- The most common tumors are in the middle thoracic esophagus;
- Difficult differentiation of tumors of the terminal esophagus from tumors of the cardia (an adenocarcinoma of the esophagus is considered to be one whose volume is more than 80% located in the esophagus) - tumors of this area are divided into:
- Types:
  - type I - ca in the distal (Barrett's) esophagus;
  - type II - ca cardia;
  - type III - subcardiac (fundus) approx.



Esophageal squamous cell carcinoma (same patient), endoscope view after the use of Lugol's solution, which better illuminates the extent of the lesion.

### TNM classification

- T1 - mucosa or submucosa;
- T2 - muscularis externa infiltration;
- T3 - adventitia infiltration;
- T4 - moving to the surroundings;
- N1 - regional nodes (cervical in the cervical section of the esophagus, mediastinal and perigastric in the thoracic section);
- M1 - distant metastases.

### Esophageal cancer spread

- Continuously - per continuitatem to the surroundings (trachea - fistula with aspirations and bronchopneumonia, mediastinum, lungs, pleural and pericardial cavity);
- Lymphogenic - mediastinal and paratracheal nodes, subdiaphragmatic gastric nodes;
- Hematogenously - liver, lung, rarely bone and CNS.

### Clinical picture

- Progressive dysphagia and odynophagia (late symptom);



Barrett's esophagus

- dysphagia initially for solid food (as opposed to achalasia, where the passage of liquids is impaired and solid food passes through);
- Retrosternal pain, weight loss, anemia, aspiration pneumonia.

## Diagnosis

- Endoscopy with biopsy;
- CT of the chest and abdomen (tumor extent, distant metastases);
- EndoUZ (tumor growth into the surrounding area, involvement of nodes);
- Staging (distant metastases – PET/CT, lung X-ray, liver ultrasound, skeletal scintigraphy);
- Other – X-ray passage of contrast material through the esophagus, NMR, bronchoscopy (tracheobronchial invasion is a contraindication to esophagectomy);
- Laboratory examination: tumor markers CEA, SCC.

## Treatment

### Surgical and endoscopic

#### Radical:

- Stage Tis or T1 tumors can be treated with endoscopic mucosectomy;
- For more advanced tumors, different types of esophagectomies (for tumors in the GE junction area with different types of gastrectomy – total gastrectomy or just resection of the cardia) with mediastinal and celiac lymphadenectomy and replacement of the esophagus with a tubularized stomach, colon or small intestine, resections can be performed classically from a thoracotomy and laparotomy or only from a cervical approach and laparotomy with transhiatal stripping of the esophagus (for high-risk patients, where thoracotomy can thus be avoided), possibly also using video-assisted thoracoscopy;
- Contraindications for esophagectomy are distant metastases and tumor growth into the tracheobronchial tree.

#### Palliative:

- Dilatation of tumor stenoses:
  - laser recanalization (recurrences occur after it);
  - introduction of stents – coated expandable stent (at the same time the best option);
  - Haring's endoprosthesis (no longer used today, many complications including pressure sores of the esophageal wall);
- Palliative bypass – stomach, intestine;
- Gastrostomy (surgical or endoscopic - PEG).

### Radiotherapy

- Low radiosensitivity (more in squamous cell carcinoma);
- Neoadjuvant (improvement of operability) and adjuvant (residue removal) are performed, as well as for inoperable tumors;
- Brachyradiotherapy is also used (palliatively to open stenoses).

### Chemotherapy

- Low sensitivity;
- The combination of cisplatin and 5-fluorouracil is most often used;
- It is performed both neoadjuvantly and adjuvantly.

 *For more information see Cytostatics.*

### Photodynamic treatment

- Activated porphyrin is selectively absorbed by tumor tissue, after laser irradiation it forms oxygen radicals causing necrosis of the tumor;
- Also being tested in Barrett's esophagus.

## Summary video



## Links

### Related Articles

- Esophageal disease
- Esophageal reflux disease

### Source

- PASTOR, Jan. *Langenbeck's medical web page* [online]. [cit. 2009]. <<http://langenbeck.webs.com>>.