

# Pancreatic Cancer

Pancreatic cancer is the malignant tumor arising mostly from the epithelium of the pancreatic ducts, therefore most of them are adenocarcinomas (96%). Most of such cancers are diagnosed in advanced states, thus resulting in high mortality.

## Epidemiology

Pancreatic cancer became a serious problem in western countries and Japan. It is the 2<sup>nd</sup> commonest gastrointestinal cancer and the 5<sup>th</sup> most common cancer death in the USA. 12% of all diagnosed patients survive 1 year, and 2% survive 5 years<sup>[1]</sup>.

## Risk factors

- male sex (60% male predominance);
- age > 50 years;
- chronic pancreatitis;
- alcohol abuse;
- cigarette smoking;
- naphthylamine exposure;
- obesity;
- African-american race;
- previous resectional gastric surgery.

## Pathology

Pancreatic cancer is an **adenocarcinoma** arising from the exocrine part of the pancreas. 90–95% of them arise in the ductal epithelium, and 5–10% are acinous. Other histological forms are rare (papillary cystadenocarcinoma, adenosquamous carcinoma or giant cell carcinoma). The most often localization is in the head of pancreas (70%) then in body (20%) and tail (10%)<sup>[2]</sup>.

## Clinical features

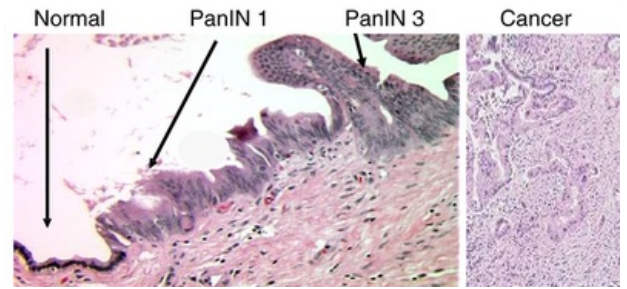
Symptomatology depends on localization of the tumor. Carcinomas localized in the head of pancreas can very often cause jaundice. It can be the earliest or the only symptom. Tumors localized in the tail grow very slowly and their first manifestation can be pain or weight loss.

- **Jaundice** – usually painless jaundice, only pancreatic head tumors, which cause biliary obstruction (in 80% pancreatic head tumors)<sup>[2]</sup>.
- **Pain** – typically visceral abdominal pain, very often radiating to back (75% patients)<sup>[2]</sup>, more in body and tail tumors.
- **Weight loss** – caused by anorexia (75% patients), malabsorption is very rare<sup>[2]</sup>.
- Courvoisier's sign – enlarged palpable gallbladder, in patients with pancreatic head tumors (< 50%).
- Migratory thrombophlebitis.
- Glucose intolerance.

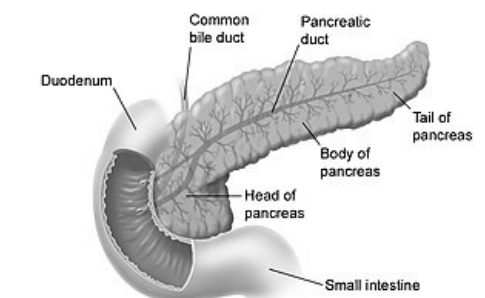
## Diagnostic Methods

- **Laboratory**: higher bilirubin, tumormarker **CA 19-9** (but is not specific, can be found in patients with colon cancer or biliary obstruction);
- **USG**: in classical ultrasonography need not to be found small tumors of pancreas (or even pancreas);
- **EUSG**: endoscopic sonography is better method for finding of pathologies in pancreas than classical abdominal USG;
- ERCP (endoscopic retrograde cholangio-pancreatography) is the best method for therapeutic intervention of biliary obstruction (stent)<sup>[1]</sup>;
- **CT**: computer tomography is always necessary in staging of pancreatic cancer, results of CT will decide about the therapy.

## Therapy



**Pancreatic cancer formation** PanIN1 is "just" hyperplasia of ductal epithelium, PanIN3 is carcinoma in situ (intact basal membrane)



National Cancer Institute  
Pancreas

Just only 15% of patients with diagnosed pancreatic cancer can undergo curative therapy which is always surgery<sup>[1]</sup>. It is because of late diagnosis of this disease. All the other patients can be treated only with paliative therapy.

## Curative Therapy

### Surgery

- **Whipple's operation** (partial pancreatico-duodenectomy) – pancreatic head tumors<sup>[1]</sup>;
- total pancreatico-duodenectomy (with gastro-jejunoanastomosis), then is necessary pancreatic enzymes and hormones substitution;
- resection of the tail of pancreas (just only in pancreatic tail tumors).

### Chemotherapy

There is no chemotherapy bringing better results than 6–8 months survival time. At this time is used:

- 5FU – 5 fluoruracil;
- gemcitabine.

## Palliative Therapy

Palliative therapy is based on patients symptoms:

- therapy of **pain** – analgetics, epidural analgesia or coeliac ganglion destruction<sup>[1]</sup>;
- therapy of **biliary obstruction** – metalic stents via ERCP or hepatico-jejuno anastomosis (surgery)<sup>[1]</sup>;
- therapy of **gastrointestinal obstruction** (especially duodenal obstruction by pancreatic head tumor) – gastro-jejuno anastomosis.

## Links

### Related articles

- Pancreatitis
- Courvoisier's Sign

### Sources

- wikiskripta.eu. *Karcinom pankreatu* [online]. ©2011. The last revision 2011-05-08, [cit. 2011-09-18]. <[http://www.wikiskripta.eu/index.php/Karcinom\\_pankreatu](http://www.wikiskripta.eu/index.php/Karcinom_pankreatu)>.
- KUMAR, – CLARKS,. *Clinical Medicine*. 7th edition. 2009. ISBN 9780702029929.

### References

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2. KASPER, Dennis L – FAUCI, Anthony S – LONGO, Dan L, et al. *Harrison's principles of Internal Medicine*. 16th edition. New York : McGraw-Hill Companies, Inc, 2005. 2607 pp. pp. 537-539. ISBN 0-07-139140-1.