The role of the pathologist in pancreatic cancer

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Types of samples we receive

– Pre-operative
  • Biliary brushings (cytology)
  • EUS FNA/B from pancreas (cytology/histology)
  • Ampullary/duodenal/stomach/colon biopsies (histology)
  • If metastases, samples from other organs e.g. liver (cytology/histology)

– Post-operative
  • Resection specimens – pppd, distal pancreatectomy etc (histology)
Questions the pathologists needs to answer

• Is it cancer?
• What sort of cancer is it?
• Is it primary or secondary?
• Is it another condition which mimic cancer?

These answers determine further management of the patient
Malignant Tumours of the Pancreas

- Epithelial tumours e.g. ductal adenocarcinoma
- Neuroendocrine tumours (NETS)
- Lymphoma
- Secondary tumours
Malignant Tumours of the Pancreas

- Epithelial tumours
  - Ductal adenocarcinoma
  - Acinar cell carcinoma
  - IPMN with invasive cancer
  - MCN with invasive cancer
  - Pancreatoblastoma
  - Serous cystadenocarcinoma
  - Solid-pseudopapillary tumour
  - Mixed tumours
Ductal adenocarcinoma
Metastatic colorectal cancer
Metastatic renal cell carcinoma
Metastatic signet ring carcinoma (colorectal primary)
Metastatic signet ring carcinoma
Lymphoma
How does the Pathologist reach a diagnosis?

Clinical History + Macroscopic examination + Microscopic examination +/- additional tests = DIAGNOSIS
Pancreatic adenocarcinoma
Prognostic Factors

- Tumour size
- Subtype of tumour
- Grade of tumour
- Stage
- Perineural invasion
- Vascular invasion
- Lymph node spread – Resection margins (<1mm)
Pancreatic ductal adenocarcinoma

TMN v8 staging

• T1a: 5mm or less
• T1b: >5mm but no more than 10mm
• T1c: >10mm but no more than 20mm
• T2: >20mm but no more than 40mm
• T3: greater than 40mm
• T4: involvement of coeliac axis, SMA and/or common hepatic artery

• N0: regional lymph nodes not involved
• N1: 1-3 regional nodes involved
• N2: 4 or more regional nodes involved

• M0: No distant mets
• M1: distant mets
Lymph node metastases
Type of tumour and grade
Ductal adenocarcinoma
Tumour and margin
Vascular invasion
Perineural invasion
Ductal adenocarcinoma
Neuroendocrine tumour
Solid-pseudopapillary tumour
Metastatic Renal cell carcinoma
Autoimmune pancreatitis
Serous Cystadenoma
Summary

• Wide variety of pancreatic cancers
• Vast majority are ductal adenocarcinoma
• Rarer tumours are important to identify as treatment options and prognosis can differ
• Macroscopic examination of pancreatic head tumours is very important
• Certain benign tumours/conditions can mimic cancer