Slide seminar 1 - pancreas

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Slide 5

- 70-year-old male. Abdominal pain. CT bulky head of pancreas. No discrete mass.
- Whipple's resection
- Representative H&E sections of whole of pancreas
Thoughts?

Slide 5
Autoimmune pancreatitis

Type 1 AIP - microscopy
- Storiform fibrosis
- Fibro-inflammation extends into peripancreatic tissue
- Obliterative phlebitis, which probably starts as a perivenulitis
- Lymphoid aggregates
- IgG4 plasma cells

Type 2 AIP - microscopy
- Granulocytic epithelial lesion (GEL)
  Kloppep G, Mod Pathol 2007; 20: 8113-31
- Scanty or absent IgG4 plasma cells
Differential diagnosis – storiform fibrosis (type 1 AIP)

- Inflammatory pseudotumour: lymphocytes & plasma cells, myofibroblasts, phlebitis (spectrum of IgG4 disease)
- Inflammatory myofibroblastic tumour: lymphocytes, plasma cells & eosinophils, myofibroblasts and fibroblasts; IHC cytoplasmic ALK1 in 30-40% of cases, high Ki67

Non-epithelial neoplasia

- Primary mesenchymal neoplasms are extremely rare
- More commonly, pancreas is involved by extra-pancreatic neoplasia (eg from stomach, duodenum or retroperitoneum)
- Desmoplastic small round cell tumour, GIST, granular cell tumour, inflammatory myofibroblastic tumour, leiomyosarcoma, lipoma, lymphangioma, PEComa, PNET, Schwannoma, solitary fibrous tumour
- Lymphoma

Slide 6

- Whipple’s resection
- 2.5cm cystic and solid lesion near ampulla
- Representative H&E sections of the lesion
Slide 6
Paraduodenal or groove pancreatitis
(Cystic dystrophy of the duodenal wall, para-ampullary duodenal wall cyst or cystic dystrophy of heterotopic pancreas)

Ectopia / heterotopia
Pancreatic ectopia:
• Duodenum, ampulla, stomach, jejunum, liver (around bile ducts), gall bladder, Meckel's diverticulum
• May develop pancreatic diseases (eg. pancreatitis, PDAC)

Ectopia / heterotopia
Ectopic spleen:
• Found in tail of pancreas
• Mimic NET or metastasis
• May contain squamous epithelium-lined cyst

Slide 4
• 70-year-old female. Jaundice. CT-mass head of pancreas.
• Whipple's resection
• Poorly-defined 4cm solid mass in pancreas
• Representative H&E sections of the lesion
Thoughts?

Slide 4
Pancreatic ductal adenocarcinoma (PDAC)
**Pancreatic ductal adenocarcinoma**

- Highpower
- Ductopenia
- Duct by muscular septa
- Naked glands in fat
- Perineural invasion
- Between normal lobules

**Frozen section - PDAC**

**MAJOR CRITERIA**

1. Nuclear size variation equal to or greater than 4:1
2. Incomplete glandular lumina
3. Disorganized duct distribution

**MINOR CRITERIA**

1. Huge irregular epithelial nuclei
2. Necrotic glandular debris
3. Glandular mitoses
4. Glands unaccompanied by stroma in smooth muscle fascicles
5. Perineural invasion


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**Case 7**

- Whipple's resection
- Well-circumscribed, 6cm diameter, solid lesion, pushing margin, areas of haemorrhage
- Representative H&E sections of the lesion
Thoughts?

Case 7

Metastatic renal cell carcinoma

Clear cell lesions

- Serous cystic neoplasms
- Clear cell variant of PanNETs (vHL)
- Clear cell variant of SPN
- PDAC
- PEComa
- Renal cell carcinoma
- Intraductal tubulo-papillary neoplasm with clear cell phenotype

Alta MG et al. Cancer Pathol 2014; 9: 11
Clear cell lesions - IHC

- Foamy gland pattern or clear cell morphology in PDAC (MUC1+, MUC5AC+, CEA+)
- Clear cell pancreatic neuroendocrine tumours (synaptophysin+, chromogranin A+)
- Serous cystic neoplasms including solid serous adenoma (cytokeratin+, synaptophysin-, chromogranin A-)
- Perivascular epithelioid cell tumour or PEComa (HMB45+, Melan-A+, CD31+, SMA+, cytokeratin-)
- Renal cell carcinoma (vimentin+, CD10+, RCC+, PAX-2+, PAX-8+)

Metastatic spread to pancreas

- Patients present with clinical symptoms and signs similar to those of primary pancreatic tumours (abdominal pain, weight loss, jaundice)
- Asymptomatic (follow-up imaging)
- Duodenal ulceration and upper gastrointestinal haemorrhage when metastasis in head of pancreas
- Incidence of 2-11% in autopsy series, 4% in surgical resections
- One third clinically mistaken as primary pancreatic tumours


Metastatic spread to pancreas

- Carcinomas (of lung, kidney, breast and large bowel) and malignant melanoma are the most frequent neoplasms to metastasize to the pancreas
- Usually well-circumscribed, can be haemorrhagic and cystic
- Surrounding pancreas normal
- Solitary or multifocal
- Can show intraductal growth