

Slide seminar 1 - pancreas

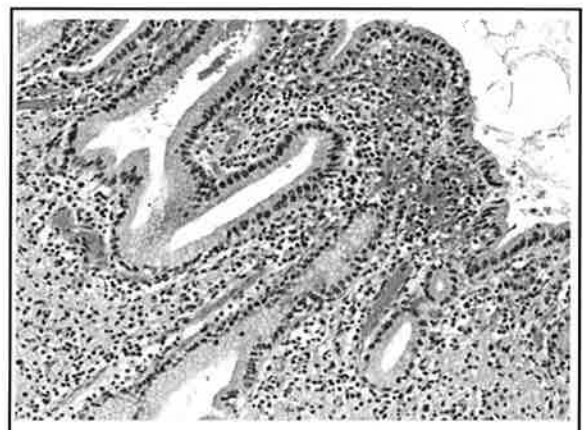
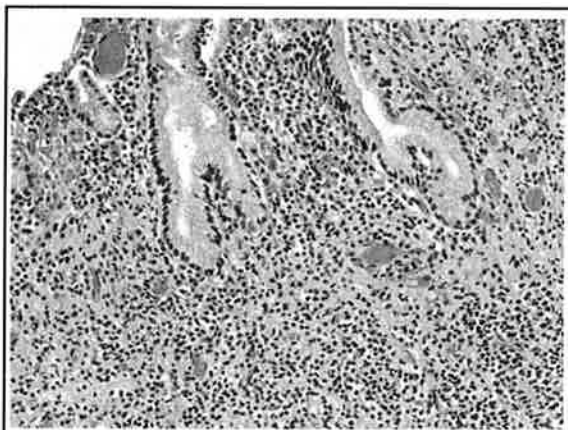
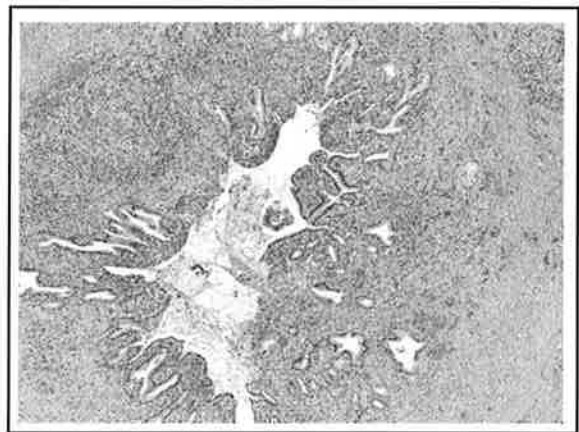
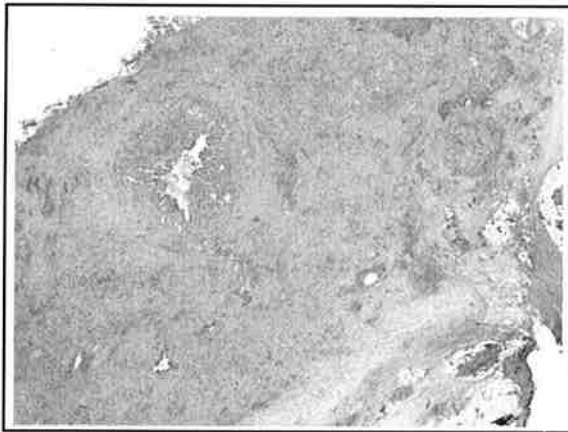
Professor Fiona Campbell
Consultant Gastrointestinal Pathologist
Royal Liverpool University Hospital
F.Campbell@liverpool.ac.uk



Sarajevo, November 2015

Slide 5

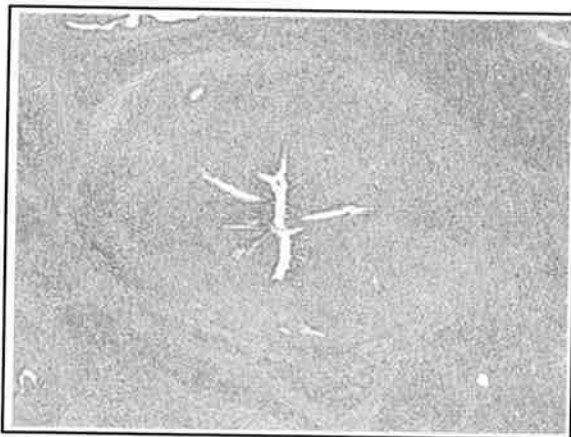
- 70-year-old male. Abdominal pain. CT bulky head of pancreas. No discrete mass.
- Whipple's resection
- Representative H&E sections of whole of pancreas



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)
Klöppel G. Mod Pathol 2007; 20: S113-31
- Scanty or absent IgG4 plasma cells



Differential diagnosis – storiform fibrosis (type 1 AIP)

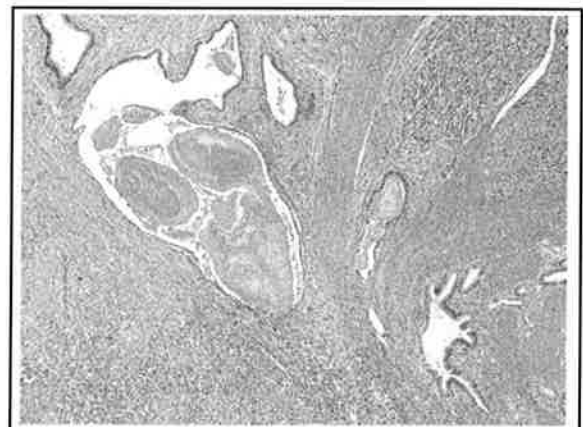
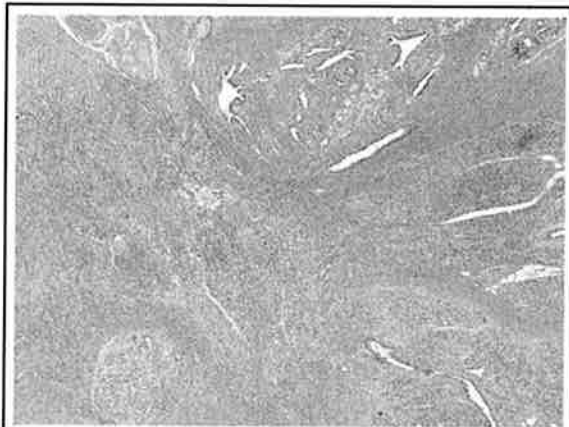
- **Inflammatory pseudotumour:** lymphocytes & plasma cells, myofibroblasts, phlebitis (spectrum of IgG4 disease)
- **Inflammatory myofibroblastic tumour:** lymphocytes, plasma cells & eosinophils, myofibroblasts and fibroblasts; IHC cytoplasmic ALK1 in 30-40% of cases, high Ki67

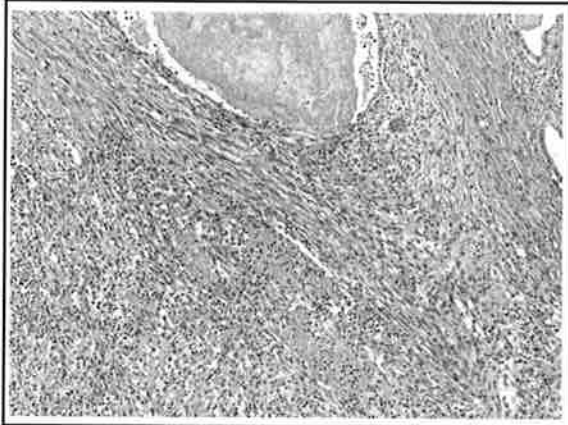
Non-epithelial neoplasia

- 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

- 39-year-old female. Duodenal stricture. ?ampullary cancer.
- Whipple's resection
- 2.5cm cystic and solid lesion near ampulla
- Representative H&E sections of the lesion





Thoughts?

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

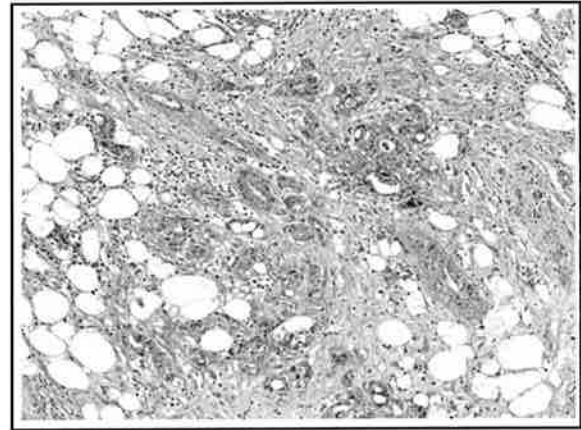
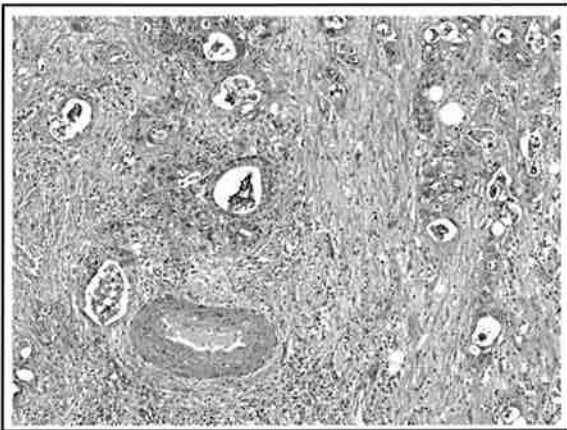
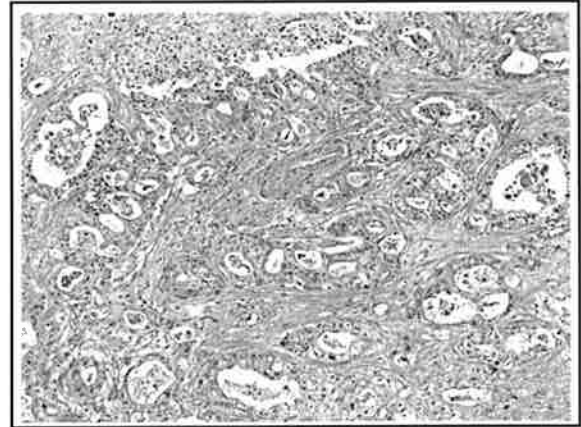
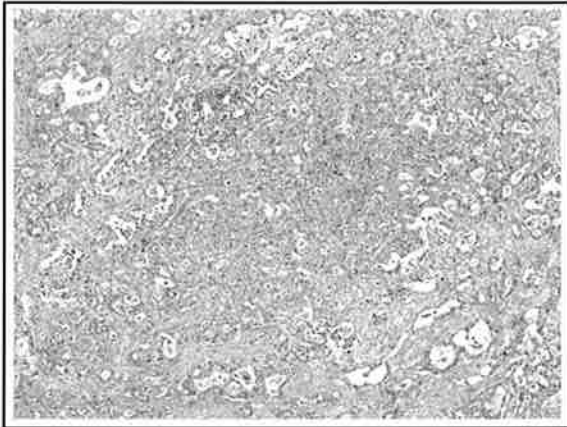
Ectopic spleen:

- Found in tail of pancreas
- Mimic NET or metastasis
- May contain squamous epithelium-lined cyst



Slide 4

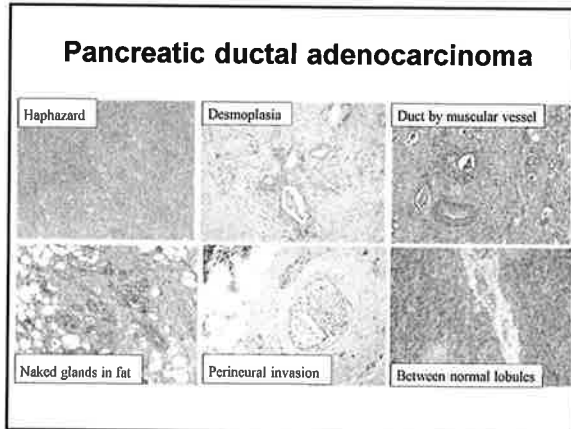
- 70-year-old female. Jaundice. CT-mass head of pancreas.
- Whipple's resection
- Poorly-defined 4cm solid mass in pancreas
- Representative H&E sections of the lesion



Thoughts?

Slide 4

**Pancreatic ductal adenocarcinoma
(PDAC)**



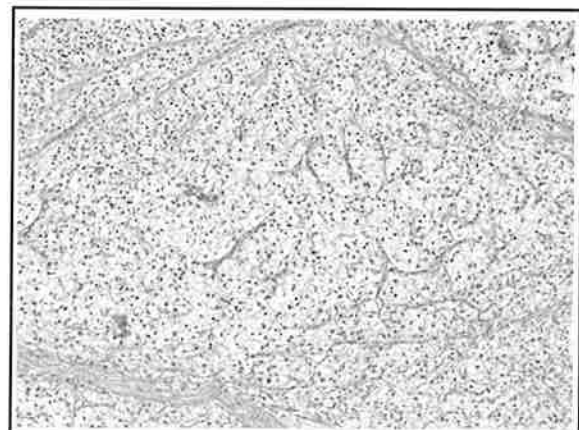
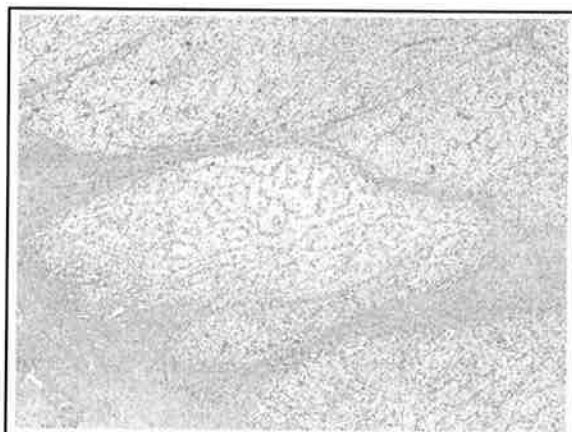
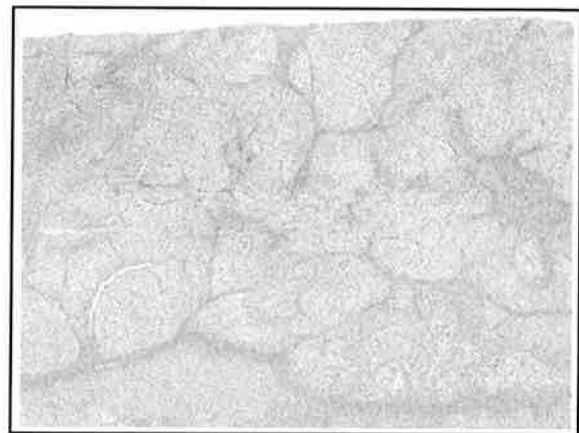
Frozen section - PDAC

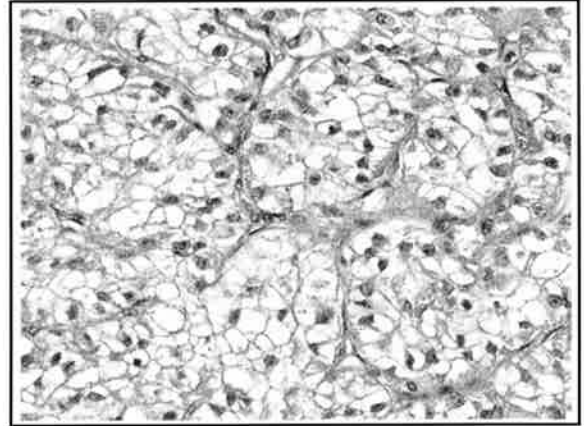
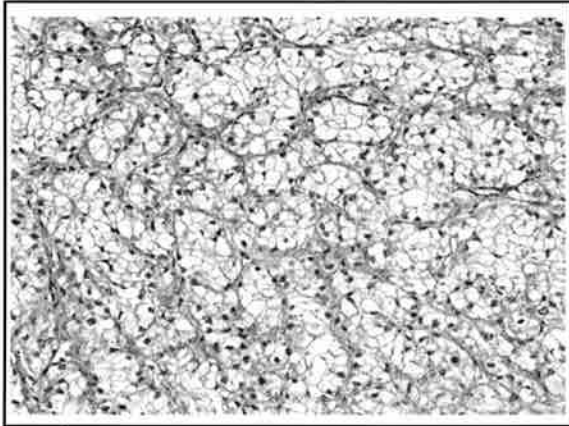
<p>MAJOR CRITERIA</p> <ol style="list-style-type: none"> 1. Nuclear size variation equal to or greater than 4:1 2. Incomplete glandular lumina 3. Disorganized duct distribution 	<p>MINOR CRITERIA</p> <ol style="list-style-type: none"> 1. Huge irregular epithelial nucleoli 2. Necrotic glandular debris 3. Glandular mitoses 4. Glands unaccompanied by stroma in smooth muscle fascicles 5. Perineural invasion
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Hyland et al. Am J Surg Pathol 1981;5: 179-81

Case 7

- 58-year-old male. Weight loss. CT-mass in head of pancreas.
- Whipple's resection
- Well-circumscribed, 6cm diameter, solid lesion, pushing margin, areas of haemorrhage
- Representative H&E sections of the lesion





Thoughts?

Case 7

Vimentin CD10 RCC

Synaptophysin Chromogranin A Melan-A

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 tubulopapillary neoplasm with clear cell phenotype

Ahls MG et al.
Diagn 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 (cytokeratins+, 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

Adsay et al. Virchows Arch 2004; 444: 527-35

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