Incidental Lesions of the Pancreas

What to do about them

R. Brooke Jeffrey, M.D.
Professor of Radiology
Chief of Abdominal Imaging
Stanford University
Incidental Lesions of Pancreas

- Much more prevalent than suggested in older imaging literature
- An increasing problem: “nuisance lesions” in asymptomatic patients
- Majority are small cysts of low malignant potential
- Solid and mixed lesions, however, are often malignant
Incidental Lesions of Pancreas
Practical Guidelines

- Management driven by likelihood of malignancy
- Critical features: internal composition, enhancement, size & relation to PD
- Solid lesions: almost all adeno CA or NET; require aggressive approach with biopsy and/or surgery; exception: elderly pt with small NET
Incidental Lesions of Pancreas
Practical Guidelines

- Mixed lesions: combined solid and cystic are often malignant and require aggressive approach; exception: microserous adenoma (honeycombing)
- Main PD IMPN = surgery
- Simple cysts: > 3 cm = EUS
- Smaller simple cysts: likely benign; IPMNs or benign MCN = F/U
Incidental Solid Lesions: Carcinoma

Key to Dx: PD dilation & interrupted duct sign
Incidental Solid Lesions: Carcinoma

The Value of CPR

There are no benign strictures of the PD!
Isodense Solid Lesions: NET
Solid Hypervascular Lesions: NET
IPMT: Main Duct Type

Invasive Carcinoma
Solid & Cystic = Surgery

EUS negative

Malignant IPMN

9 months later: Carinoma

Malignant IPMN
The Incidental Solid & Cystic Honeycombing = Serous Microcystic

Always benign
Small Serous Microcystic Tumor: EUS
The Incidental Pancreatic Cyst
A Common Dilemma

CPR

stable for 3 yrs
Cystic of the Pancreas

Incidence of Asymptomatic Lesions

- 24% at autopsy
- At autopsy 3.4% have in site carcinoma, but no invasive cancers
- Imaging variable: 2.6% (0.7-19.6%)

Laffan TA. AJR Am J Roentgenol 2008:802-7
Spinelli KS. Ann Surg 2004: 651-7
Zhang XM Radiology 2002: 547-53
Cystic Lesions of Pancreas
Simple Unilocular Cysts: Natural Hx

- 49 patients with cysts < 2cm
- Imaging follow up > 5 yrs; also had clinical follow up > 8 yrs
- 9 patients (41%) had cysts that enlarged; mean size 14 mm - 26 mm

No patients were symptomatic or died of pancreatic disease

Handrich SJ et al. AJR 2005; 184:20
Small Pancreatic Cystic Lesions
Stanford Experience

- 156 patients with small cysts (< 3cm), no worrisome features by CT past 3 years
- 86 had follow-up: > 2 yrs (n = 28), 1-2 yrs (n = 13), 6-12 months (n = 22), < 6 months (n = 23)
- 19 of 156 had surgery: Only 3 of 19 malignant (2%); all malignant lesions developed internal solid tissue on CT
- Interval growth seen in 7; 2 malignant

Kirkpatrick IA et al. Abd Imaging 2006; 74:122
43 patients undergoing surgery for main-duct (30) and side-branch (13) IPMT

- **Main-duct type:** Invasive cancer in 11 (37%), carcinoma in situ in 6 (20%)

- **Side-branch type:** No cases of invasive carcinoma; 2 cases (15%) of carcinoma in situ

*Terris B et al. AM J Path 2004; 24:1372*
Lesions Safe to Follow

- Unilocular cysts < 3 cm
- Sidebranch IPMN
- Small < 2 cm hypervascular lesion likely non-functional NET in elderly pt
- How to follow: MRI
- How often to follow? 9-12 months