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ACG Virtual Grand Rounds

Join us for upcoming Virtual Grand Rounds!

**Week 25 – June 23, 2022**

*ACG Clinical Guidelines: Management of Benign Anorectal Disorders*
Arnold Wald, MD, MACG
June 23, 2022 at Noon Eastern and 8pm Eastern!

**ACG International Virtual Grand Rounds – June 25, 2022**

*Biologics in IBD: Different Perspectives*
Vineet Ahuja, MD, DM, MNAMS
Stephen B. Hanauer, MD, MACG
Mahesh K. Goenka, MD, FACP
Govind K. Makharia, MD, DM, DNB
Samir A. Shah, MD, FACP
Rakesh Kochhar, MBBS, MD (PGI), FRCP (London), EULAR
Ajit Sood, MD, DM
June 25, 2022 at 8:00-9:15 PM Indian Standard Time

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Disclosures

Yasmin G. Hernandez-Barco, MD
HealthiVibe: Scientific Advisory Board

Alice A. Lee, MD
No relevant relationships indicated

*All of the relevant financial relationships listed for these individuals have been mitigated
Hereditary Pancreatic Cancers: Who Should We Screen and How?

Yasmin G. Hernandez-Barco, MD
Pancreatic Diseases, Division of Gastroenterology
Massachusetts General Hospital
Instructor, Harvard Medical School

OBJECTIVES

- Define individuals who are at high-risk of developing hereditary pancreatic cancer

- Define the role of various imaging modalities to survey individuals at high-risk of developing pancreatic cancer
Pancreatic Cancer Mortality is Rising

- 62,210 new diagnoses
- 49,830 deaths
- Projected to be the 2nd leading cause of cancer-related death by 2030
- 5-year survival is 11%

Pancreatic Cancer Precursor Lesions

- Pancreatic Adenocarcinoma
  - Pancreatic Intraepithelial Neoplasia (PanINs)
- Mucinous Pancreatic Cysts
  - Intraductal Papillary Mucinous Neoplasms
  - Mucinous Cystic Neoplasms

Images courtesy of Mari Mino-Kenudson, MD – MGH Pathology
What is Effective Cancer Screening

- Detect either pre-cancerous lesion or cancer at an early stage
- Improve disease-specific morbidity and mortality
- Safe to administer
- Cost effective
- Widely available

USPTF Recommends Against Screening for PDAC

**Clinical Review & Education**

**JAMA | US Preventive Services Task Force | RECOMMENDATION STATEMENT**

**Screening for Pancreatic Cancer**

US Preventive Services Task Force Reaffirmation Recommendation Statement

**CONCLUSIONS AND RECOMMENDATION** The USPSTF recommends against screening for pancreatic cancer in asymptomatic adults. (D recommendation)
WHO do we screen?

Pancreatic Cancer Clusters in Families

<table>
<thead>
<tr>
<th>Number of First Degree Relatives (FDRs)</th>
<th>Incidence (per 100,000) in the general U.S. population</th>
<th>Standardized Incidence Ratio (95% CI)</th>
<th>No. of individuals</th>
<th>No. of Person-years of follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>9</td>
<td>4.5 (0.54-16.3)</td>
<td>106</td>
<td>3388.0</td>
</tr>
<tr>
<td>1</td>
<td>41</td>
<td>6.4 (1.8-16.4)</td>
<td>634</td>
<td>1597.9</td>
</tr>
<tr>
<td>2</td>
<td>58</td>
<td>32 (10/4-74.7)</td>
<td>106</td>
<td>287.2</td>
</tr>
</tbody>
</table>

Klein, et al, Cancer Res 2004
Modified from Dr. Aimee Lucas’ slides
Familial Pancreatic Cancer

- Families with 2 or more first degree relatives with pancreatic cancer who do not meet criteria for other inherited genetic syndromes
  - 8-12% lifetime risk (6.4X SIR) with 2 FDR
  - 40% lifetime risk (32X SIR) with 3 or more FDR

Case #1

- A 56 year old male with history of hypertension, benign prostatic hyperplasia presents with a complaint of bloating for the last 2 months. His bowel movements are normal, no weight loss, no abdominal pain. Bloating is not associated with meals. He takes Losartan and Tamsulosin. No history of surgery. Family history is notable for mother with pancreas cancer at age 56, maternal grandmother with ovarian cancer at 62, maternal aunt with breast cancer at age 47. Aunt had genetic testing performed and is positive for a germline mutation in BRCA2.
Case #1

- CMP and CBC are normal. H. Pylori stool antigen is normal. Celiac serologies are also normal. CT scan demonstrates fatty infiltration of the pancreas.

What would you do next?

- A) Ca19-9
- B) Start pancreatic enzymes
- C) Repeat CT scan in 1 year
- D) Refer to genetic counseling for genetic testing

Inherited Syndromes Predisposing to Pancreatic Cancer

<table>
<thead>
<tr>
<th>Syndrome</th>
<th>Gene</th>
<th>Relative Risk of Pancreatic Cancer</th>
<th>Associated Cancers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hereditary Breast and Ovarian Cancer</td>
<td>BRCA1, BRCA2 PALB2</td>
<td>3-10X Unknown</td>
<td>Ovarian, breast, prostate, melanoma, breast</td>
</tr>
<tr>
<td>Familial Atypical Multiple Mole Melanoma (FAMMM)</td>
<td>CDKN2A/Pt6</td>
<td>13-39X</td>
<td>Multiple nevi, dysplastic nevi, melanomas</td>
</tr>
<tr>
<td>Peutz-Jeghers</td>
<td>STK11</td>
<td>132X</td>
<td>Hamartomatous polyps, ovarian, breast, colon, small intestinal</td>
</tr>
<tr>
<td>Lynch Syndrome</td>
<td>MLH1, MSH2, MSH6, PMS2, EPCAM</td>
<td>9-11X</td>
<td>Colon, gastric, small bowel, renal pelvis, endometrial, ovary, brain, sebaceous</td>
</tr>
<tr>
<td>Familial Polyposis</td>
<td>APC</td>
<td>5X</td>
<td>Colon, small bowel, fundic gland polyps, desmoid tumors, thyroid, hepatoblastomas, brain</td>
</tr>
<tr>
<td>Hereditary Pancreatitis</td>
<td>PRSS1</td>
<td>53-80X</td>
<td>Breast</td>
</tr>
<tr>
<td>Ataxia Telangiectasia</td>
<td>ATM</td>
<td>3-8X</td>
<td></td>
</tr>
</tbody>
</table>
ACG Guidelines Screening for Hereditary Pancreatic Cancer

Individuals considered HIGH RISK for Pancreatic Cancer:

- Have a known genetic syndrome associated with pancreatic cancer or a history of hereditary pancreatitis
- Have two relatives with pancreatic adenocarcinoma, where one is a FDR
- Have three or more relatives with pancreatic cancer

Case #2

- A 59 year old female with history of total abdominal hysterectomy with bilateral salpingoophorectomy and hypothyroidism presents with symptoms of diarrhea following a recent diagnosis of pancreatic ductal adenocarcinoma. She has family history of diabetes and coronary artery disease, but no cancer. In addition to referral to surgery and oncology for management of her newly diagnosed pancreatic cancer, what would you recommend?
Family history should be assessed in patients diagnosed with pancreatic cancer

Evaluating Susceptibility to Pancreatic Cancer: ASCO Provisional Clinical Opinion

Elena M. Staffel, MD; Shannon E. McKemin; Randall Brand, MD; Marcia Canto, MD; Michael Goggins, MD; Cassadie Moravek; Arun Nagarajan, MD; Gina M. Potrero, PhD; Diane M. Simerone, MD; Matthew Yurgelun, MD; and Anj A. Khanzada, MD

Which individuals should undergo genetic testing for predisposition to pancreatic cancer?

PGO 2.1 All patients diagnosed with pancreatic adenocarcinoma should undergo assessment of risk for hereditary syndromes known to be associated with an increased risk for pancreatic adenocarcinoma (Table 1). Assessment of risk includes obtaining a personal cancer history and family history of cancers in first- and second-degree relatives. However, recent data demonstrate that many individuals who develop pancreatic cancer in the setting of genetic predisposition lack clinical features or family cancer history typically associated with the corresponding hereditary syndrome. Therefore, germline genetic testing may be discussed with patients with personal history of pancreatic cancer, even if family history is unremarkable (Type: informal consensus; benefits outweigh harms; Strength of statement: strong).

PGO 2.2 An individual with a cancer diagnosis is often the best candidate in whom to initiate genetic testing and has the highest likelihood of an informative test result, however, if a cancer-affected individual is not available, testing may be performed in a pancreatic cancer-affected individual following genetic risk assessment, with the understanding that a negative test result is considered clinically uninformative.

Assess family history

Consider genetic testing of patient

Germline testing should be performed in ALL patients with exocrine pancreatic cancer

- Genetic counseling and testing in all patients with exocrine pancreatic cancer
  - FDR if patient is not available
- BRCA1, BRCA2, CDKN2A ATM, PALB2, STK11, TP53 and the mismatch repair genes associated with Lynch syndrome (MSH2, MLH1, MSH6, PMS2, EPCAM)
Prevalence of Germline mutations in PDAC

- Prevalence of germline mutations in PDAC 3.8%-9.7%
- When enriched for family history, prevalence increased to 12.9%-21.4%
- Over 50% did not meet criteria for family history

Pancreatic Cancer responds to targeted therapy

POLO Trial: Olaparib in Germline BRCA2+ Metastatic PDAC (Parp-inhibitor)
- Improved PFS 7.4 months versus 3.8 months
- HR: 0.53; 95% CI 0.35-0.82; P=0.004

KEYNOTE-158 Trial: Phase 2 anti-PD1 in MSI-H/dMMR cancers
- 22 patients with PDAC included (of 233 enrolled)
Summary who to test and how?

- Genetic counseling and testing should be performed in all patients with:
  - 2 or more FDR with pancreatic cancer (Familial pancreatic cancer kindreds)
  - History of suspected inherited genetic syndromes which predispose to pancreatic cancer (HBOC, FAP, LS, FAMMM, PJS, AT, HP)
  - All patients with a diagnosis of exocrine pancreatic cancer and if not available, their first degree relatives

- Genetic testing should include at least the following genes:
  - BRCA1, BRCA2, CDKN2A ATM, PALB2, STK11, TP53 and the mismatch repair genes associated with Lynch syndrome (MSH2, MLH1, MSH6, PMS2, EPCAM)
  - PRSS1 if there is a history of pancreatitis

WHEN to screen?
**Virtual Grand Rounds**

**Age of Onset PC in HRI**

- **Cumulative incidence for PC in 2+ FDR kindreds**
- **Cumulative incidence for PC in 3+ FDR kindreds**

Brune et al, J Natl Cancer Inst 2010

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**Virtual Grand Rounds**

**Individuals to Screen**

<table>
<thead>
<tr>
<th>Syndrome</th>
<th>Mutation</th>
<th>Family history</th>
<th>Age of Screening Onset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hereditary Breast and Ovarian Cancer</td>
<td>BRCA2</td>
<td>At least 1 FDR OR At least 2 affected relatives of any degree</td>
<td>Age 50*</td>
</tr>
<tr>
<td></td>
<td>BRCA1</td>
<td>1 or more FDR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PALB2</td>
<td>1 or more FDR</td>
<td></td>
</tr>
<tr>
<td>Lynch Syndrome</td>
<td>Lynch Syndrome</td>
<td>1 or more FDR</td>
<td>Age 50</td>
</tr>
<tr>
<td>Ataxia Telangiectasia</td>
<td>ATM</td>
<td>1 or more FDR*</td>
<td>Age 50*</td>
</tr>
<tr>
<td>Peutz-Jeghers Syndrome</td>
<td>STK1</td>
<td>Regardless of Family Hx</td>
<td>Age 30-35 (10 yrs younger)</td>
</tr>
<tr>
<td>FAMMM</td>
<td>CDKN2A</td>
<td>Regardless of Family Hx</td>
<td>Age 40</td>
</tr>
<tr>
<td>Hereditary Pancreatitis</td>
<td>PRSS1</td>
<td>Regardless of Family Hx</td>
<td>20 yrs after onset of pancreatitis or age 40</td>
</tr>
</tbody>
</table>

### Individuals to Screen

<table>
<thead>
<tr>
<th>Syndrome</th>
<th>Mutation</th>
<th>Family History</th>
<th>Age of Screening Onset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Familial Pancreatic cancer</td>
<td>Unknown</td>
<td>≥ 3 affected relatives + At least 1 FDR</td>
<td>Age 50 or 5 years younger than earliest PC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 2 affected relatives + at least 1 FDR</td>
<td>Age 50 or 5 years younger than earliest PC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥ 2 affected who are FDRs of each other + at least 1 FDR of individual</td>
<td>Age 50 or 5 years younger than earliest PC</td>
</tr>
</tbody>
</table>


### New Onset Diabetes Increases Risk of PC

<table>
<thead>
<tr>
<th>Fasting Blood Glucose Levels Provide Estimate of Duration and Progression of Pancreatic Cancer before Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases (n=210)</td>
</tr>
<tr>
<td>150</td>
</tr>
<tr>
<td>140</td>
</tr>
<tr>
<td>130</td>
</tr>
<tr>
<td>120</td>
</tr>
<tr>
<td>110</td>
</tr>
<tr>
<td>Time to Diagnosis (months)</td>
</tr>
<tr>
<td>P=0.01</td>
</tr>
<tr>
<td>P=0.01</td>
</tr>
<tr>
<td>P=0.01</td>
</tr>
<tr>
<td>P=0.01</td>
</tr>
</tbody>
</table>

**B** Glucose in PDAC patients compared to controls

Sharma et al, Gastro 2018; Brewer et al, CID 2021
Pre-diabetes associated with increased risk for IPMN progression in HRI

### Table 4 Univariate Analysis Evaluating Factors Associated with Pancreatic Abnormalities

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Patients with Cysts or Solid Lesions (a = 45.3%)</th>
<th>Patients Without Cysts or Solid Lesions (b = 43.8%)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age ≥ 60</td>
<td>28 (82.5)</td>
<td>21 (50.0)</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Female Sex</td>
<td>21 (65.6)</td>
<td>24 (57.1)</td>
<td>.46</td>
</tr>
<tr>
<td>HbA1c &gt; 5.7%</td>
<td>13 (40.6)</td>
<td>6 (14.3)</td>
<td>.01</td>
</tr>
<tr>
<td>BMI ≥ 25</td>
<td>21 (65.6)</td>
<td>26 (61.9)</td>
<td>.74</td>
</tr>
<tr>
<td>Current and Former Smokers</td>
<td>17 (53.1)</td>
<td>16 (38.1)</td>
<td>.20</td>
</tr>
<tr>
<td>FPC</td>
<td>23 (71.9)</td>
<td>28 (66.6)</td>
<td>.45</td>
</tr>
</tbody>
</table>

*HbA1c* Hemoglobin A1c, BMI Body Mass Index, FPC Familial pancreatic cancer

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**Case #3**

- A 30 year old male smoker with no past medical history presents with concerns about his family history. His mother passed away of pancreatic cancer last year at age 53. His maternal grandfather also passed away from pancreatic cancer at age 62. He wants to know what he can do to decrease his risk of pancreatic cancer.
What would you recommend?

- A) Stop smoking
- B) Enroll in surveillance with endoscopic ultrasound and MRI for high-risk individuals now
- C) CT scan annually
- D) Total pancreatectomy

High-Risk Individuals Should be Counseled to Quit Smoking

<table>
<thead>
<tr>
<th>Smoking Status</th>
<th>Standardized Incidence Ratio (95% Confidence Intervals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Smokers</td>
<td>6.25 (1.70 – 16.0)</td>
</tr>
<tr>
<td>Smokers</td>
<td>19.2 (7.7 – 39.5)</td>
</tr>
</tbody>
</table>

Klein, et al, Cancer Res 2004
Alcohol, Obesity, and diabetes are additional risk factors for pancreatic cancer
- Counseling patients to limit alcohol, maintain healthy weight and diabetes control may decrease risk of pancreatic cancer development
- Future studies in HRI patient populations are needed to ascertain risk

### Additional Modifiable Risk Factors

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Associated risk of pancreatic cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cigarette smoking</td>
<td>~1.7-fold increased risk compared with never smokers</td>
</tr>
<tr>
<td>Obesity</td>
<td>~1.6-fold increased risk in individuals with obesity compared with those with normal weight</td>
</tr>
<tr>
<td>Alcohol use</td>
<td>1.6-fold increased risk in those consuming &gt;6 drinks per day compared with those consuming &gt;1 drink per day</td>
</tr>
<tr>
<td>New-onset diabetes</td>
<td>&lt;0.3-0.8% of patients with new-onset diabetes develop pancreatic ductal adenocarcinoma within 3 years of diabetes diagnosis</td>
</tr>
<tr>
<td>Long-standing diabetes</td>
<td>1.5-2-fold increased risk of pancreatic cancer for individuals with diabetes of &gt;3 years in duration</td>
</tr>
<tr>
<td>Family history of pancreatic cancer</td>
<td>Twofold increased risk in individuals with a single family member with pancreatic cancer compared with the general population; sevenfold increased risk in individuals with multiple family members with pancreatic cancer compared with the general population</td>
</tr>
<tr>
<td>Pancreatitis</td>
<td>Twofold to threefold increased risk in individuals with long-standing chronic pancreatitis</td>
</tr>
<tr>
<td>Allergy</td>
<td>25% lower risk of developing pancreatic cancer</td>
</tr>
</tbody>
</table>

Klein et al, *Nat Rev Gastroenterol Hepatol* 2021

**HOW do we screen?**
What are the screening targets?

- Unifocal PanIN-3
- Multifocal PanIN-3
- IPMN with high-grade dysplasia
- Early invasive cancer, resectable
- Pancreatic neuroendocrine tumors, ≥1 cm

Lesions detected | CT | MRI | EUS
--- | --- | --- | ---
Any pancreatic lesion detected (all 216 subjects) | 24/216 (11%) | 72/216 (33.3%) | 92/216 (42.5%)
Solid mass (any size) | 3/216 (1.4%) | 1/216 (0.4%) | 3/216 (1.4%)
Cystic mass (any size) | 24/216 (11%) | 72/216 (33%) | 79/216 (36%)
Cyst communication with MPD | 8/24 (36%) | 38/72 (53%) | 21/79 (27%)
Mural nodule | 1/24 (4.2%) | 1/72 (1.4%) | 3/79 (3.8%)
Main pancreatic duct dilation | 5/216 (2.4%) | 5/216 (2.4%) | 21/216 (9.5%)
Branch duct dilation | 10/216 (4.6%) | 29/216 (14%) | 37/216 (17.1%)
### Screening Modalities

<table>
<thead>
<tr>
<th>Abnormality on imaging</th>
<th>Total *, N</th>
<th>EUS</th>
<th>MRI/MRCP</th>
<th>EUS vs MRI/MRCP P value</th>
<th>EUS vs EUS+MRI/MRCP P value</th>
<th>MRI/MRCP vs EUS+MRI/MRCP P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid lesions</td>
<td>25</td>
<td>100% (22/22)</td>
<td>22% (4/18)</td>
<td>&lt;0.001</td>
<td>NA</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Indeterminant lesions</td>
<td>36</td>
<td>61% (22/36)</td>
<td>54% (19/35)</td>
<td>0.85</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Cystic lesions:</td>
<td>463</td>
<td>42% (187/446)</td>
<td>85% (376/435)</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>≥10 mm</td>
<td>38</td>
<td>70% (26/37)</td>
<td>92% (34/37)</td>
<td>0.06</td>
<td>0.001</td>
<td>0.25</td>
</tr>
<tr>
<td>&lt;10 mm</td>
<td>424</td>
<td>39% (161/409)</td>
<td>82% (342/418)</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>With solid component of mural nodule</td>
<td>5</td>
<td>100% (4/4)</td>
<td>20% (1/5)</td>
<td>0.13</td>
<td>NA</td>
<td>0.13</td>
</tr>
<tr>
<td>Main pancreatic ducts 5-9 mm</td>
<td>21</td>
<td>62% (13/21)</td>
<td>60% (12/20)</td>
<td>&gt;0.99</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Pancreatic Neuroendocrine tumor</td>
<td>6</td>
<td>100% (6/6)</td>
<td>33% (2/6)</td>
<td>0.13</td>
<td>NA</td>
<td>0.13</td>
</tr>
</tbody>
</table>

**Overbeed et al, Gut 2021**

### Summary of How to Screen

- High-risk individuals should be referred to a large center with a surveillance protocol for pancreatic cancer screening
- Surveillance imaging should be performed every 12 months in asymptomatic individuals
- **Baseline imaging:**
  - EUS
  - MRI/MRCP
- **Follow-up imaging:**
  - EUS
  - MRI/MRCP

**CT and abdominal ultrasound are not favored given low rates of early lesion detection**

**Goggins et al, Gut 2020**
A 57 year old female with history of ATM mutation presents for consultation of an incidentally detected pancreatic cyst. The cyst was detected on MRCP performed for surveillance for pancreatic cancer. It measures 1.7 cm and has increased in size from 1.1 cm last year. There is enhancement of the cyst walls with multiple septations. There is no atrophy or MD dilation, no nodules or solid components, no lymphadenopathy. Her HbA1c is 6.1% and CMP and CBC are normal.

What would you do next?

- A) Refer to surgery
- B) EUS with FNA now
- C) MRCP in 1 year
- D) EUS with FNA is 6 months
When to Refer for Surgery

- Solid pancreatic lesion ≥ 5 mm of indeterminate pathology
- Positive or suspicious FNA result
- Main duct stricture with associated mass
- Main-duct IPMN
  - MPD ≥ 10 mm
  - Stricture of main pancreatic duct
  - Any mural nodule
- Branch-duct IPMN
  - 1 of the following worrisome feature
    - Growth > 5mm over 6 months
    - Mural nodule or enhancing solid component
    - Abrupt change in caliber of PD
    - Associated PD dilation of ≥ 10 mm
    - Positive cytology
    - Pancreatitis, jaundice or pancreatic pain

When to Shorten Surveillance

- 3 Month surveillance if:
  - Solid lesion with MD 5-9 mm
  - Main PD stricture or dilation ≥ 6 mm without associated mass
  - Solid lesion <5 mm of uncertain significance
- 6 month surveillance if:
  - Cystic lesion ≥ 3 cm
  - Cystic lesion with associated main PD 5-9 mm
  - Cystic lesion with lymphadenopathy
  - Cyst growth rate of ≥ 5 mm over 2 years
  - Elevated Ca19-9
  - (worrisome criteria per IAP guidelines)
Survival in PDAC detected under surveillance

- Followed 354 patients over 16 years
- 1.6% rate of progression/year
- Overall 3-year survival was 85% (9/10 pts) versus 25% (4 pts)

- Multicenter study of HRI who underwent resection or developed PC – 76 patients (71 resection, 5 non-operable
- Low and high-risk lesions had better prognosis than patients diagnosed with PDAC

Canto et al, Gastro 2019; Kongings et al, BJS Open 2019

Summary

- Pancreatic Cancer screening is **NOT** recommended for the general population
- Several genetic syndromes increase the risk for pancreatic cancer
- These individuals, along with those with familial pancreatic cancer syndrome, should be referred for genetic counseling and testing
- All patients with a **new diagnosis of PC** should undergo genetic counseling and testing
- HRI should be enrolled in surveillance program
Summary

- EUS alternating with MRI/MRCP should be the imaging modalities performed every 12 months, alternating one with the other
- HRI should be encouraged to abstain from smoking
- New-onset diabetes should prompt careful evaluation in high-risk individuals
- More research needed to understand the impact on survival in HRI enrolled in surveillance programs

Questions and Answers

Yasmin G. Hernandez-Barco, MD

Alice A. Lee, MD
CONNECT AND COLLABORATE IN GI

ACG & CCF IBD Circle
GI
ACG Hepatology Circle
ACG Functional GI Health and Nutrition Circle
ACG GI Circle
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