

**Interim Results
(June 2016)**

**Asian EUS Group (AEG)
Study on EUS Diagnosis of Chronic Pancreatitis
(Phase II)**

AEG Multicentre Study in Use of EUS in Investigation of Chronic Pancreatitis

Phase I
Phase II
Phase III

Inter-rater reliability in recognition of EUS features of Chronic Pancreatitis

COMPLETED

Derive EUS criteria for chronic pancreatitis

COMPLETED

Prevalence of chronic Pancreatitis

Validate in both normal and chronic pancreatitis patients

Surveillance of chronic pancreatitis

Prevention of Pancreatic Cancer



Set of Diagnostic EUS Features to Validate in Asian Population

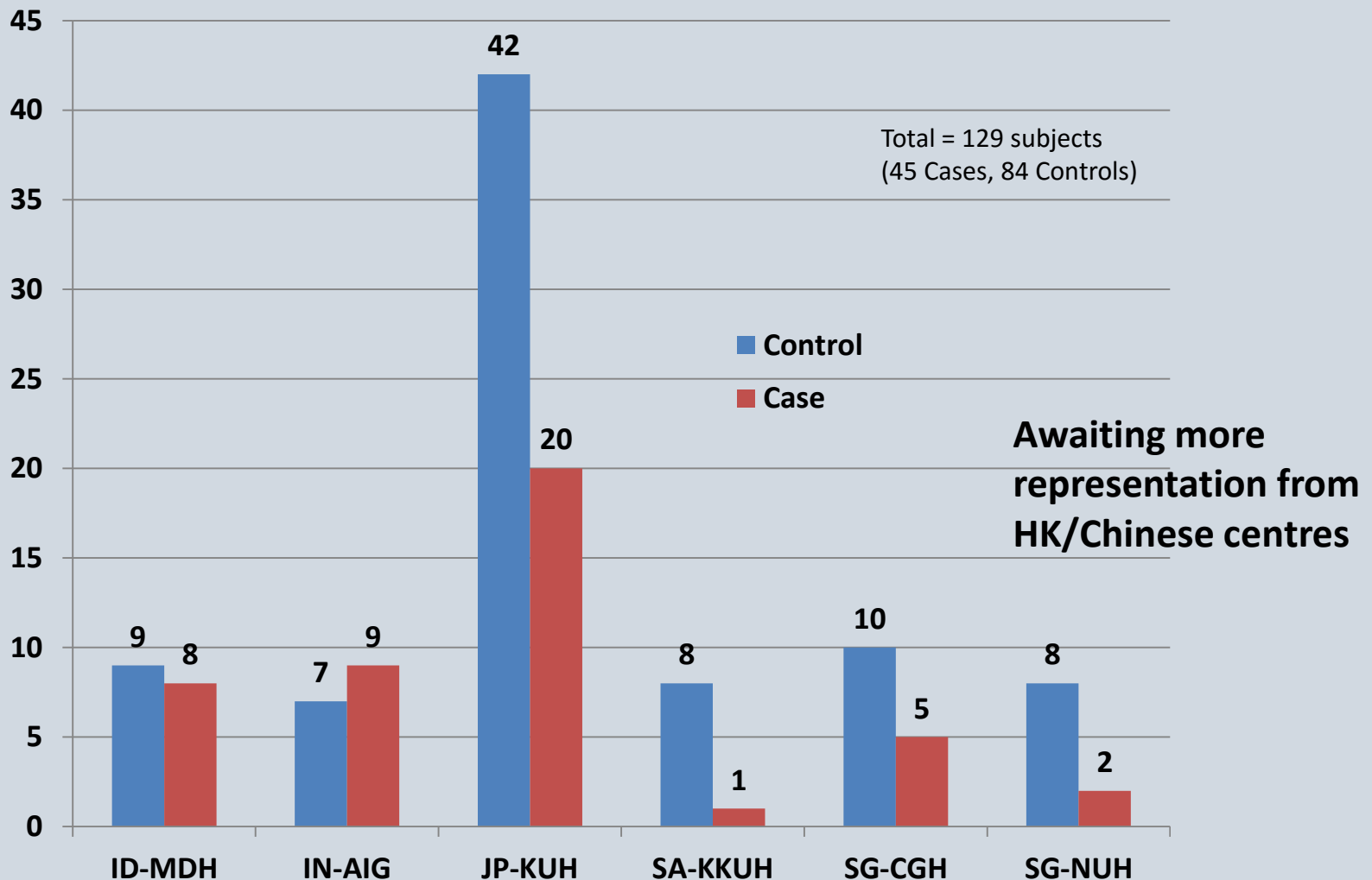
1. Hyper-echoic foci with shadowing
2. Lobularity with honeycombing
3. Cysts
4. Dilated ducts
5. Dilated side branches
6. Calculi in main pancreatic duct

Conventional Diagnosis of Chronic Pancreatitis

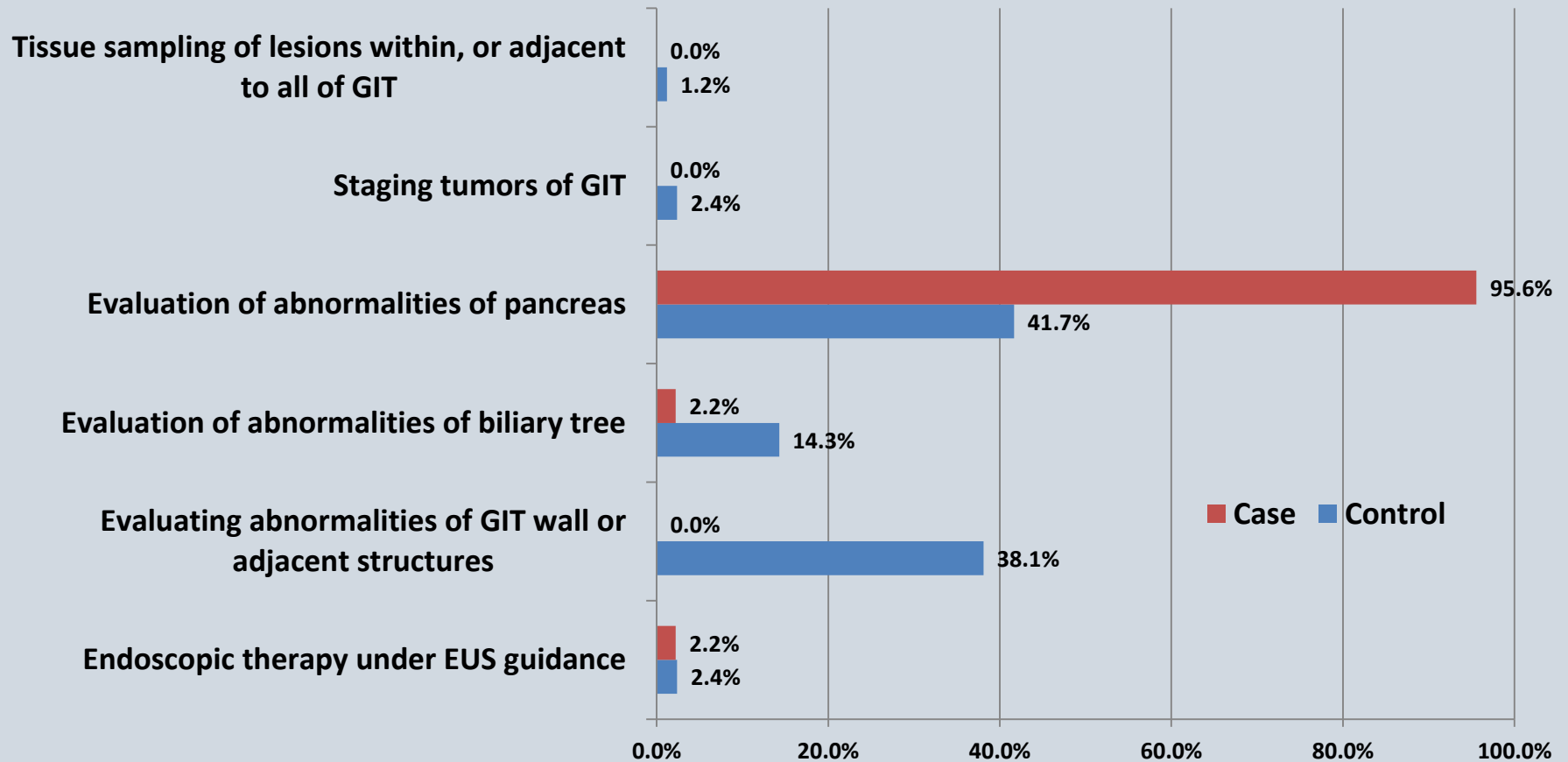
Accepted for inclusion as case

1. Definitive imaging findings characteristic of chronic pancreatitis on CT/MRCP or ERCP.
2. Definitive histological findings characteristic of chronic pancreatitis.

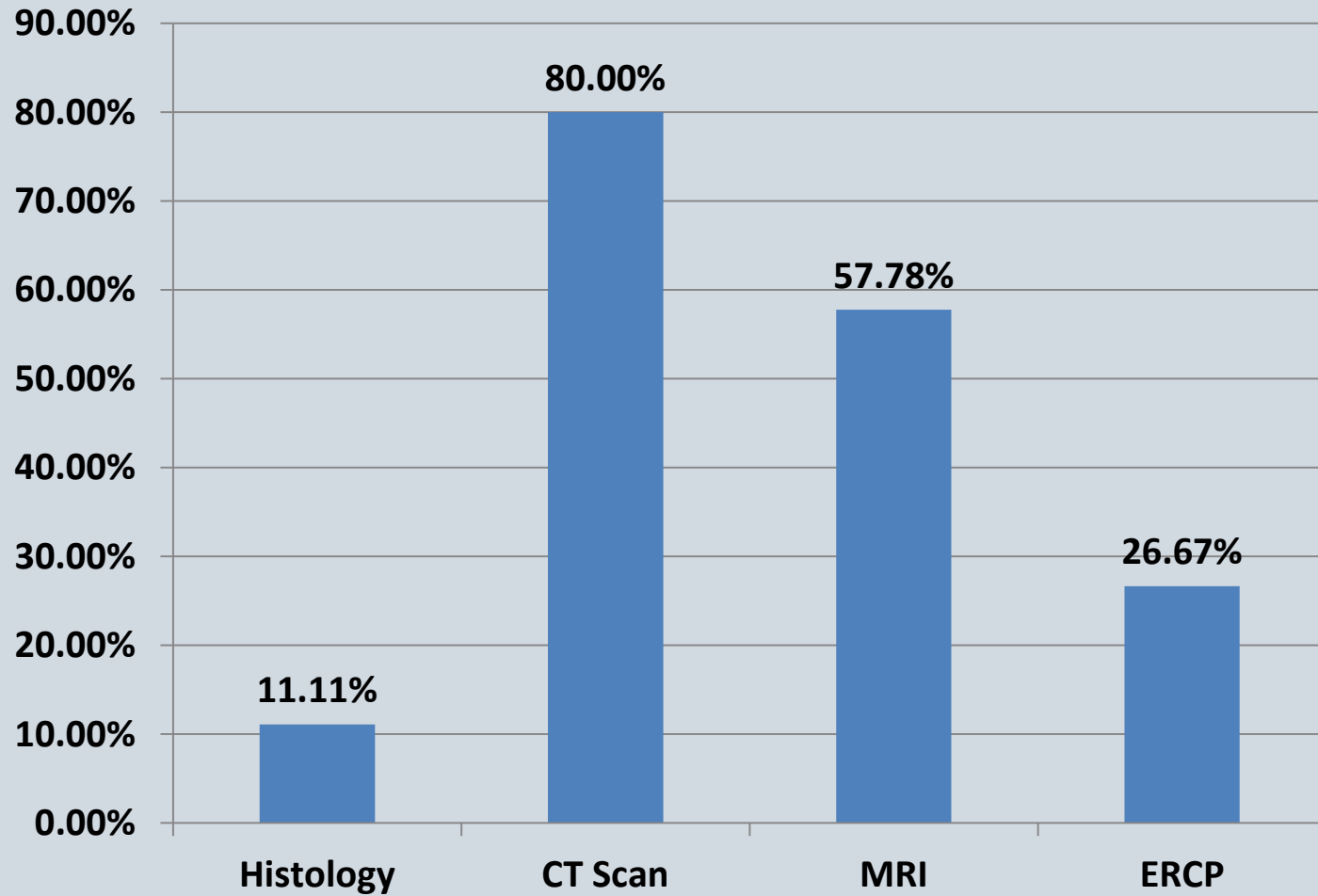
Subject Enrolment by Centre(June 2016)



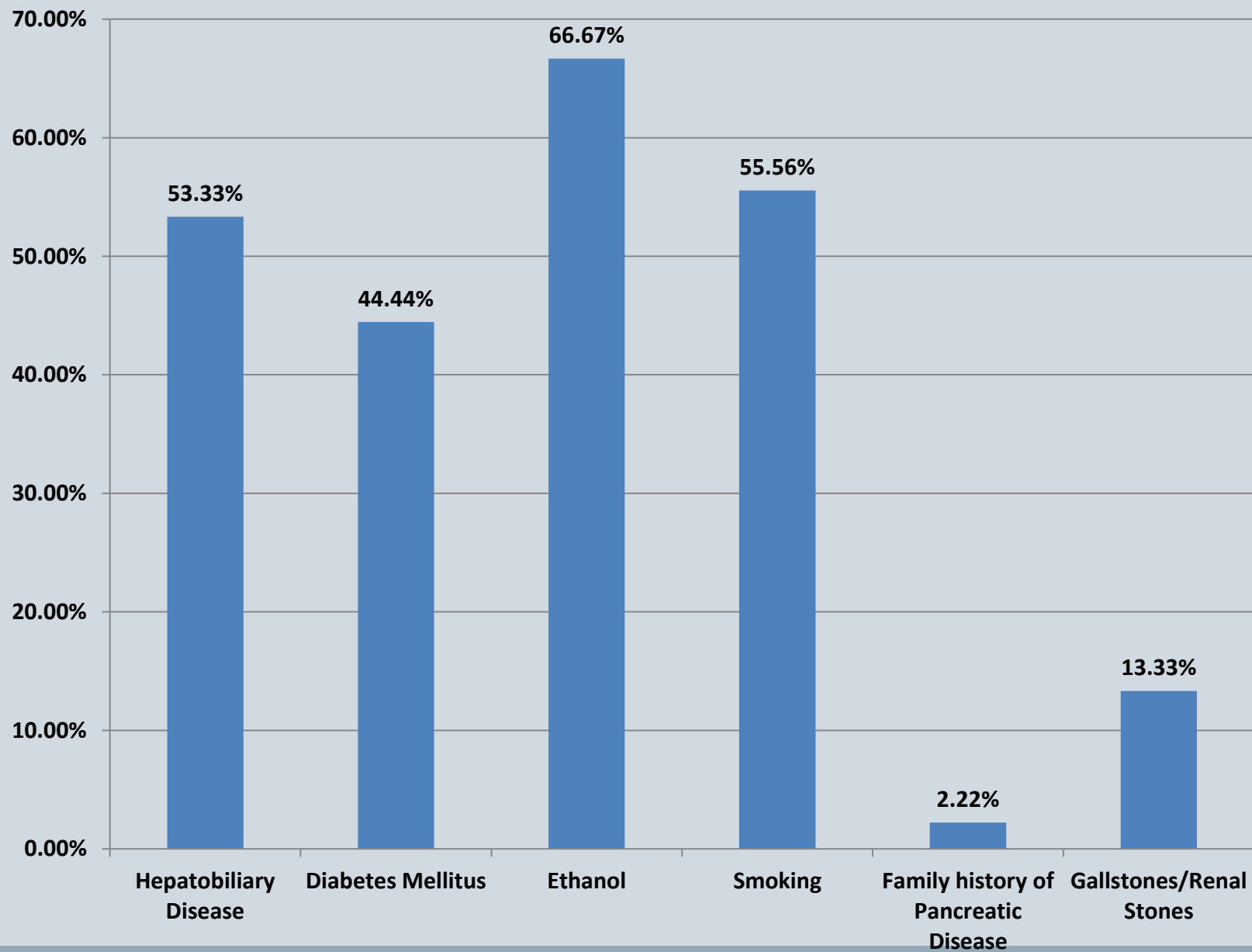
INDICATIONS FOR EUS CASES/CONTROLS



Diagnosis of Chronic Pancreatitis



Risk Factor Prevalence in Chronic Pancreatitis



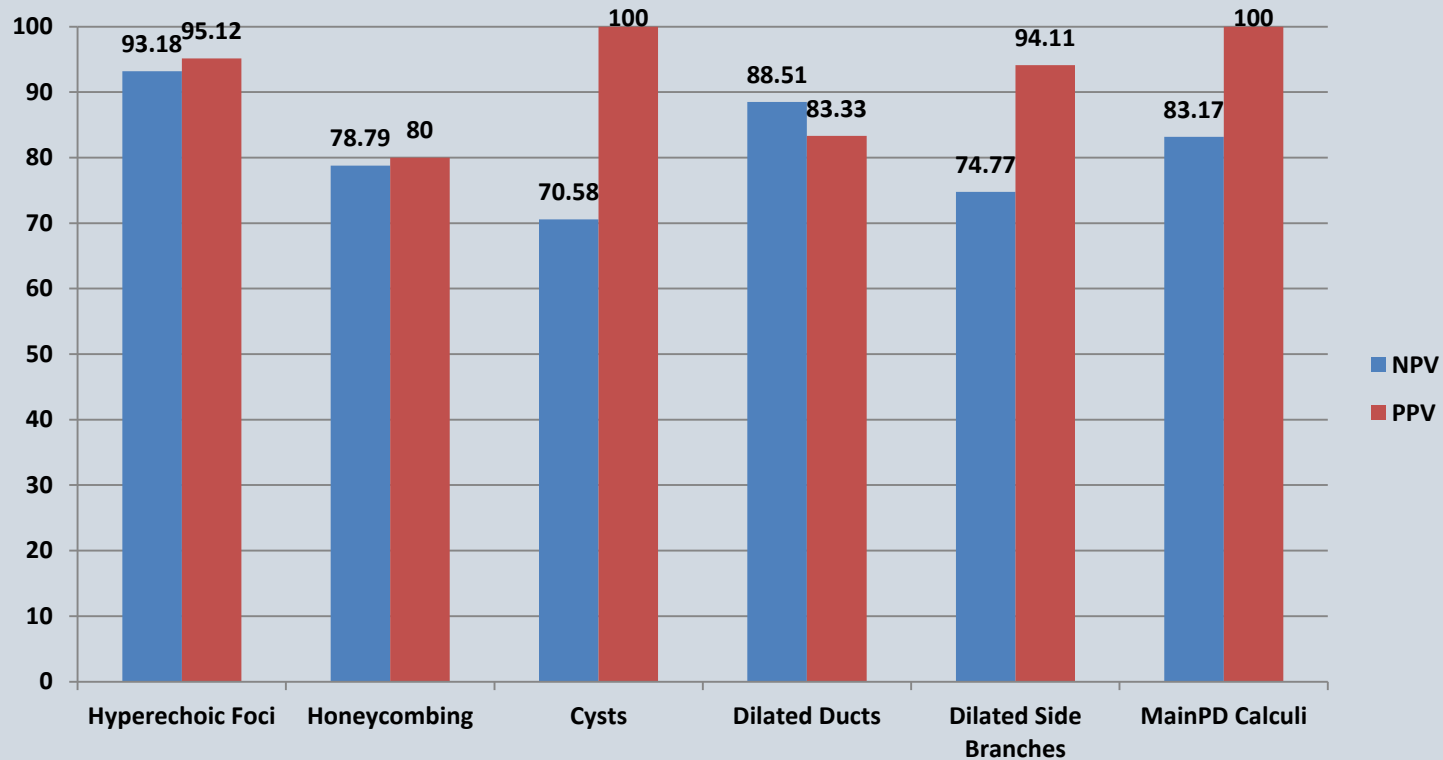
Sensitivity, Specificity, Accuracy, NPV and PPV of Individual EUS Feature

	Sensitivity	Specificity	Accuracy	NPV	PPV
Hyperechoic Foci	86.67	97.62	93.79	93.18	95.12
Honeycombing	53.33	92.86	79.07	78.79	80
Cysts	22.22	100	72.87	70.58	100
Dilated Ducts	77.78	97.67	86.82	88.51	83.33
Dilated Side Branches	36.36	98.81	77.34	74.77	94.11
MainPD Calculi	62.22	100	86.82	83.17	100

Hyper echoic foci with shadowing is the most sensitive, and accurate diagnostic EUS Feature in this population.

Sensitivity is low for cysts and dilated side branches but specificity is extremely good

PPV and NPV for EUS Features of CP



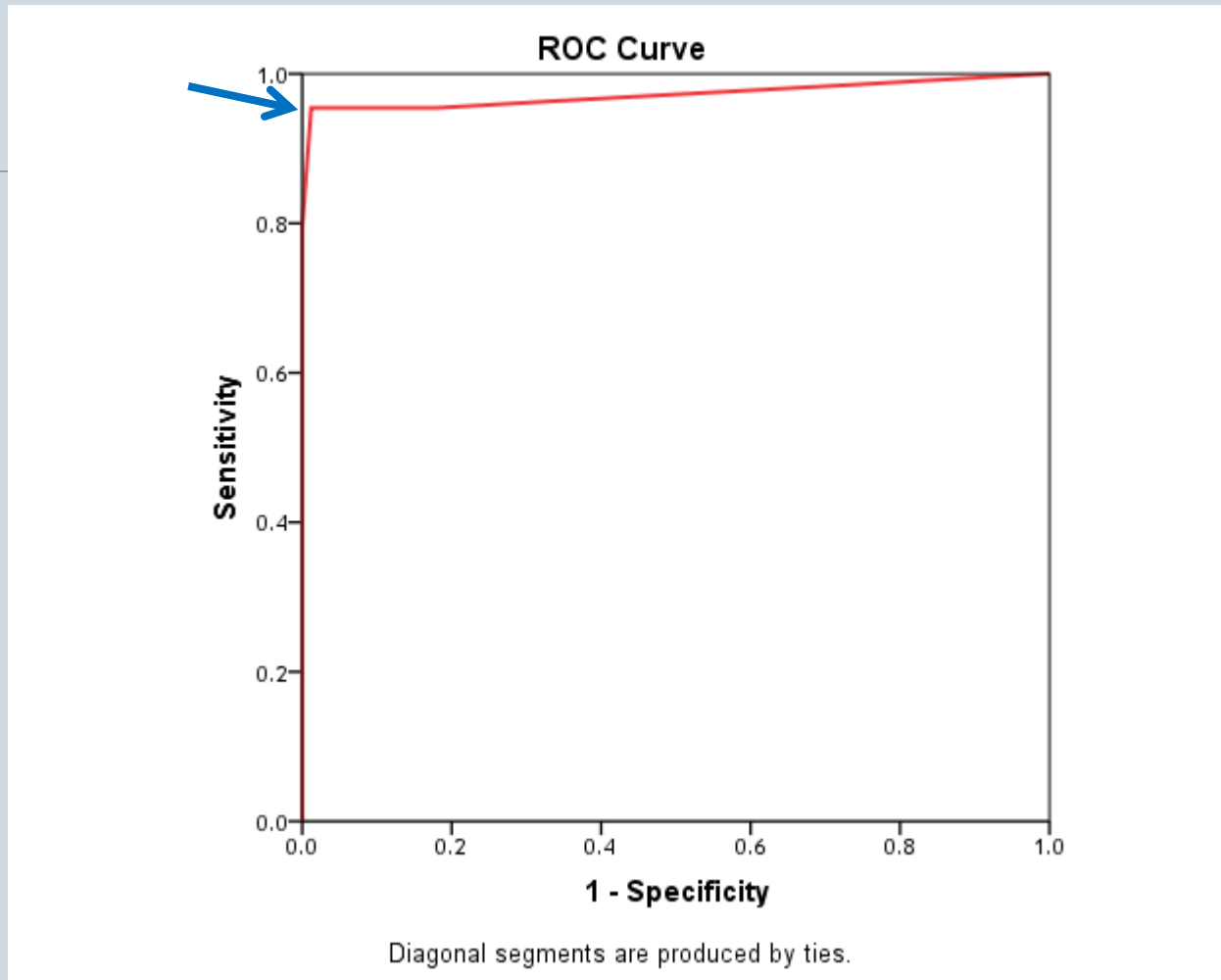
PPV and NPV levels are high for all of the 6 diagnostic EUS features

Interim Results (June 2016)

Sensitivity, Specificity by Minimum Number of Diagnostic EUS Features Set as Requirement for Diagnosis of Chronic Pancreatitis

	Sensitivity	Specificity	Accuracy	NPV	PPV
At least 1	95.5	82.1	86.8	97.2	74.1
At least 2	95.5	98.8	97.7	97.7	97.7
At least 3	80	100	93	90.3	100
At least 4	51.1	100	82.9	79.2	100
At least 5	13.6	100	67.8	68.3	100
At least 6	2.3	100	65.9	65.6	100

ROC Curve for No of EUS Features



Optimum number of features = 2 or more (sensitivity 95.5%, specificity 98.8%)

AEG EUS CP CRITERIA (interim)

Chronic Pancreatitis is defined if 2 or more of the following are present on EUS:

1. Hyper-echoic foci with shadowing
2. Lobularity with honeycombing
3. Cysts
4. Dilated ducts
5. Dilated side branches
6. Calculi in main pancreatic duct

Conclusion (interim analyses)

- Continued contribution to the study welcome and more representation from HK/China required
- Study selects 6 EUS features: hyper-echoic foci with shadowing, lobularity with honeycombing, cysts, dilated ducts, dilated side branches and calculi in main pancreatic duct with high inter-operator agreement
- These features have been validated to be useful in the defining chronic pancreatitis in this case-cohort.
- Finding 2 of 6 EUS diagnostic features establishes an EUS diagnosis of chronic pancreatitis in this population.
- Extend study x 3 months till Sep 16 – target manuscript Nov 16

Case Record Form

Dear Researcher1 Poon

Thank you for taking time to participate in the Phase II of the study on EUS Diagnosis of Chronic Pancreatitis.

The data you have entered, as shown below, were captured by the system. You may print or save a copy of the data.

Your serial no: 18

Video uploaded: http://www.asianeus.org/wp-content/uploads/gravity_forms/1-64b48acca1d213674c0a1e18628fc40f/2015/12/play-list-14-normal.mp4

- Videos will be audited by steering committee

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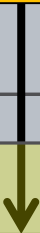
COMPLETED



Prevalence of chronic Pancreatitis



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Surveillance of chronic pancreatitis



Prevention of Pancreatic Cancer

The Next Phase...

AEG Surveillance of Chronic Pancreatitis (AESOP)

Study Type:	Observational Cohort
Condition:	Chronic Pancreatitis as defined by imaging (CT/MRI/ERCP/EUS)
Surveillance:	1 yearly EUS (and/or adjunctive imaging) over a 5-10 year period
Primary Outcome Measures:	incidence of pancreatic cancer
Secondary Outcome Measure:	survival / cause of death
Sample size Estimated:	1000 (50 centres x 20 cases each)
Biospecimen Retention:	approximately 40 mls of blood in select centres with support

Assumptions: Incidence rate of 1%, Baseline rate of 0.001%, power 0.8 and α 0.05 $n=792$

References: Malka Gut 2002;51:849–852; cancer.org accessed 29Jun16

<http://www.cancer.org/acs/groups/content/@research/documents/document/acspc-038828.pdf>

Thank You