

Table 1

The Rosemont classification based on EUS

Parenchymal criteria

- Major A
 - Hyperechoic foci (>2 mm in length/width with shadowing)
- Major B
 - Lobularity (≥ 3 contiguous lobules = ‘with honeycombing’)
- Minor
 - Cyst (anechoic, round/elliptical with or without septations)
 - Hyperechoic strands (≥ 3 mm in at least 2 different directions with respect to the imaged plane)
 - Hyperechoic foci (>2 mm in length/width with no shadowing)
 - Lobularity (noncontiguous lobules = ‘without honeycombing’)

Duct criteria

- Major A
 - MPD calculi (echogenic structure[s] within the MPD with acoustic shadowing)
 - Minor
 - MPD dilation (≥ 3.5 mm in body or >1.5 mm in tail)
 - Irregular MPD contour (uneven or irregular outline and ectatic course)
 - Dilated side branches (>3 tubular anechoic structures each measuring ≥ 1 mm in width, budding from the MPD)
 - Hyperechoic MPD margin (echogenic, distinct structure >50% of entire MPD in the body and tail)
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Table 2

Rosemont classification and each EUS findings of individuals

Rosemont classification	All (n=344)	Consistent (n=9)	Suggestive (n=14)	Indeterminate (n=70)	Normal (n=251)
Major A					
Hyper echoic foci with shadowing (%)	6 (1.7)	6 (66.7)	0 (0)	0 (0)	0 (0)
MPD calculi (%)	4 (1.2)	4 (44.4)	0 (0)	0 (0)	0 (0)
Major B					
Lobularity with honeycombing (%)	19 (5.5)	5 (55.6)	10 (71.4)	4 (5.7)	0 (0)
Minor					
Cyst (%)	26 (7.6)	1 (11.1)	2 (14.3)	4 (5.7)	19 (7.6)
Strands (%)	161 (46.8)	8 (88.9)	13 (92.9)	68 (97.1)	72 (28.7)
Non shadowing hyperechoic foci (%)	184 (53.5)	9 (100)	14 (100)	69 (98.6)	92 (36.7)
Lobularity without honeycombing (%)	48 (14.0)	6 (66.7)	13 (92.9)	27 (38.6)	2 (0.8)
Dilated MPD (%)	64 (18.6)	7 (77.8)	6 (42.9)	22 (31.4)	29 (11.6)
Irregular MPD contour (%)	6 (1.7)	6 (66.7)	0 (0)	0 (0)	0 (0)
Dilated side branches (%)	13 (3.8)	7 (77.8)	1 (7.1)	1 (1.4)	4 (1.6)
Hyperechoic MPD margin (%)	49 (14.2)	5 (55.6)	12 (85.7)	32 (45.7)	0 (0)

Table 3**Characteristics of individuals who underwent EUS for the workup of pancreatic and hepatobiliary disease**

	All (n=344)	Consistent (n=9)	Suggestive (n=14)	Indeterminate (n=70)	Normal (n=251)
Age [median years(range)]	66.4 (23-89)	60.6 (48-74)	63.1 (45-82)	66.3 (41-88)	66.7 (23-89)
ETOH = 0g/day (%)	152 (44.4)	2 (22.2)	2 (14.3)	18 (25.7)	130 (51.8)
ETOH < 20g/day (%)	86 (25.0)	0 (0)	1 (7.1)	16 (22.9)	69 (27.5)
ETOH 20-40g /day (%)	36 (10.5)	0 (0)	2 (14.3)	10 (14.3)	24 (9.6)
ETOH 40-60g /day (%)	22 (6.4)	0 (0)	2 (14.3)	10 (14.3)	10 (4.0)
ETOH 60-80g /day (%)	12 (3.5)	0 (0)	3 (21.4)	3 (4.3)	6 (2.4)
ETOH > 80g /day (%)	36 (10.5)	7 (77.8)	4 (28.6)	13 (18.6)	12 (4.8)
Smoking (BI. > 400) (%)	108 (31.4)	6 (66.7)	9 (64.3)	37 (52.9)	56 (22.3)
Past history of AP (%)	18 (5.2)	6 (66.7)	2 (14.3)	6 (8.6)	4 (1.6)

ETOH: Ethanol, BI: Brickman Index, AP: acute pancreatitis

Table 4

Inter-rater agreement of RC EUS features

	Inter-rater agreement (Kappa)	95% CI	Assessment of inter-rater agreement
Hyperechoic foci with shadowing	1.00	1.00–1.00	Almost perfect
MPD calculi	1.00	1.00–1.00	Almost perfect
Lobularity with honeycombing	0.87	0.75–0.99	Almost perfect
Cysts	1.00	1.00–1.00	Almost perfect
Strands	0.83	0.77–0.89	Almost perfect
Non-shadowing hyperechoic foci	0.86	0.80–0.91	Almost perfect
Lobularity without honeycombing	0.87	0.80–0.95	Almost perfect
Dilated MPD	0.95	0.90–0.99	Almost perfect
Irregular MPD contour	1.00	1.00–1.00	Almost perfect
Dilated side branches	0.81	0.63–0.99	Almost perfect
Hyperechoic MPD margin	1.00	1.00–1.00	Almost perfect

Table 5

The risk factors to be categorized in any of Consistent, Suggestive, or Indeterminate

Univariate analysis (Factor-specific test)			Multivariate analysis (Order Logistic Regression)			
Factor	Significance probability	Statistical analysis	Comparison category	Regression coefficient	Odds ratio	Significance probability
ETOH	p=0.000	Chi-square test	ETOH =0g/day	0	1.000	-
			ETOH <20g/day	0.181	1.198	p=0.625
			ETOH 20-40g/day	0.757	2.132	p=0.089
			ETOH 40-60g/day	1.240	3.456	p=0.014
			ETOH 60-80g/day	1.556	4.740	p=0.011
			ETOH >80g/day	1.794	6.013	p=0.000
Age	p=0.320	One-way analysis of variance	In 1 year increments	0.006	1.006	p=0.608
Smoking (BI 400<)	p=0.000	Chi-square test	BI 400< vs. BI 400>	0.941	2.563	p=0.002
Past history of AP	p=0.000	Chi-square test	Without vs. with	2.421	11.257	p=0.000

ETOH: Ethanol, BI: Brickman Index, AP: acute pancreatitis

Table 6

Correlation between individual EUS findings based on the Rosemont classification and each CP risk factor

EUS findings Without, With (0, 1 section)	Univariate analysis (Factor-specific test)				Multivariate analysis (Order Logistic Regression)			
	ETOH	Smoking (BI)	Past history of AP	Age	ETOH	Smoking (BI)	Past history of AP	Age
Hyper echogenic foci with shadowing	P=0.00	P=0.151	P=0.000	P=0.04	—	—	—	—
Lobularity with honeycombing	P=0.00	P=0.000	P=0.000	P=0.02	P=0.10	P=0.006	P=0.000	P=0.086
Lobularity without honeycombing	P=0.00	P=0.000	P=0.000	P=0.02	P=0.01	P=0.073	P=0.003	P=0.111
Non shadowing hyperechoic foci	P=0.00	P=0.000	P=0.018	P=0.36	P=0.00	P=0.001	P=0.148	P=0.710
Cyst	P=0.50	P=1.000	P=1.000	P=0.00	P=0.81	P=0.953	P=0.587	P=0.019
Strands	P=0.00	P=0.000	P=0.014	P=0.39	P=0.00	P=0.001	P=0.135	P=0.750
MPD calculi	P=0.00	P=0.178	P=0.000	P=0.98	—	—	—	—
Irregular MPD contour	P=0.00	P=0.151	P=0.000	P=0.46	—	—	—	—
Dilated side branches	P=0.00	P=0.387	P=0.000	P=0.27	P=0.36	P=0.985	P=0.003	P=0.867
Dilated MPD	P=0.00	P=0.056	P=0.010	P=0.00	P=0.03	P=0.839	P=0.009	P=0.000
Hyperechoic MPD margin	P=0.00	P=0.000	P=0.180	P=0.25	P=0.18	P=0.046	P=0.827	P=0.303

*— : Computation does not converge

ETOH: Ethanol, BI: Brickman Index, AP: acute pancreatitis