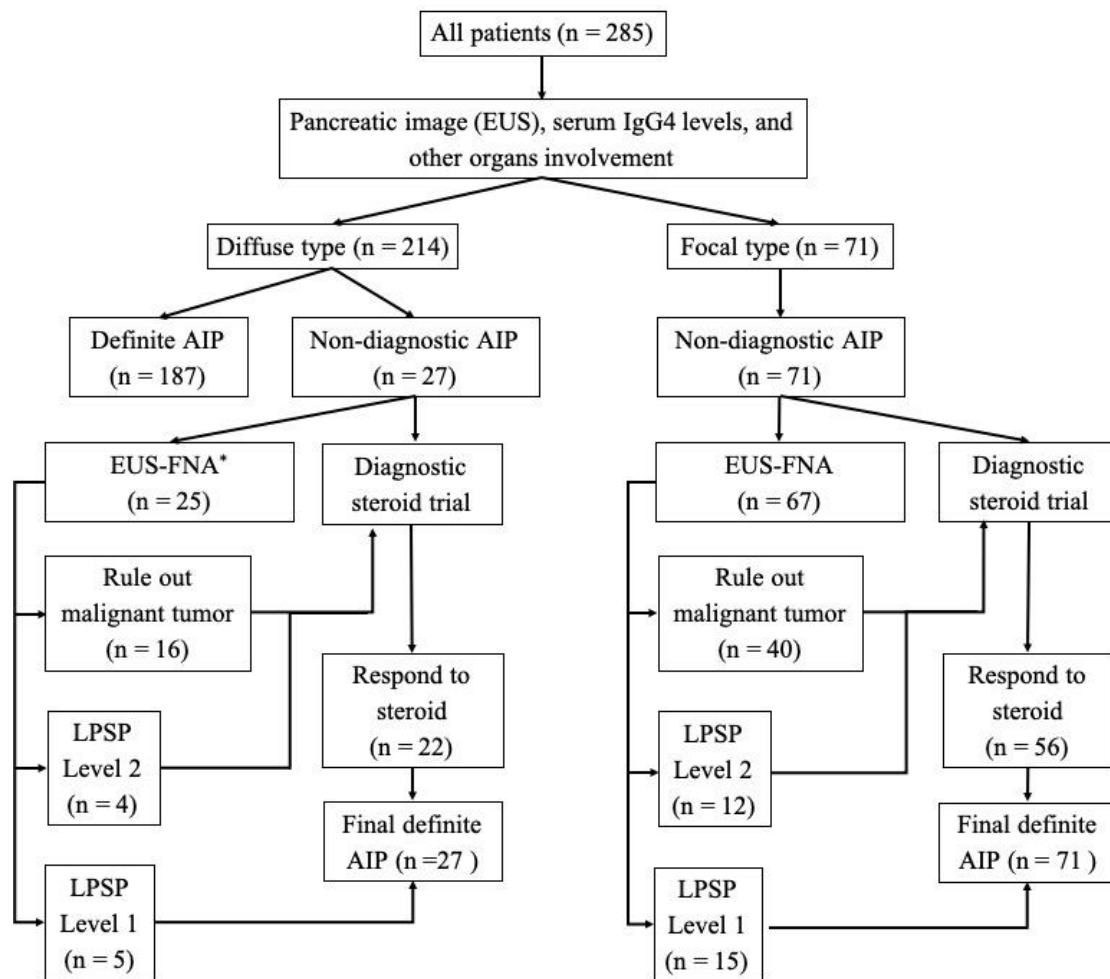


Supplement Figure Legend



Supplement Figure 1 The diagnosis of the autoimmune pancreatitis patients following the international consensus diagnostic criteria. *The histopathological diagnosis results were graded as: LPSP Level 1, LPSP Level 2, and “rule out malignant tumor”. Some of the non-diagnostic cases chose to take the diagnostic steroid trial, while the others chose to receive the EUS-FNA; other than LPSP level 1 pathological finding, cases who received FNA will also take the diagnostic steroid trial. The response to steroid therapy was evaluated after two weeks with dynamic computed tomography or magnetic resonance. Cases who got the level 1 LPSP pathological findings and who responded to the diagnostic steroid trial would be finally diagnosed with AIP following the criteria of ICDC.

In our center, we didn't routinely do endoscopic retrograde pancreatography in all AIP patients for the risk of post ERCP pancreatitis. AIP: Autoimmune pancreatitis; EUS: Endoscopic ultrasound; FNA: Fine-needle aspiration; ICDC: International consensus diagnostic criteria; LPSP: Lymphoplasmacytic sclerosing pancreatitis.

Supplement Table Legend

Supplement Table 1 Definitions of endoscopic ultrasound findings in autoimmune pancreatitis

EUS findings	Definitions	Histological correlate
Parenchymal changes		
DHA or FHA ¹	Pancreatic parenchyma displays lower echogenicity than the renal cortex	Inflammation of lymphoplasmacytic infiltrates
Calcification ²	Hyperechoic lesion with acoustic shadowing within the pancreas	Parenchymal calcification
Lobularity	Well-circumscribed, ≥ 5 mm structures with enhancing rim and relatively echo-poor center	Fibrosis, glandular atrophy
With honeycombing ²	Contiguous ≥ 3 lobules	
Without honeycombing ³		
HF ³	Echogenic structures foci ≥ 2 mm in both length and width with no shadowing	Focal fibrosis
HS ³	Hyperechoic lines of ≥ 3 mm in length in at least 2 different directions with respect to the imaged plane	Bridging fibrosis
Cystic lesion ³	Anechoic, rounded/elliptical structures with or without septa	Pseudocyst
Main pancreatic duct changes		
MPD calculi ²	Echogenic structure(s) within MPD with acoustic shadowing	Stones
Diffuse stenosis/irregularity	Diffuse uneven or irregular outline and ectatic course	Unknown
MPD dilation ³	> 3 mm in the head, > 2 mm in the body, > 1 mm in the tail	

Hyperechoic duct margin ³	Hyperechoic margins of the MPD	Periductal fibrosis
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Bile duct involvement

Bile duct wall thickening	The hypoechoic layer on the internal aspect of the bile duct is clearly thickened > 1 mm, either with a symmetric 3-layer type or a parenchymal-echo type	IgG4 associated cholangitis
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Intrapancreatic bile stenosis	The lumen diameter of intrapancreatic part of common bile duct less than 1 mm
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Peripancreatic changes

Peripancreatic lymphadenopathy	Lymph node longest diameter ≥ 10 mm
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Peripancreatic margin hypoechoic	A capsule-like hypoechoic rim defined in the EUS	Unknown
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Lobular outer margin	The lobular appearance of the pancreatic edge	Unknown
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Peripancreatic vessel involvement	Obstruction/stricture/thrombosis of splenic/portal vein
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¹DHA: the pancreas is divided into three parts: head, body, and tail; diffuse hypoechoic area means more than one part of pancreas is involved under EUS; FHA, less than one part involved. ²Included as major criteria in the Rosemont criteria. ³Included as minor criteria in the Rosemont criteria. AIP: Autoimmune pancreatitis; DHA: Diffuse hypoechoic area; EUS: Endoscopic ultrasound; FHA: Focal hypoechoic area; FS: Focal stenosis; HF: Hyperechoic foci; HS: Hyperechoic strand; MPD: Main pancreatic duct; mm, millimeter.

Supplement Table 2 Comparison of endoscopic ultrasound features between focal autoimmune pancreatitis cases with or without head involvement

EUS findings	Focal type (n = 71)	Head involved (n = 50)	Non-head involved (n = 21)	P value
Typical findings				
DHA	16 (22.5)	12 (24.0)	4 (19.0)	0.76 ¹
FHA	59 (83.1)	41 (82.0)	18 (85.7)	1.00 ¹
Bile duct changes				
Bile duct wall thickening	37 (52.1)	33 (66.0)	4 (19.0)	< 0.001
Intrapancreatic bile duct stenosis	34 (47.9)	29 (58.0)	5 (23.8)	0.01
Extrahepatic bile duct dilation	25 (35.2)	22 (44.0)	3 (14.3)	0.02
Peripancreatic changes				
Peripancreatic lymphadenopathy	17 (23.9)	14 (28.0)	3 (14.3)	0.22
Peripancreatic margin	5 (7.0)	3 (6.0)	2 (9.5)	0.63 ¹
Lobular outer margin	6 (8.5)	5 (10.0)	1 (4.8)	0.66 ¹
Peripancreatic vessel involvement	5 (7.0)	3 (6.0)	2 (9.5)	0.63 ¹
Chronic pancreatitis changes				
Parenchymal changes				
HF	69 (97.2)	48 (96.0)	21 (100.0)	1.00 ¹
HS	43 (60.6)	33 (66.0)	10 (47.6)	0.15
Cystic lesion	4 (5.6)	1 (2.0)	3 (14.3)	0.08 ¹
Parenchymal calcification	1 (1.4)	0 (0)	1 (4.8)	0.30 ¹

Lobularity with honeycombing	7 (9.9)	5 (10.0)	2 (9.5)	1.00 ¹
Lobularity without honeycombing	12 (16.9)	9 (18.0)	3 (14.3)	1.00 ¹
Main pancreatic duct changes				
MPD calculi	1 (1.4)	0 (0)	1 (4.8)	0.30 ¹
MPD dilation	18 (25.3)	16 (32.0)	2 (9.5)	0.05
Diffuse stenosis/irregularity	9 (12.7)	9 (18.0)	0 (0)	0.05
Focal stenosis	5 (7.0)	5 (10.0)	0 (0)	0.31
Hyperechoic duct margin	28 (39.4)	20 (40.0)	8 (38.1)	0.88

¹Fisher's exact test. Results presented as *n* (%). AIP: Autoimmune pancreatitis; DHA: Diffuse hypoechoic area; EUS: Endoscopic ultrasound; FHA: Focal hypoechoic area; HF: Hyperechoic foci; HS: Hyperechoic strand; MPD: Main pancreatic duct.

**Supplement Table 3 The systematic review of endoscopic ultrasound
features of autoimmune pancreatitis**

EUS findings	Farrell <i>et al</i>^[10] (n = 14)	Hoki <i>et al</i>^[11] (n = 25)	Okabe <i>et al</i>^[12] (n = 32)	Our study (n = 285)
Diffuse type	8 (57)	15 (60)	21 (65.6)	214(75.8)
Focal type	6 (43)	10 (40)	11 (34.3)	71 (33.2)
Typical findings				
DHA	8 (57)	22 (88)	NA	213 (74.7)
FHA	6 (43)	11 (44)	NA	59 (20.7)
Bile duct changes				
Bile duct wall thickening	NA	9/17 (53) ¹	NA	195 (68.4)
Intrapancreatic bile duct stenosis	NA	NA	NA	165 (57.9)
Extrahepatic bile duct dilation	NA	NA	NA	122 (42.8)
Peripancreatic changes				
Peripancreatic lymphadenopathy	6 (43)	18 (72)	NA	89 (31.2)
Peripancreatic hypoechoic margin	NA	5 (20)	NA	81 (28.4)
Lobular outer margin	NA	NA	20 (62.5)	40 (14.0)
Peripancreatic vessel involvement	3 (21.4)	NA	NA	21 (7.4)
Chronic pancreatitis changes				
Parenchymal changes				
HF	NA	8 (32)	32 (100)	271 (95.1)

HS	NA	14 (56)	26 (81.3)	174 (61.1)
Cystic lesion	1 (7.1)	4 (16)	NA	18 (6.3)
Parenchymal calcification	NA	4 (16)	NA	3 (1.1)
Lobularity with honeycombing	NA	NA	NA	26 (9.1)
Lobularity without honeycombing	1 (7.1)	2 (8)	17 (53.1)	48 (16.8)
Main pancreatic duct changes				
MPD calculi	NA	NA	NA	1 (0.4)
MPD dilation	NA	3 (12)	NA	48 (16.8)
Diffuse stenosis/irregularity	NA	10 (40)	NA	29 (10.2)
Focal stenosis	NA	NA	NA	11 (3.9)
Hyperechoic duct margin	NA	9 (36)	NA	119 (41.8)

¹Excluding patients in whom plastic stents were inserted before EUS procedures. Results presented as *n* (%). AIP: Autoimmune pancreatitis; DHA: Diffuse hypoechoic area; EUS: Endoscopic ultrasound; FHA: Focal hypoechoic area; HF: Hyperechoic foci; HS: Hyperechoic strand; MPD: Main pancreatic duct; NA: Not available.

Supplement Table 4 The endoscopic ultrasound - fine-needle aspiration procedures and histopathological results of autoimmune pancreatitis patients

	Diffuse type (n = 25)		Focal type (n = 67)	
Needle ¹	25G Echotip	7 (28.0)	25G Echotip	16 (23.9)
	22G Echotip	14 (56.0)	22G Echotip	29 (43.3)
	22G Procore	2 (8.0)	22G Procore	17 (25.4)
	20G Procore	1 (4.0)	20G Procore	3 (4.5)
	19G Echotip	1 (4.0)	19G Echotip	2 (2.9)
Negative	Slow pull	9 (36.0)	Slow pull	30 (44.8)
	5 mL suction	3 (12.0)	5 mL suction	8 (11.9)
	10 mL suction	1 (4.0)	10 mL suction	1 (1.5)
Pressure Method ²	NA ²	12 (48.0)	NA	28 (41.8)
	1 pass	4 (16.0)	1 pass	14 (20.9)
	2 passes	15 (60.0)	2 passes	44 (65.7)
Pass ³	3 passes	6 (24.0)	3 passes	9 (13.4)
	Core Tissue Acquisition Rate	12 (48.0)	31 (46.3)	
Histopathological Diagnosis ⁴	LPSP Level 1	5 (20.0)	LPSP Level 1	15 (22.4)
	LPSP Level 2	4 (16.0)	LPSP Level 2	12 (17.9)
	No evidence of malignancy	16 (64.0)	No evidence of malignancy	40 (59.7)

¹All needles used in the EUS-FNA procedures of this study were from COOK,

United States.²As a respective study, the negative pressure method was not described in some reports of EUS-FNA procedure.³The exact case number was given for different number of pass times.⁴Diagnosis criteria referred to the ICDC. Results presented as *n* (%). AIP: Autoimmune pancreatitis; EUS: Endoscopic ultrasound; FNA: Fine-needle aspiration; ICDC: International consensus diagnostic criteria; LPSP: Lymphoplasmacytic sclerosing pancreatitis.