

**Computed tomography-based radiomics combined with machine learning allows differentiation between primary intestinal lymphoma and Crohn's disease**

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**Supplementary Table 1 Computed tomography scan protocols**

<b>Modality</b>	<b>CT</b>			
Scanner model	SOMATOM Force	SOMATOM Definition flash	Aquilion ONE	Discovery 750
Manufacturer	Siemens	Siemens	Toshiba	General electric
Tube voltage (kV)	120	120	120	120
Tube current	113	190	104	180
Matrix	512×512	512×512	512×512	512×512
Slice thickness (mm)	5	5	5	5
Exposure time (ms)	500	500	500	600

CT: computed tomography; kV: Kilovoltr; mm: Millimeter; ms: Millisecond.

**Supplementary Table 2 Characteristics of participants with primary intestinal lymphoma or Crohn's disease**

		Training set			Internal validation set			External validation set		
		PIL ( <i>n</i> = 48)	CD ( <i>n</i> = 36)	<i>P</i>	PIL ( <i>n</i> = 21)	CD ( <i>n</i> = 15)	<i>P</i>	PIL ( <i>n</i> = 30)	CD ( <i>n</i> = 24)	<i>P</i>
Gender	Male	37 (77.1%)	19 (52.8%)	0.019 <sup>a</sup>	13 (61.9%)	10 (66.7%)	0.769	16 (53.3%)	15 (62.5%)	0.498
	Female	11 (22.9%)	17 (47.2%)		8 (38.1%)	5 (33.3%)		14 (46.7%)	9 (37.5%)	
Age (median, range, year)		53 (2-83)	44 (12-80)	0.070	53 (13-86)	49 (13-68)	0.181	59.5 (14-81)	49.5 (14-75)	0.000 <sup>b</sup>
Abdominal pain	Yes	42 (87.5%)	30 (83.3%)	0.589	18 (85.7%)	14 (93.3%)	0.626	26 (86.7%)	22 (91.7%)	0.682
	No	6 (12.5%)	6 (16.7%)		3 (14.3%)	1 (6.7%)		4 (13.3%)	2 (8.3%)	
Diarrhoea	Yes	5 (10.4%)	21 (58.3%)	0.000 <sup>b</sup>	2 (9.5%)	6 (40.0%)	0.046	4 (13.3%)	4 (16.7%)	1.000
	No	43 (89.6%)	15 (41.7%)		19 (90.5%)	9 (60.0%)		26 (86.7%)	20 (83.3%)	
Bloody stool	Yes	6 (12.5%)	10 (27.8%)	0.078	2 (9.5%)	2 (13.3%)	1.000	4 (13.3%)	5 (20.8%)	0.489
	No	42 (87.5%)	26 (72.2%)		19 (90.5%)	13 (86.7%)		26 (86.7%)	19 (79.2%)	
Frequency of	Normal	45 (93.8%)	25 (69.4%)	0.000 <sup>b</sup>	2 (9.5%)	6 (40.0%)	0.046	3 (10.0%)	10 (41.7%)	0.007 <sup>b</sup>

defecation	Higher	3 (6.3%)	11 (30.6%)		19 (90.5%)	9 (60.0%)		27 (90.0%)	14 (58.3%)	
Abdominal mass	Yes	13 (27.1%)	0 (0.0%)	0.001 b	4 (19.0%)	1 (6.7%)	0.376	6 (20.0%)	1 (4.2%)	0.117
	No	35 (72.9%)	36 (100.0%)		17 (81.0%)	14 (93.3%)		24 (80.0%)	23 (95.8%)	
Lose weight	Yes	18 (37.5%)	21 (58.3%)	0.058	7 (33.3%)	9 (60.0%)	0.112	13 (43.3%)	8 (33.3%)	0.454
	No	30 (62.5%)	15 (41.7%)		14 (66.7%)	6 (40.0%)		17 (56.7%)	16 (66.7%)	
Course of disease (median, range, month)		2.00 (0.30-120.00)	12.50 (0.30-204.00)	0.000 b	2.00 (0.20-8.00)	3.00 (0.70-72.00)	0.255	3.00 (0.20-480.00)	6.00 (0.20-480.00)	0.094
Intestinal wall thickness (median, range, mm)		17.43 (10.18-60.14)	10.07 (4.28-21.11)	0.000 b	17.44 (10.15-45.21)	9.07 (5.70-20.83)	0.000 b	13.60 (6.30-41.00)	10.18 (6.29-25.56)	0.001 b
Local stricture of intestinal cavity	Yes	27 (56.3%)	32 (88.9%)	0.001 b	13 (61.9%)	13 (86.7%)	0.142	16 (53.3%)	21 (87.5%)	0.007 b

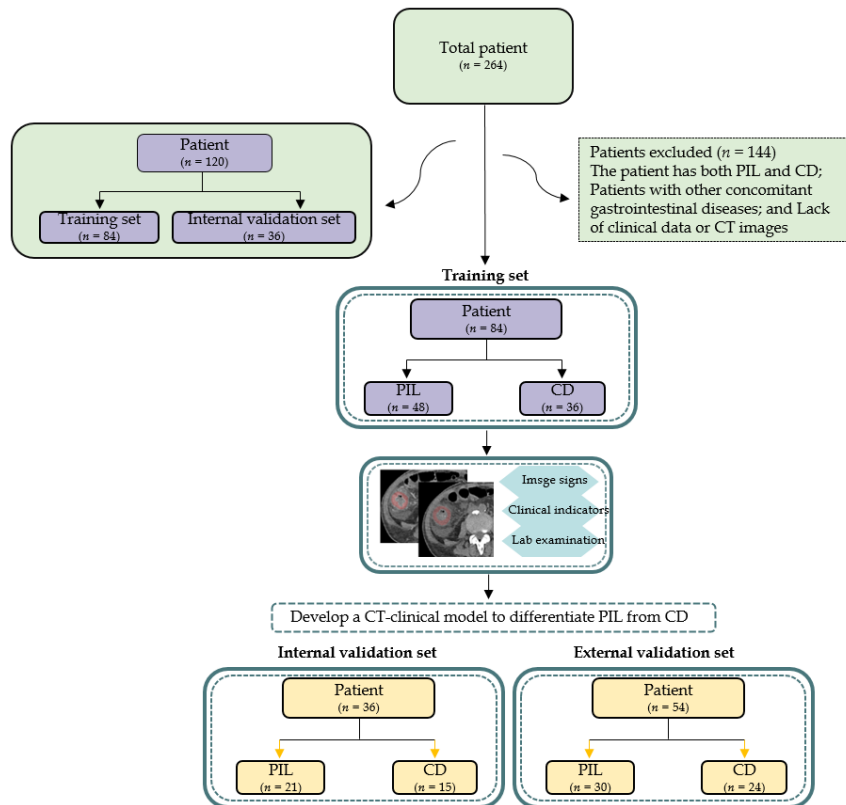
	No	21 (43.8%)	4 (11.1%)		8 (38.1%)	2 (13.3%)		14 (46.7%)	3 (12.5%)	
Local										
dilatation	Yes	21 (43.8%)	1 (2.8%)	0.000	7 (33.3%)	3 (20.0%)	0.468	16 (53.3%)	1 (4.2%)	0.000
of intestinal				b						b
cavity	No	27 (56.3%)	35 (97.2%)		14 (66.7%)	12 (80.0%)		14 (46.7%)	23 (95.8%)	
Adjacent										
lymph	Yes	41 (85.4%)	20 (55.6%)	0.002	14 (66.7%)	6 (40.0%)	0.112	20 (66.7%)	16 (66.7%)	1.000
node				b						
swelling	No	7 (14.6%)	16 (44.4%)		7 (33.3%)	9 (60.0%)		10 (33.3%)	8 (33.3%)	
Enhanced										
density of	Yes	19 (39.6%)	24 (66.7%)	0.014	9 (42.9%)	14 (93.3%)	0.002	17 (56.7%)	18 (75.0%)	0.161
the				a			b			
peri-intesti	No	29 (60.4%)	12 (33.3%)		12 (57.1%)	1 (6.7%)		13 (43.3%)	6 (25.0%)	
nal fat										
Comb sign	Yes	39 (81.3%)	32 (88.9%)	0.000	5 (23.8%)	13 (86.7%)	0.000	1 (3.3%)	17 (70.8%)	0.000
				b			b			b
	No	9 (18.8%)	4 (11.1%)		16 (23.8%)	2 (13.3%)		29 (96.7%)	7 (29.2%)	
Enhanced	Homogeneous									
pattern	enhancement	38 (79.2%)	9 (25.0%)	0.000	16 (76.2%)	2 (13.3%)	0.000	23 (76.7%)	5 (20.8%)	0.000
				b			b			b

	Inhomogeneous enhancement	8 (16.7%)	0 (0.0%)		4 (19.0%)	2 (13.3%)		6 (20.0%)	4 (16.7%)	
	Hierarchical enhancement	0 (0.0%)	9 (25.0%)		0 (0.0%)	4 (26.7%)		0 (0.0%)	7 (29.2%)	
	Mucosal enhancement	2 (4.2%)	18 (50.0%)		1 (4.8%)	7 (46.7%)		1 (3.3%)	8 (33.3%)	
Hemoglobin	Normal	24 (50.0%)	12 (33.3%)	0.127	10 (47.6%)	5 (33.3%)	0.391	9 (30.0%)	11 (45.8%)	0.231
	Lower	24 (50.0%)	24 (66.7%)		11 (52.4%)	10 (66.7%)		21 (70.0%)	13 (54.2%)	
Platelet	Normal	36 (75.0%)	18 (50.0%)	0.011 <sup>a</sup>	16 (76.2%)	9 (60.0%)	0.290	21 (70.0%)	18 (75.0%)	0.824
	Higher	10 (20.8%)	18 (50.0%)		4 (19.0%)	6 (40.0%)		7 (23.3%)	4 (16.7%)	
	Lower	2 (4.2%)	0 (0.0%)		1 (4.8%)	0 (0.0%)		2 (6.7%)	2 (8.3%)	
Albumin	Normal	18 (37.5%)	9 (25.0%)	0.225	5 (23.8%)	1 (6.7%)	0.367	9 (30.0%)	9 (37.5%)	0.561
	Lower	30 (62.5%)	27 (75.0%)		16 (76.2%)	14 (93.3%)		21 (70.0%)	15 (62.5%)	

<sup>a</sup> $P < 0.05$ .

<sup>b</sup> $P < 0.01$ .

PIL: Primary intestinal lymphoma; CD: Crohn's disease.



**Supplementary figure 1 Flowchart of participant selection.** PIL: Primary intestinal lymphoma; CD: Crohn's disease; CT: Computed tomography.