



# IUS 2026 – What is new in IUS in CD?

**Bram Verstockt**

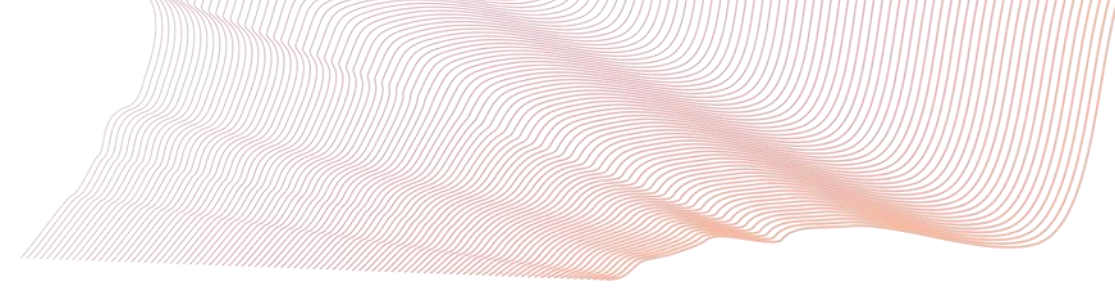
University Hospitals Leuven, Belgium

**IBUS Advanced Ultrasound Workshop – Module 3**

DDW, Chicago, IL, May 4<sup>th</sup>, 2026

Workshop organised in collaboration with

# Disclosure



- Research support from AbbVie, Biora Therapeutics, Celltrion, Landos, Pfizer, Sanofi, Sosei Heptares/Nxera and Takeda.
- Speaker's fees from Abbvie, Agomab, Alfasigma, Biogen, Bristol Myers Squibb, Celltrion, Eli Lilly, Falk, Ferring, Galapagos, Materia Prima, Johnson and Johnson, Pfizer, Sandoz, Takeda, Tillots Pharma, Truvion and Viatrix.
- Consultancy fees from Abbvie, Agomab, Alfasigma, Alimentiv, Anaptys Bio, Applied Strategic, Astrazeneca, Atheneum, BenevolentAI, Biora Therapeutics, Boxer Capital, Bristol Myers Squibb, Domain Therapeutics, Eli Lilly, Galapagos, Guidepoint, Landos, Merck, Mirador Therapeutics, Mylan, Nxera, Inotrem, Ipsos, Johnson and Johnson, Onco3R, Pallisade Bio, Pfizer, Sandoz, Sanofi, Santa Ana Bio, Sapphire Therapeutics, Sosei Heptares, Takeda, Tillots Pharma and Viatrix.
- Stock options Vagustim and Thethis Pharma.

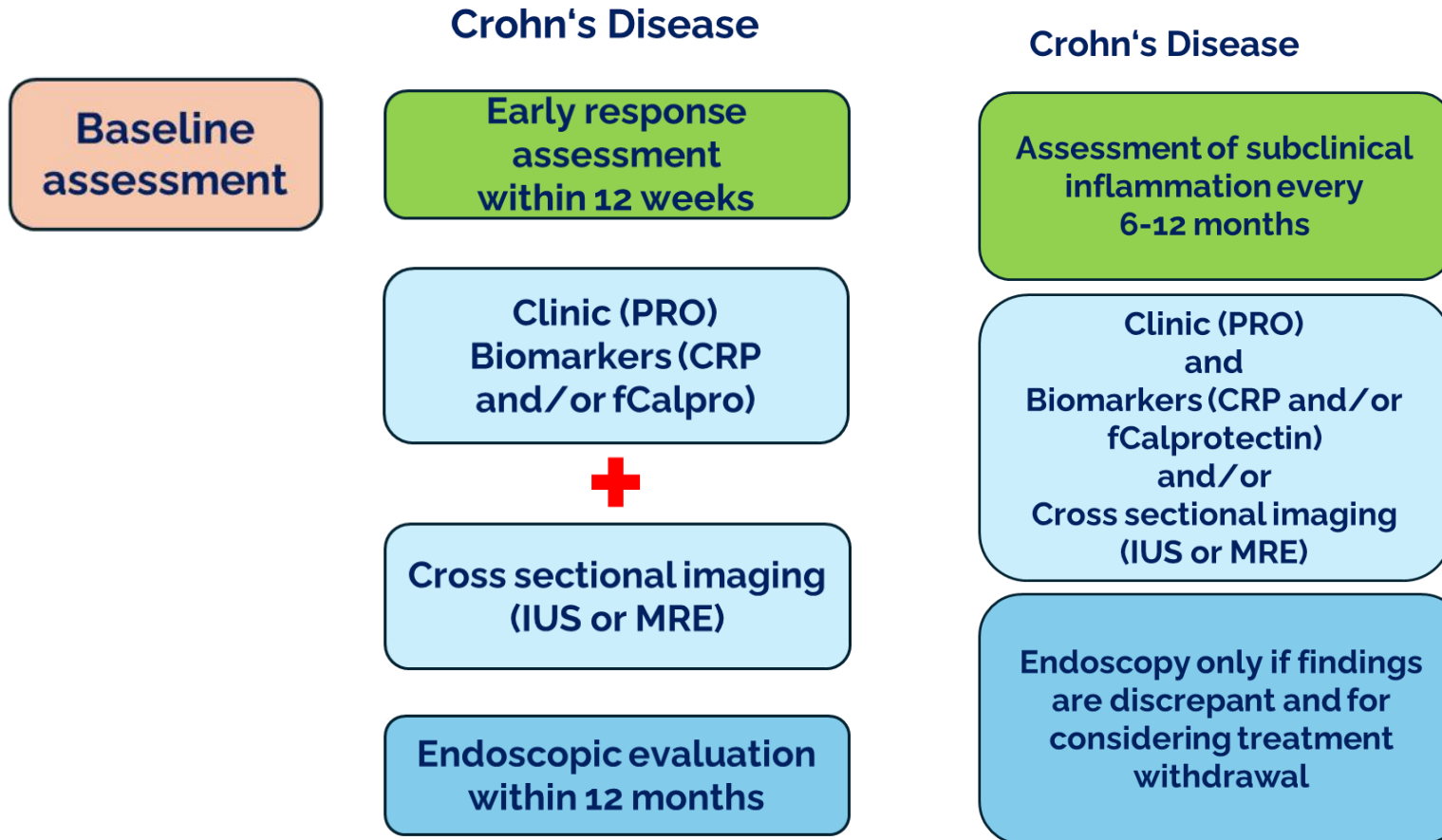
# IUS as a core monitoring tool in CD

## ECCO-ESGAR-ESP-IBUS Guideline on Diagnostics and Monitoring of Patients with Inflammatory Bowel Disease: Part 1

Part 1: initial diagnosis, monitoring of known inflammatory bowel disease, detection of complications

Torsten Kucharzik<sup>1,\*</sup>, Stuart Taylor<sup>2</sup>, Mariangela Allocca<sup>3</sup>, Johan Burisch<sup>4,5,6</sup>, Pierre Ellul<sup>7</sup>, Marietta Iacucci<sup>8</sup>, Christian Maaser<sup>9</sup>, Pamela Baldin<sup>10</sup>, Gauraang Bhatnagar<sup>11</sup>, Shomron Ben-Horin<sup>12</sup>, Dominik Bettenworth<sup>13</sup>, Mallory Chavannes<sup>14</sup>, Ann Driessen<sup>15</sup>, Emma Flanagan<sup>16</sup>, Frederica Furfaro<sup>17</sup>, Giovanni Maconi<sup>18</sup>, Konstaninos Karmiris<sup>19</sup>, Amelia Kellar<sup>20,21</sup>, Isabelle De Kock<sup>22</sup>, Konstantinos Katsanos<sup>23</sup>, Uri Kopylov<sup>24</sup>, Cathy Lu<sup>25</sup>, Olga Maria Nardone<sup>26</sup>, Nurulamin M Noor<sup>27</sup>, Kerri Novak<sup>28</sup>, Paula Borralho Nunes<sup>29</sup>, Patrick van Rheenen<sup>30</sup>, Jordi Rimola<sup>31</sup>, Francesca Rosini<sup>32</sup>, David Rubin<sup>33</sup>, Martina Scharitzer<sup>34</sup>, Jaap Stoker<sup>35,36</sup>, Mathieu Uzzan<sup>37</sup>, Stephan Vavricka<sup>38</sup>, Bram Verstockt<sup>39</sup>, Rune Wilkens<sup>40</sup>, Nina Zidar<sup>41</sup>, Alessandra Zilli<sup>42</sup>, Henit Yanai<sup>43,44</sup>, Roger Feakins<sup>45,46</sup>; on behalf of the European Crohn's and Colitis Organisation (ECCO), the European Society of Gastrointestinal and Abdominal Radiology (ESGAR), the European Society of Pathology (ESP), and the International Bowel Ultrasonography Group (IBUS)

# IUS as a core monitoring tool in CD



# Evaluating Fat wrapping

## The Chicago Mesenteric Fat Index: A Novel Metric for Point-of-Care Intestinal Ultrasound Evaluation of Mesenteric Fat Wrapping in Crohn's Disease



**Objective:** To develop and validate a reproducible ultrasound-based index for mesenteric fat wrapping in Crohn's disease, and to evaluate its clinical relevance.

Mesenteric fat wrapping	Schematic	Cross-sectional	Longitudinal
<b>None (0)</b> Absence or minimal (<25%) fat wrapping			
<b>Incomplete (1)</b> Incomplete circumferential, with skipped areas along the TI			
<b>Complete (2)</b> Circumferential wrapping, continuous along the TI			




### Results:

- **Reliability**
  - Inter-rater  $\kappa = 0.452$  (moderate)
  - Intra-rater  $\kappa = 0.653$  (substantial)
- **Associations**
  - $\uparrow$  BWT (OR 6.74,  $p < 0.001$ )
  - Loss of stratification (OR 22.05,  $p < 0.001$ )
  - $\uparrow$  hyperemia (OR 8.09,  $p = 0.002$ )
  - Strictures (OR 4.30,  $p = 0.002$ )
  - Active smoking (OR 18.86,  $p = 0.035$ )
  - Low albumin (OR 0.06,  $p = 0.001$ )

**Conclusion:** The CMFI offers a reliable, standardized approach to MF assessment, providing greater detail than binary grading. This may improve monitoring of disease progression and guide treatment decisions in Crohn's disease.

# Development and validation of an intestinal ultrasound score to evaluate inflammation and treatment response in CD.

## USE-IT: prospective multicenter study

- **Part I:** RAND/consensus regarding IUS case acquisition, in addition to activity parameters, response and remission 
- **Part II:** Reliability study and development of intestinal ultrasound score 
- **Part III and IV:** Validation, responsiveness and patient experience, including 15 sites around the world and a **total of 85 patients enrolled!** Follow-up and Central Reading is ongoing. 

**PI:** Kerri Novak

# IUS as a formal CD target ?

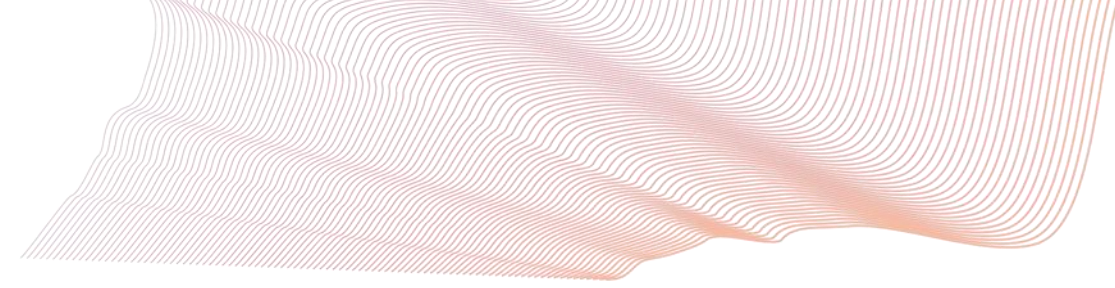
A



■ Week 0 ■ Week 14 ■ Week 30 ■ Week 54

Predictor	AUC (95% CI)	Cut-off Value	Sensitivity	Specificity	PPV	NPV
<b>IBUS-SAS W14</b>	0.861 (0.754-0.950)	56.6	69%	95%	96%	66%
<b>BWT W14</b>	0.802 (0.669-0.920)	2.9 mm	97%	55%	78%	92%
<b>IBUS-SAS W30</b>	0.784 (0.622-0.914)	23.2	81%	85%	90%	74%
<b>BWT W30</b>	0.744 (0.580-0.880)	3.0 mm	88%	55%	76%	73%
<b>IBUS-SAS W54</b>	0.748 (0.590-0.885)	20.4	63%	90%	91%	60%
<b>BWT W54</b>	0.741 (0.587-0.878)	3.6 mm	69%	85%	88%	63%

# IUS as a formal CD target ?



## VECTORS

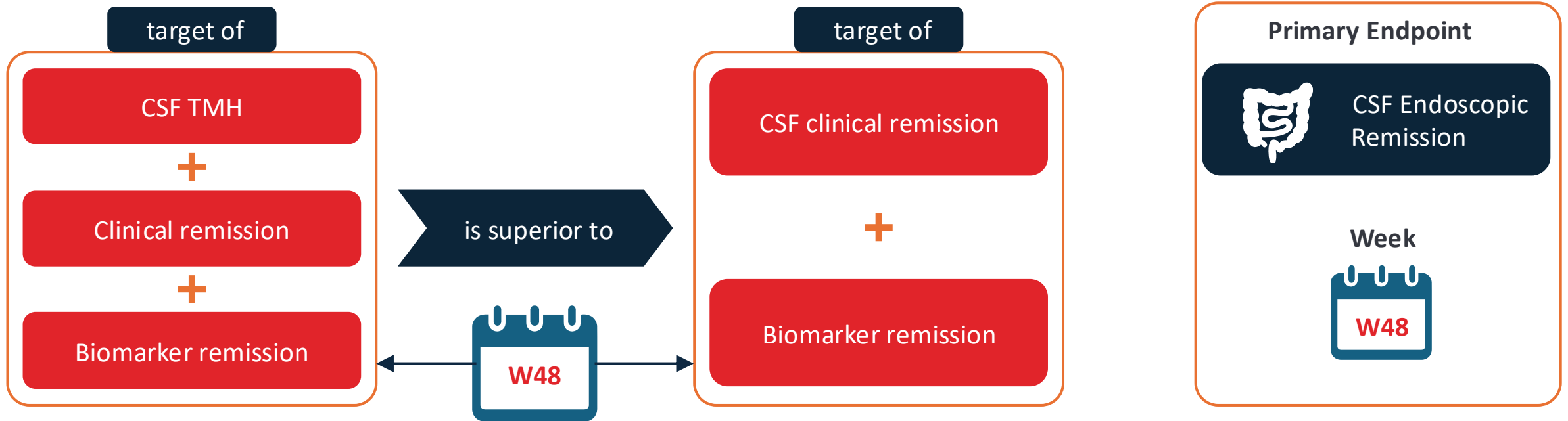
An Interventional Study to Evaluate Treating to a Target of Transmural Healing in Patients with Moderately to Severely Active Crohn's Disease



EudraCT Number: NCT06257706

<https://clinicaltrials.gov/study/NCT06257706>

# IUS as a formal CD target ?



## Endpoint Definitions:

- **TMH:** BWT  $\leq 3.0$  mm and CDS 0 in all evaluable segments assessed by IUS and scored by a central reader
- **Clinical remission:** Achievement of CDAI  $< 150$
- **Biomarker remission:** Normalization of either CRP ( $< 5$  mg/mL) or FCP ( $< 250$   $\mu\text{g/g}$ )

# The EXTENT Study: Calculating the Lemann Index Using Intestinal Ultrasound

**Aim:** To validate the use of IUS for calculating the LI

**Principal investigators:** Carolina Palmela and Bram Verstockt

- **Completed:** Delphi consensus on scoring parameters to measure small bowel and colonic damage using IUS for evaluating the LI
- **Ongoing:** cross-sectional study to measure the LI using IUS and its comparison to MRE and IC
  - **102/102 patients recruited across 13 sites**
- **Starting:** analysis of IUS and MRE central reading



Clinical Gastroenterology and Hepatology

FULL LENGTH ARTICLE · Articles in Press, July 28, 2025  
Open Access

The EXTENT Study: Results From an International Expert Delphi Consensus to Define Ultrasonographic Parameters for Measuring Bowel Damage in Crohn's Disease

[Carolina Palmela](#)<sup>1</sup> · [Joana Torres](#)<sup>1,2,3</sup> · [Catarina Frias-Gomes](#)<sup>1,3</sup> · ... · [Rune Wilkens](#)<sup>32</sup> · [Christian Maaser](#)<sup>33</sup> · [Bram Verstockt](#)<sup>34,35</sup> · [Show more](#)

[Affiliations & Notes](#) · [Article Info](#)

---

Abstract

Background & Aims

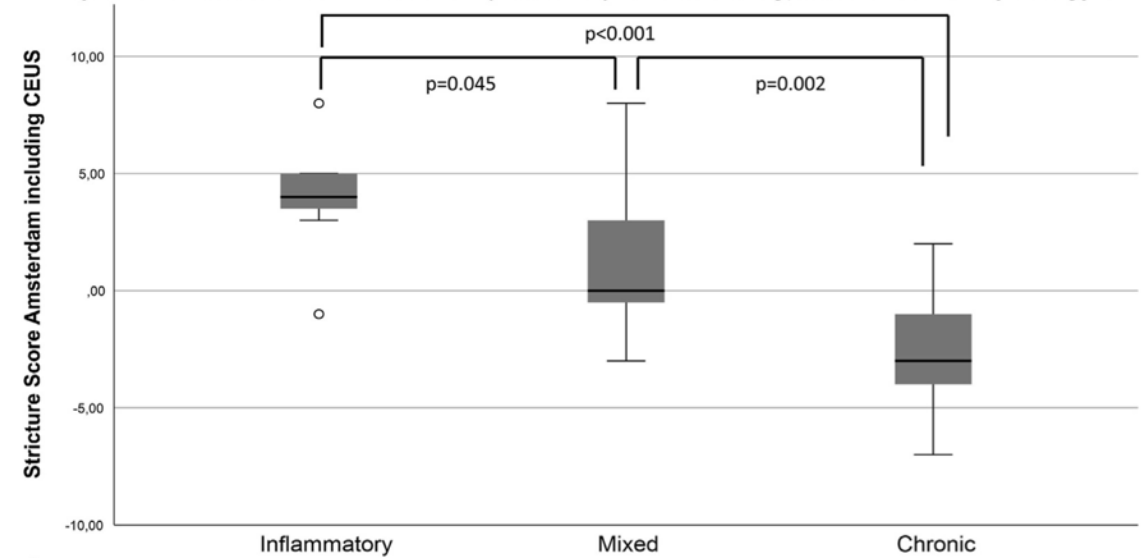
A primary aim in managing Crohn's disease (CD) is preventing bowel damage. The Lémann index (LI) quantifies structural bowel damage using magnetic resonance enterography (MRE) or computed tomography enterography (CTE) and, for colonic CD, colonoscopy. Intestinal ultrasonography (IUS) provides a noninvasive imaging alternative, although its role in LI assessment remains unexplored. This study aimed to establish a consensus on parameters and acquisition protocol for scoring small bowel and colonic damage using IUS in evaluating the LI.

# The role of IUS in stricturing CD

**Table 3.** Stricture Score Amsterdam With Positive Points Being More Associated With Inflammation or Nonchronicity and Negative Points More Associated With Chronicity

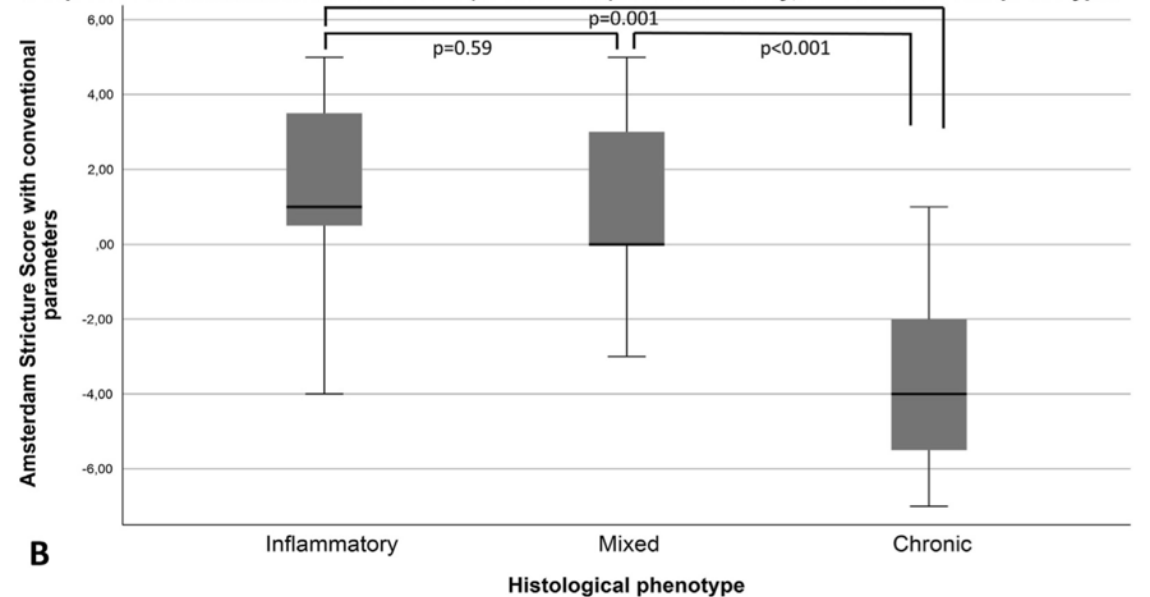
SSA		
BWT	<6.4 mm	-4
	≥6.4 mm	0
CDS	1 or 2	-3
	3	0
	4	+3
Wall layer stratification	Present	0
	Lost	+2
Contrast-enhanced ultrasound	WiAUC <38.20 dB	0
	WiAUC ≥38.20 dB	+3
Total score	Range, -7 to +8	

Boxplot for the Stricture Score Amsterdam (with CEUS) for inflammatory, mixed and chronic phenotypes



**A**

Boxplot for the Amsterdam Stricture Score (conventional) for inflammatory, mixed and chronic phenotypes



**B**



UZ Leuven - Endoscopie  
17/04/25 11:52:29

ADM

MI 1.1

TIs 0.8

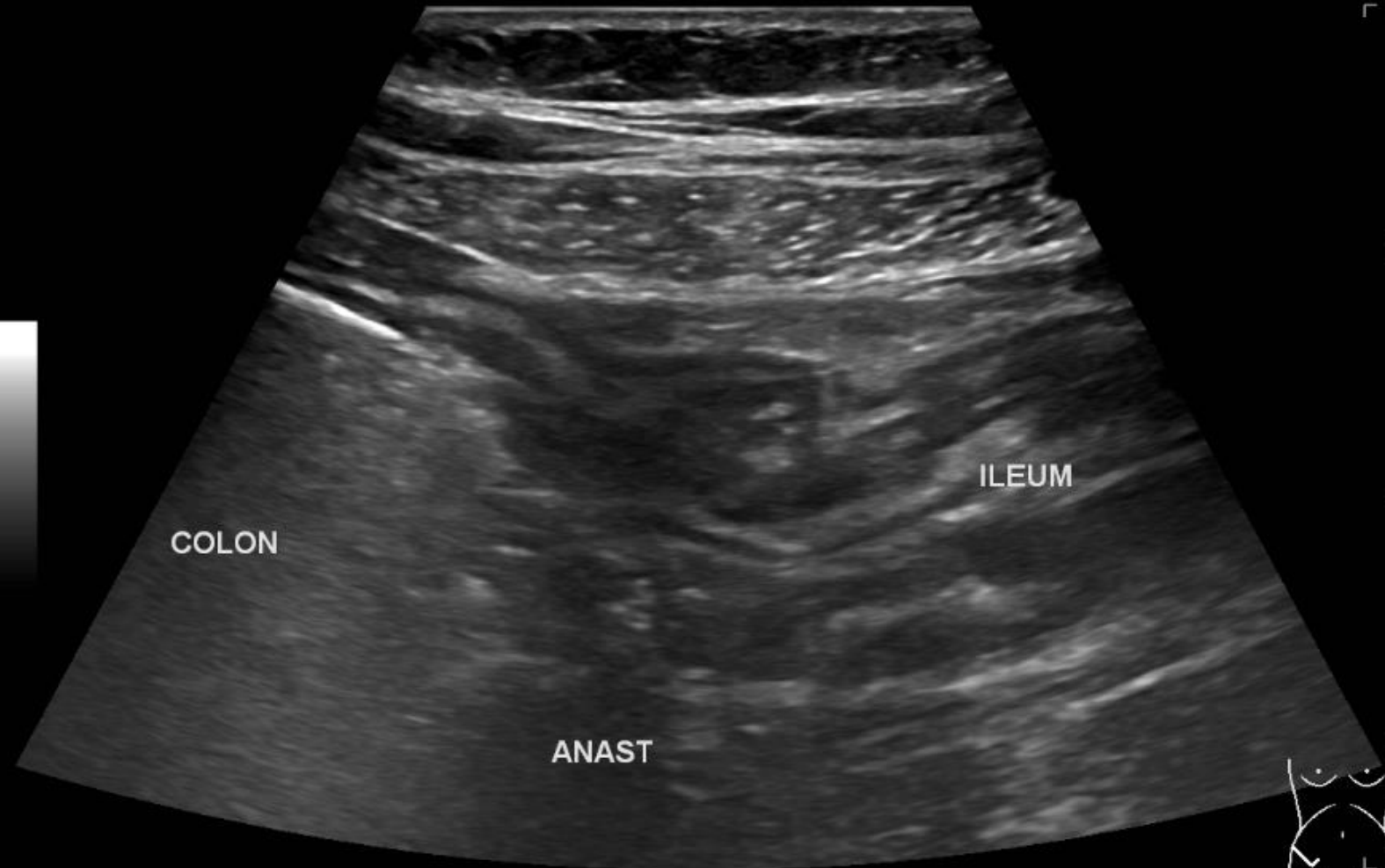
L2-9

Bowel

FR

43

LOGIQ



COLON

ILEUM

ANAST

CHI	X
Frq	9.0
Gn	33
S/A	3/4
Map	C/3
D	7.0
Zm	0
DR	60
AO%	70

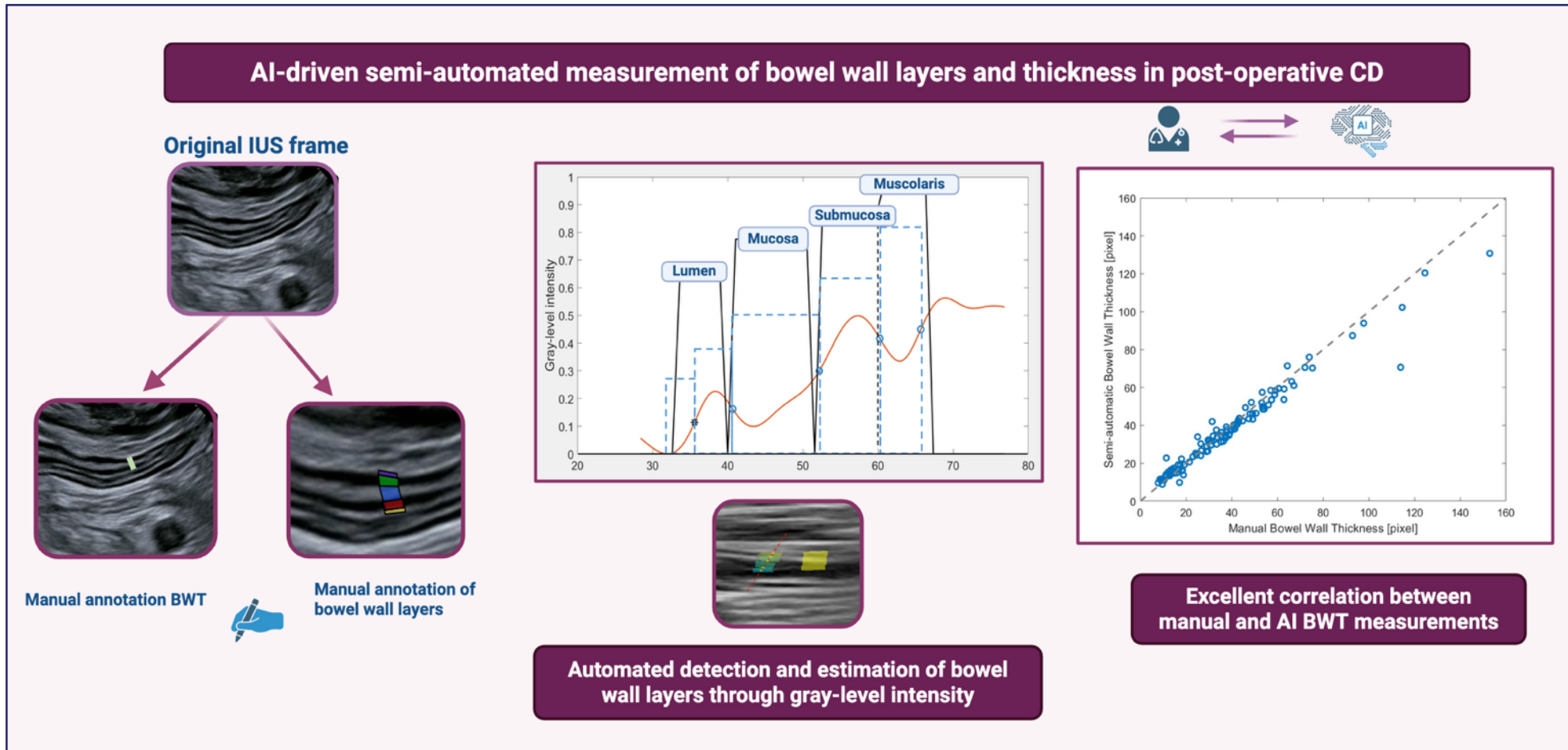


## The role of IUS in postoperative recurrence

**Table 2.** Logistic regression for endoscopic recurrence

Parameters M3	Univariate		Multivariate	
	OR (95% CI)	p-value	OR (95% CI)	p-value
BWT NTI (per mm increase)	1.80 (1.16-2.78)	0.009*	-	-
BWT NTI $\geq 2.0$ mm	3.91 (1.70-9.08)	0.001*	6.64 (1.8-25.12)	0.005*
CDS NTI (per category increase)	2.42 (1.26-4.68)	0.008*	-	-
CDS NTI mLimberg $\geq 1$	2.94 (1.11-7.79)	0.031*	1.00 (0.22-4.55)	0.999
CDS NTI mLimberg $\geq 2$	12.76 (1.53-106.2)	0.019*	-	-
FC (per mg/kg increase)	1.002 (1.00-1.00)	0.022*	-	-
FC $\geq 192$ mg/kg	3.90 (1.50-10.12)	0.005*	3.52 (1.2-10.27)	0.022*
<b>BWT NTI <math>\geq 2.0</math> mm + FC <math>\geq 192</math> mg/kg</b>	<b>11.75 (2.43-56.8)</b>	<b>0.002*</b>	-	-

# Can we standardize using artificial intelligence ?





# Q&A