



COLITIS ULCEROSA ENDOSZKÓPOS SCORING

Dr. Szűcs Dániel

SZTE SZAKK Gyermekgyógyászati Klinika

Terápiás célkitűzések

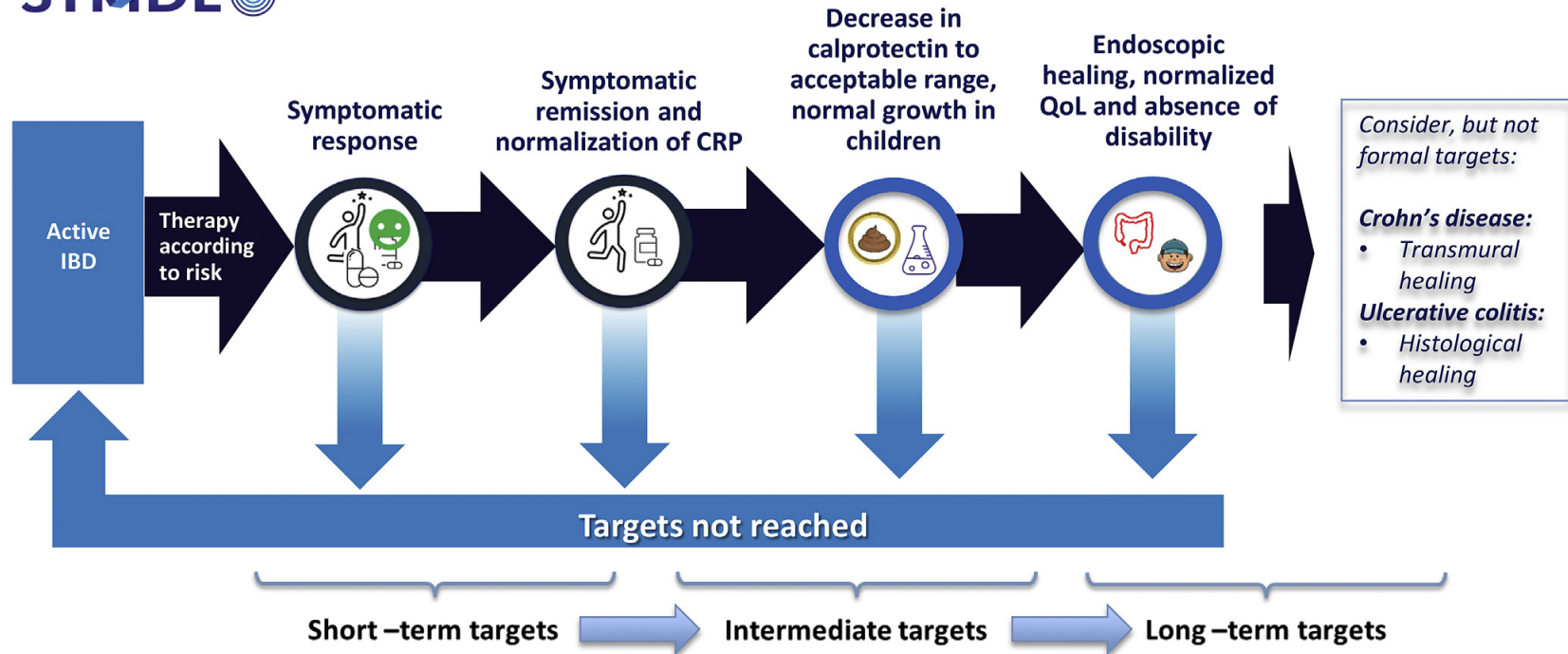


Figure 2. Treatment targets in CD and UC.

Eltérő célok

Orvos szempontjai

- ✓ Normális növekedés
- ✓ Normális CRP
- ✓ Normális FC
- ✓ Normális nykh
- ✓ Normális szövettan

Beteg szempontjai

- Normális QoL



Miért van szükség scoring rendszerekre?



©Python (Monty) Pictures, 1979.

Cél: aktivitás megítélése

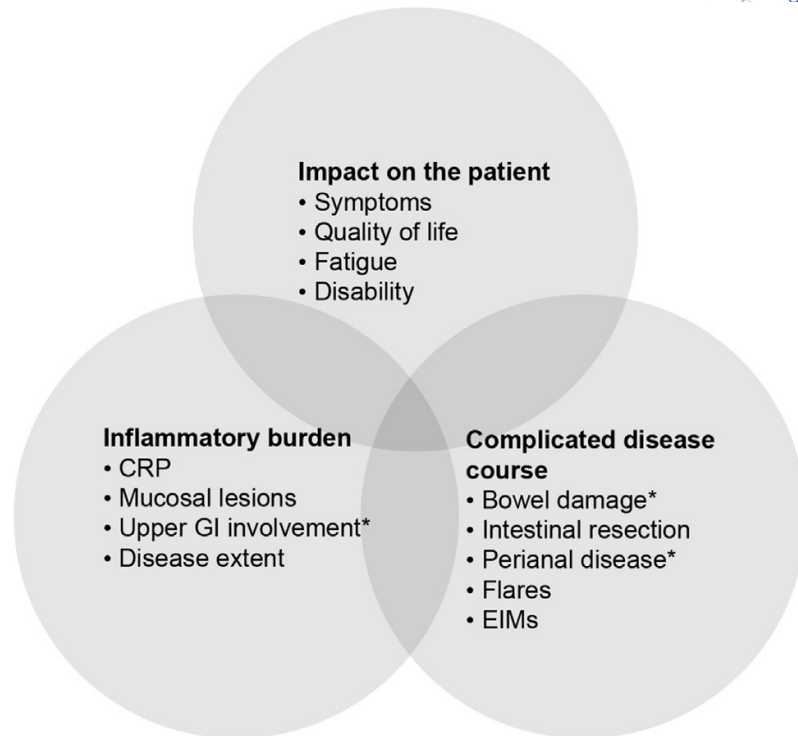


Klinikai (tüneti alapú), PRO

Biokémiai

Endoszkópos

Szövettani

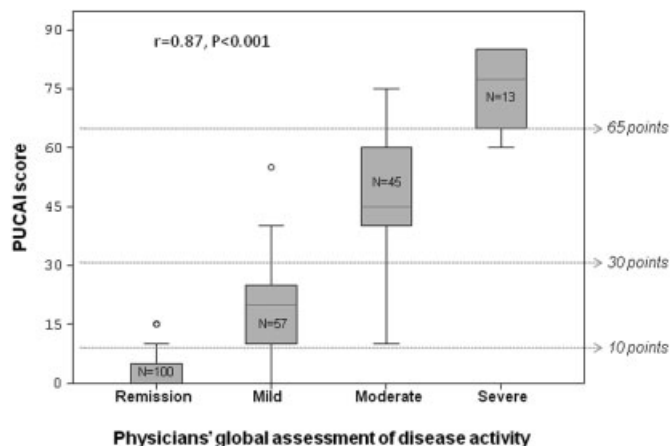


Peyrin-Biroulet L, et al. Clin Gastroenterol Hepatol 2016;14(3):348–54.e17.

Rowan et al. Journal of Crohn's and Colitis, 2019, 1365–1371.

Klinikai: PUCAI

„Colonoscopic appearance, the primary measure of disease activity in adult ulcerative colitis, is less acceptable to children.”



Item	Points
1. Abdominal pain	
No pain	0
Pain can be ignored	5
Pain cannot be ignored	10
2. Rectal bleeding	
None	0
Small amount only, in less than 50% of stools	10
Small amount with most stools	20
Large amount (>50% of the stool content)	30
3. Stool consistency of most stools	
Formed	0
Partially formed	5
Completely unformed	10
4. Number of stools per 24 hours	
0-2	0
3-5	5
6-8	10
>8	15
5. Nocturnal stools (any episode causing waking)	
No	0
Yes	10
6. Activity level	
No limitation of activity	0
Occasional limitation of activity	5
Severe restricted activity	10
Sum of PUCAI (0-85)	

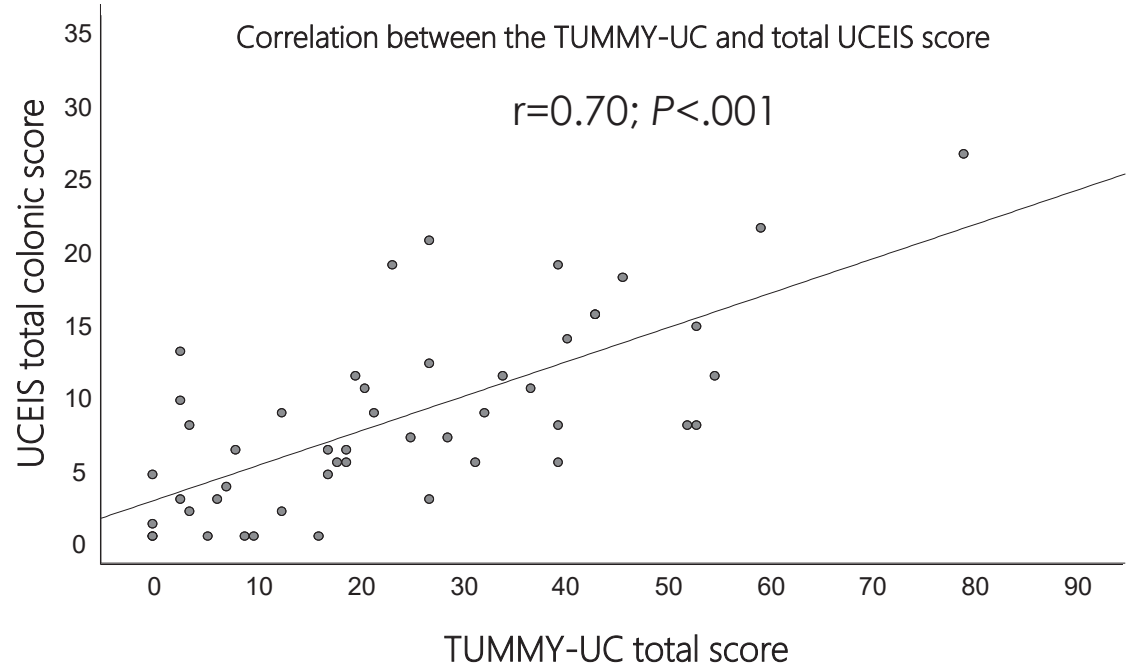
Turner et al. Gastroenterology. 2007;133:423-432

Turner et al. Inflamm Bowel Dis. 2009 Aug;15(8):1218-23.

PRO: TUMMY-UC

Jól korrelál:

- aktivitás
- endoszkópos index
- CRP
- romlást is jelzi



Biokémia

Jól korrelál: széklet calprotectin [FCP] vs endoszkópos aktivitás.

Rövid távú kimenetel jó prediktora.

Biomarker	Study	Patients, N	Assessment of disease activity/severity	Biomarker cut-off	Sensitivity, %	Specificity, %	Positive predictive value, %	Negative predictive value, %
Ulcerative colitis								
CRP	Nancey et al ⁴⁵	55	Rachmilewitz score <2	<5 mg/L	63	100	100	55
	Schoepfer et al ²⁶	228	Modified Baron Score <2	<6 mg/L	68	72		
Fecal calprotectin	D'Haens et al ⁴⁶	39	Mayo Endoscopic subscore 1–3	<250 µg/g	71	100	100	47
			Mayo Endoscopic subscore 2–3	<250 µg/g	86	78	82	82
	Schoepfer et al ²⁶	228	Modified Baron score <2	<57 µg/g	91	90		
	Nancey et al ⁴⁵	55	Rachmilewitz score <2	<250 µg/g	91	87	87	91
Fecal neopterin	Nancey et al ⁴⁵	55	Rachmilewitz score <2	<200 pmol/g	74	100	100	73
	Husain et al ⁴⁷	52	SCCAI <5	<98.4 ng/g	88	82		

Peyrin-Biroulet L, et al. Clin Gastroenterol Hepatol 2016;14(3):348–54.e17.
Rowan et al. Journal of Crohn's and Colitis, 2019, 1365–1371.

Szövettani

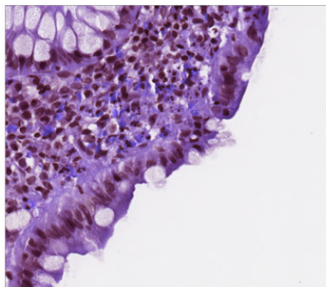
Klasszikus: Geboes, Nancy, Riley...

Jövő:

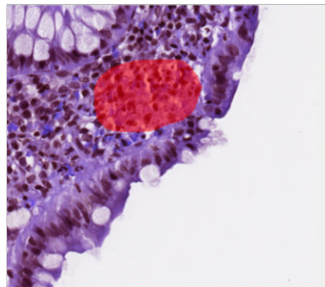
PICaSSO

Histologic Remission
Index (PHRI)

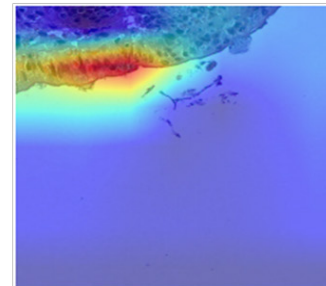
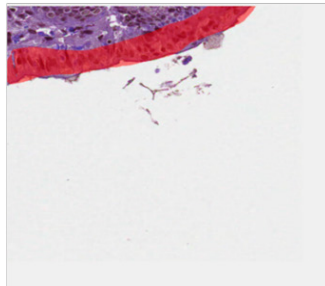
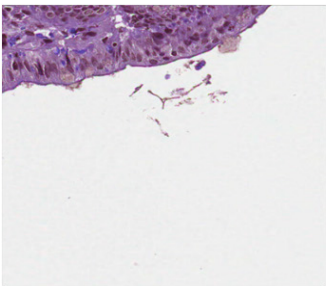
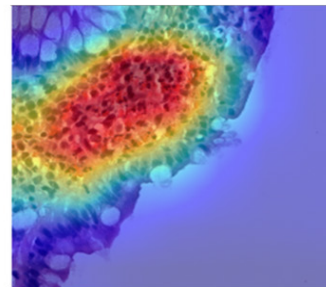
Original image



Pathologists' annotation



CAMs



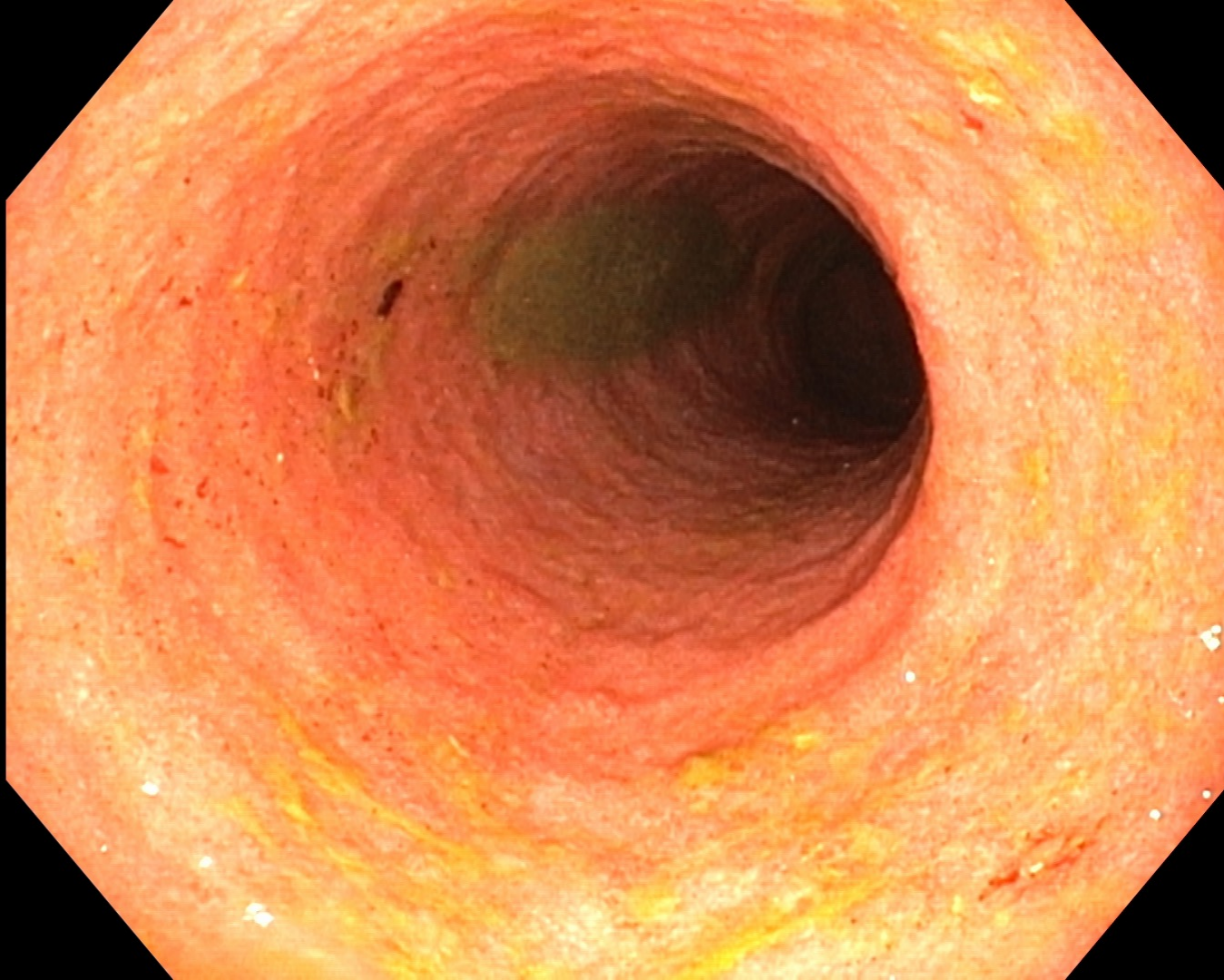
Endoszkópos

Az endoszkópia továbbra is az **arany standard**:

- betegségaktivitás objektív értékelésében,
- terápiás döntéshozatalban,
- kezelési válasz monitorozásában.



LIGHT CORAL #FF8A8A	ORANGE-RED #FF5C5C	TART #FF2E2E	RED #FF0000
SCARLET #FF2400	VERMILION #D9381E	CRIMSON #DC143C	AMARANTH RED #DA012D
ROSSO CORSA #D10000	RUFOUS #A30000	RUBY RED #9B111E	CARMINE #960018
WINE #722F37	BURGUNDY #800020	MAROON #800000	BARN RED #750000



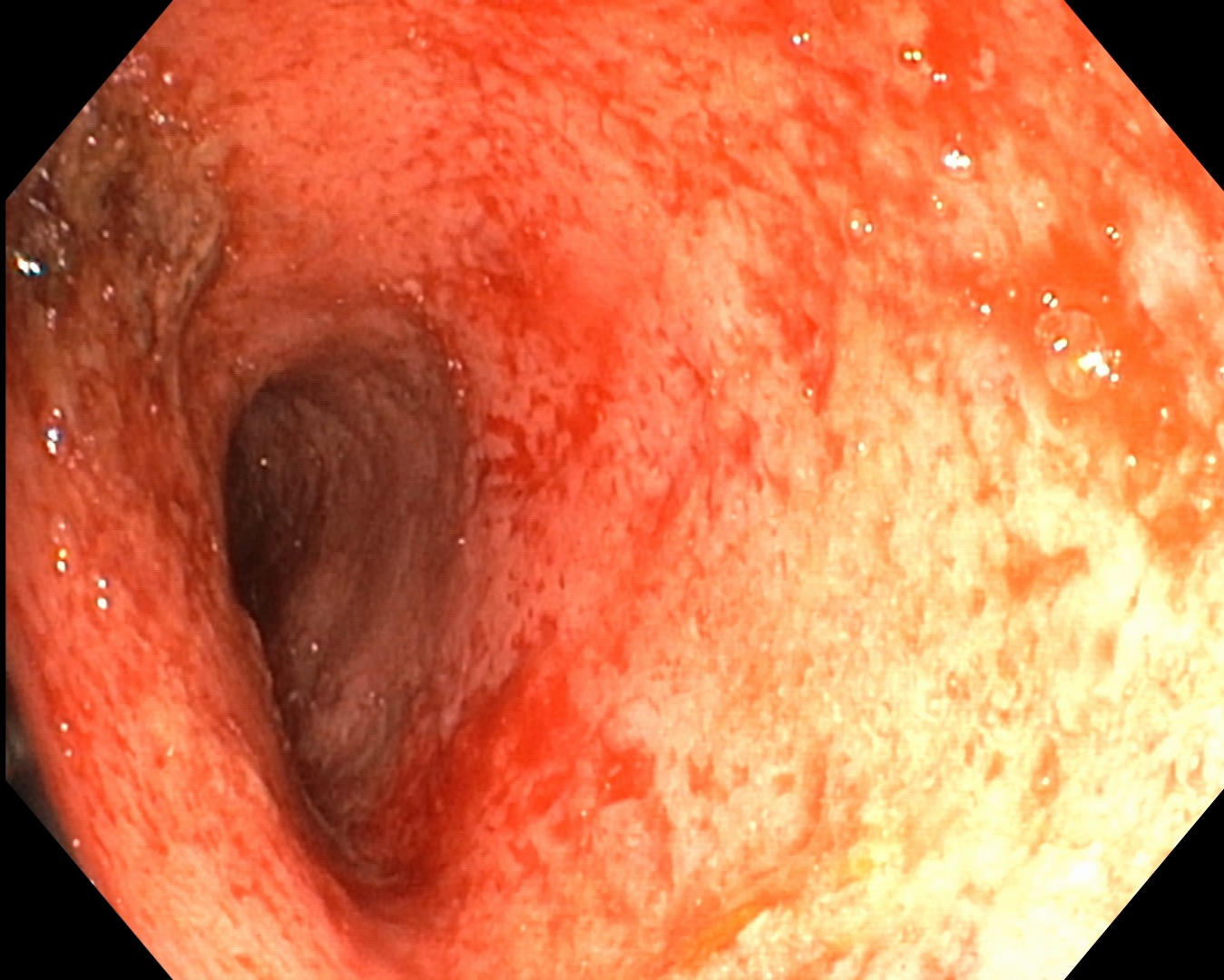
Mayo

A.0

B.1

C.2

D.3



Mayo

A.0

B.1

C.2

D.3



Mayo

A.0

B.1

C.2

D.3

Inter-observer variability

Scoring system for assessment of ulcerative colitis activity



Stool frequency	0 = Normal number of stools for this patient 1 = 1–2 stools more than normal 2 = 3–4 stools more than normal 3 = 5 or more stools more than normal
Rectal bleeding ^a	0 = No blood seen 1 = Streaks of blood with stool less than half of the time 2 = Obvious blood with stool most of the time 3 = Blood alone passed
Findings of flexible sigmoidoscopy	0 = Normal or inactive disease 1 = Mild disease (erythema, decreased vascular pattern, mild friability) 2 = Moderate disease (marked erythema, absent vascular pattern, friability, erosions) 3 = Severe disease (spontaneous bleeding, ulceration)
Physician's global assessment ^b	0 = Normal 1 = Mild disease 2 = Moderate disease 3 = Severe disease

Schroeder et al. Coated Oral 5-Aminosalicylic Acid Therapy for Mildly to Moderately Active Ulcerative Colitis. N Engl J Med. 1987;317(26):1625-1629.

Mayo score 😊



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N Engl J Med. 1987;317(26):1625-1629.

Mayo



The NEW ENGLAND JOURNAL *of* MEDICINE

ORIGINAL ARTICLE

Infliximab for Induction and Maintenance Therapy for Ulcerative Colitis

Paul Rutgeerts, M.D., Ph.D., William J. Sandborn, M.D., Brian G. Feagan, M.D.,
Walter Reinisch, M.D., Allan Olson, M.D., Jewel Johannis, Ph.D.,
Suzanne Travers, M.D., Daniel Rachmilewitz, M.D., Stephen B. Hanauer, M.D.,
Gary R. Lichtenstein, M.D., Willem J.S. de Villiers, M.D., Ph.D.,
Daniel Present, M.D., Bruce E. Sands, M.D., and Jean Frédéric Colombel, M.D.

N Engl J Med 2005;353:2462-76.

Mayo

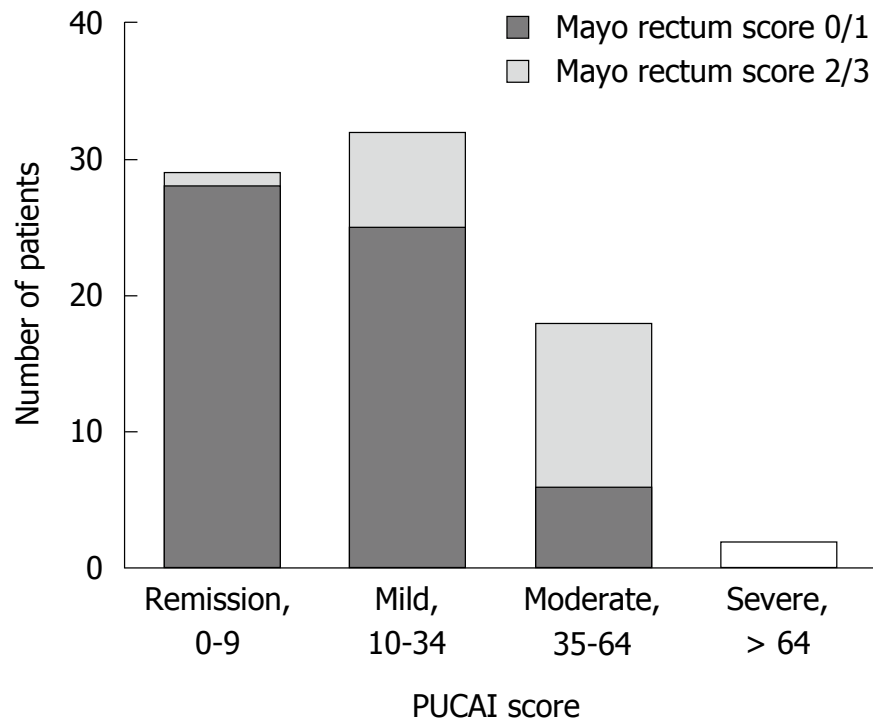
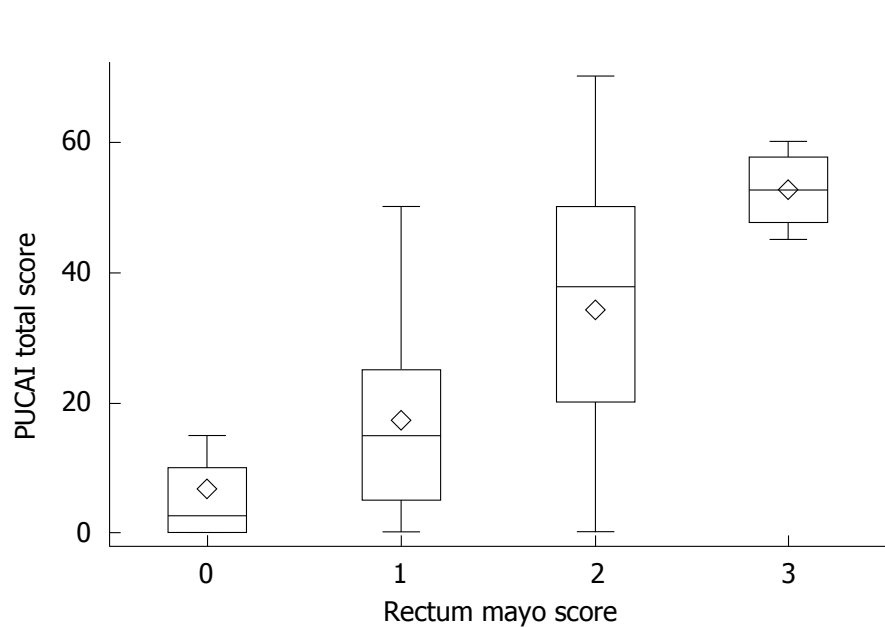
Table 2 Inter-observer agreement in grading rectal disease severity (Mayo scores) between reviewers

Reviewer AB	Reviewer PR					
	0	1	2	3	Unknown	Total
0	22	4	1	0	0	27
1	1	22	12	1	0	36
2	0	2	8	4	0	14
3	0	0	1	3	0	4
Unknown	0	0	0	0	18	18
Total	23	28	22	8	18	99

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Mayo&PUCAI



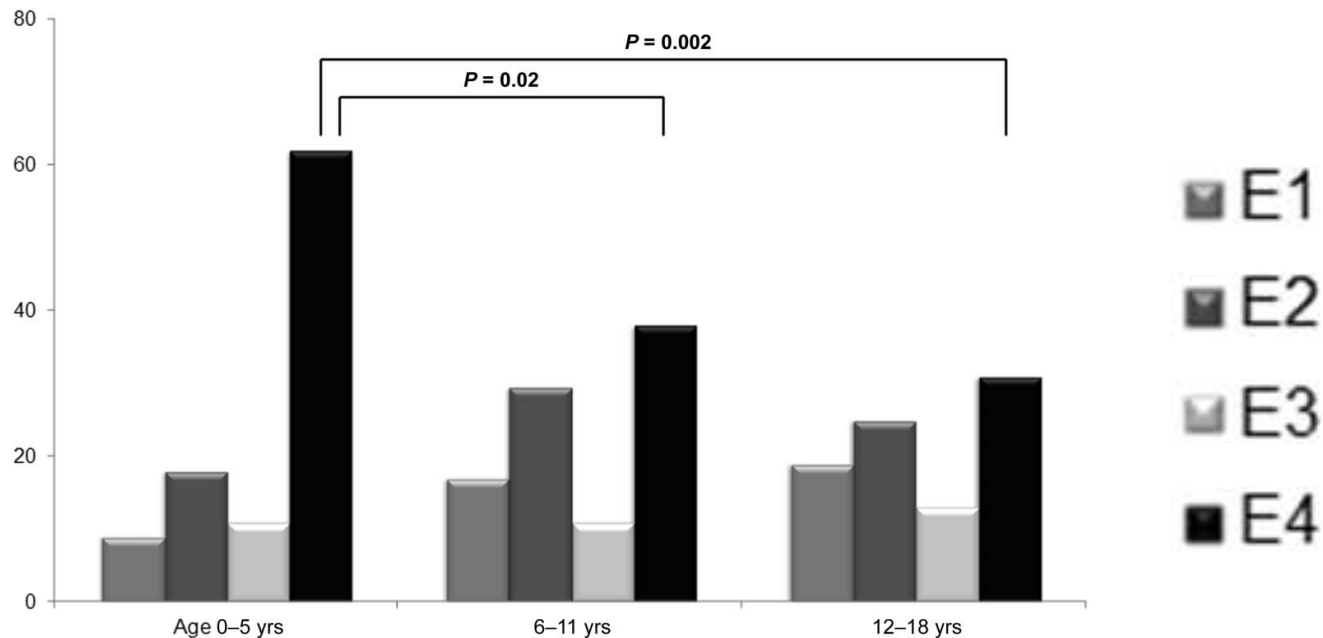
Ez az összes?

- Baron (endoscopic) score in 1964
- Powell-Tuck Index/Powell-Tuck sigmoidoscopic assessment in 1978
- Mayo Score (also called the Mayo Clinic score and the Disease Activity Index) / Mayo Score Flexible Proctosigmoidoscopy Assessment in 1987
- Sutherland Index (also called the Disease Activity Index or UC Disease Activity Index) / the Sutherland Mucosal Appearance Assessment in 1987
- Clinical Activity Index (Rachmilewitz Index) / Endoscopic Index in 1988
- Activity Index (Seo Index) in 1992
- Lichtiger Index (Modified Trulove and Witts Severity Index) in 1990
- Physician Global Assessment/Sigmoidoscopic Index in 1993
- Investigators Global Evaluation / Sigmoidoscopic Inflammation Grade Score in 1998
- Simple Clinical Colitis Activity Index in 1998
- Improvement Based on Individual Symptom Scores in 2002
- Ulcerative Colitis Clinical Score / Modified Baron Score in 2005
- Patient-defined remission in 2005

Ulcerative colitis endoscopic index of severity (UCEIS)

Descriptor (Score Most Severe Lesions)	Likert Scale Anchor Points	Definition
Vascular pattern	Normal (1)	Normal vascular pattern with arborization of capillaries clearly defined, or with blurring or patchy loss of capillary margins
	Patchy obliteration (2)	Patchy obliteration of vascular pattern
	Obliterated (3)	Complete obliteration of vascular pattern
Bleeding	None (1)	No visible blood
	Mucosal (2)	Some spots or streaks of coagulated blood on the surface of the mucosa ahead of the scope, which can be washed away
	Luminal mild (3)	Some free liquid blood in the lumen
	Luminal moderate or severe (4)	Frank blood in the lumen ahead of endoscope or visible oozing from mucosa after washing intraluminal blood, or visible oozing from a hemorrhagic mucosa
Erosions and ulcers	None (1)	Normal mucosa, no visible erosions or ulcers
	Erosions (2)	Tiny (≤ 5 mm) defects in the mucosa, of a white or yellow color with a flat edge
	Superficial ulcer (3)	Larger (> 5 mm) defects in the mucosa, which are discrete fibrin-covered ulcers in comparison with erosions, but remain superficial
	Deep ulcer (4)	Deeper excavated defects in the mucosa, with a slightly raised edge

Kiterjedés?



panMayo

Involvement (points)						
eMayo (points)	1	2	3	4	5	
0	0	0	0	0	0	
1	1	2	3	4	5	
2	$2 \times 3 = 6$	$4 \times 3 = 12$	$6 \times 3 = 18$	$8 \times 3 = 24$	$10 \times 3 = 30$	
3	$3 \times 3 = 9$	$6 \times 3 = 18$	$9 \times 3 = 27$	$12 \times 3 = 36$	$15 \times 3 = 45$	

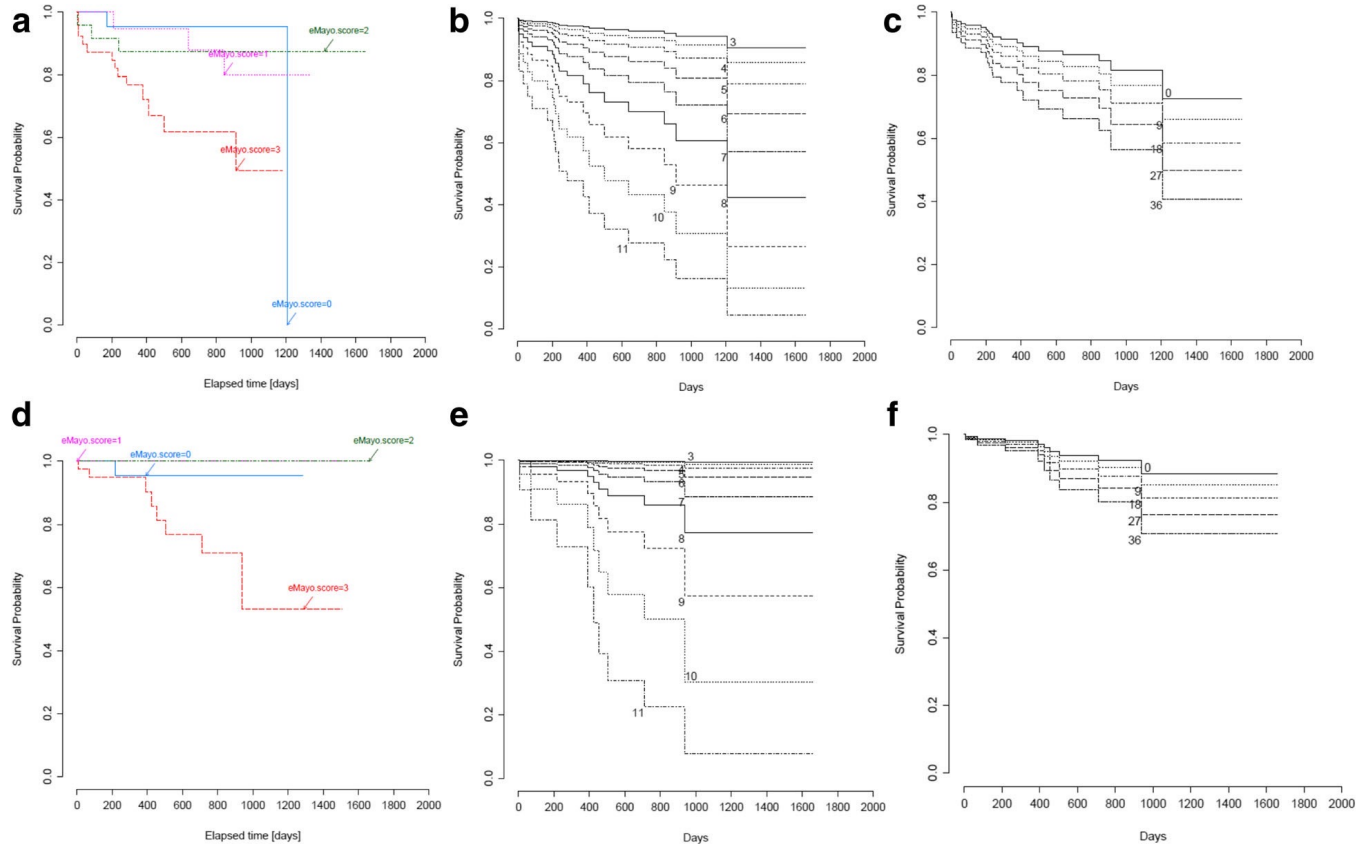
Explanation:

Involvement: rectum: 1 point, rectum-sigmoid: 2 points, descending colon: 3 points, transverse colon: 4 points, cecum/ascending colon: 5 points

If no Inflammation (eMayo 0–1 points): eMayo points x involvement [1–5]

If active inflammation is presented in any segment: eMayo points x involvement [1–5] \times 3

panMayo



DUBLIN

[Degree of Ulcerative colitis Burden of Luminal Inflammation] Score

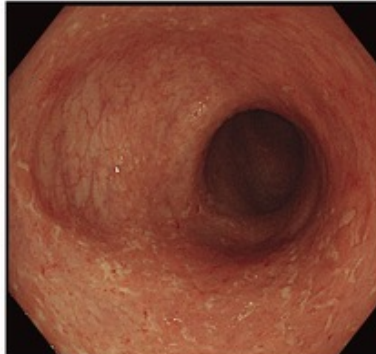
	Extent 1	Extent 2	Extent 3
Mayo 0	0	0	0
Mayo 1	1	2	3
Mayo 2	2	4	6
Mayo 3	3	6	9



UCEIS 1 Vascular pattern: 1
Bleeding: 0
Erosion and ulcers: 0
MES 1 Location: E2
DUBLIN 2



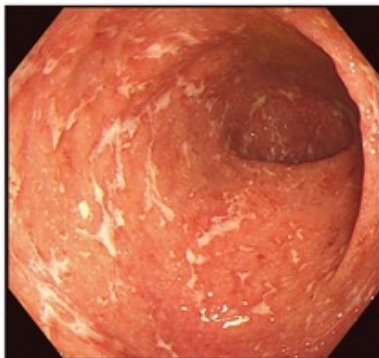
UCEIS 2 Vascular pattern: 2
Bleeding: 0
Erosion and ulcers: 0
MES 1 Location: E2
DUBLIN 2



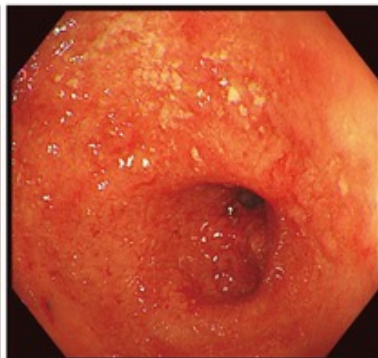
UCEIS 3 Vascular pattern: 1
Bleeding: 0
Erosion and ulcers: 2
MES 2 Location: E2
DUBLIN 4



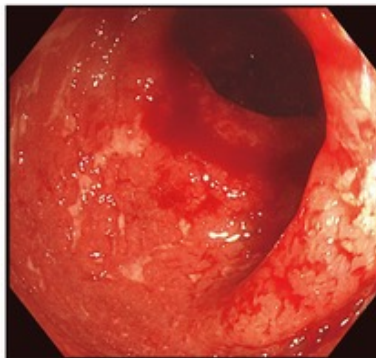
UCEIS 4 Vascular pattern: 2
Bleeding: 0
Erosion and ulcers: 2
MES 3 Location: E2
DUBLIN 6



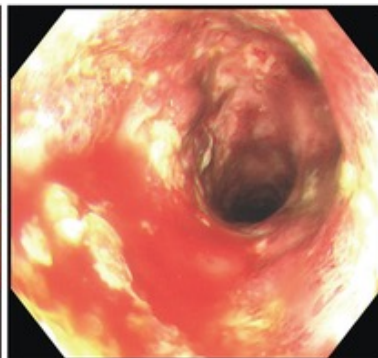
UCEIS 5 Vascular pattern: 2
Bleeding: 1
Erosion and ulcers: 2
MES 3 Location: E2
DUBLIN 6



UCEIS 6 Vascular pattern: 2
Bleeding: 2
Erosion and ulcers: 2
MES 3 Location: E2
DUBLIN 6



UCEIS 7 Vascular pattern: 2
Bleeding: 3
Erosion and ulcers: 2
MES 3 Location: E2
DUBLIN 6

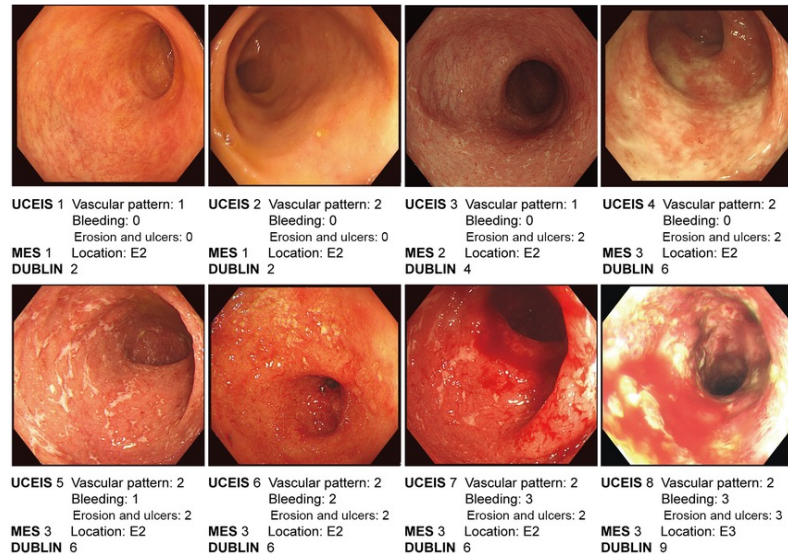


UCEIS 8 Vascular pattern: 2
Bleeding: 3
Erosion and ulcers: 3
MES 3 Location: E3
DUBLIN 9

The Degree of Ulcerative Colitis Burden of Luminal Inflammation score is superior to predicting medium- to long-term prognosis in patients with active ulcerative colitis - Scientific Figure on ResearchGate.

Available from:

https://www.researchgate.net/figure/Typical-endoscopic-images-demonstrating-the-scores-of-UCEIS-MES-and-DUBLIN-DUBLIN_fig1_347831842 [accessed 10 Jun, 2024]



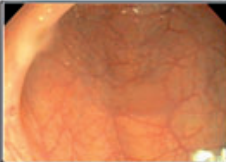
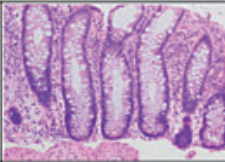
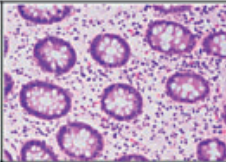
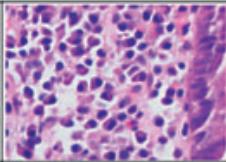
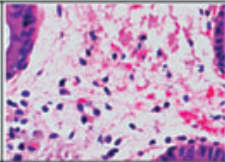
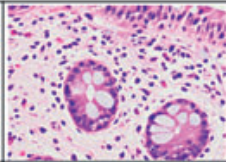
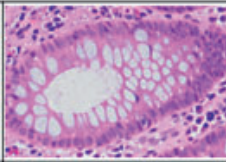

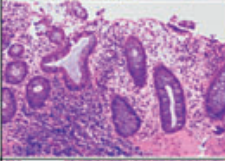
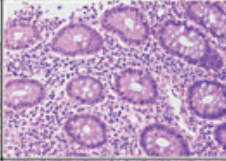
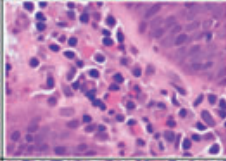
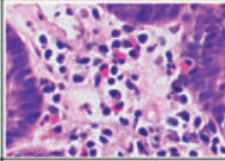
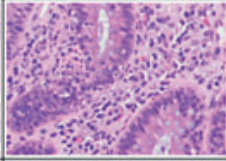
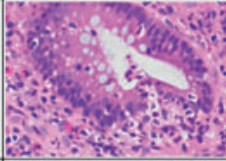
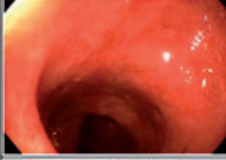
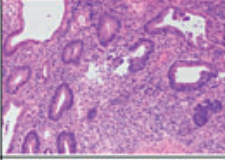
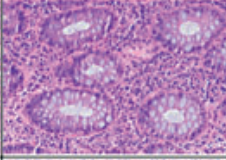
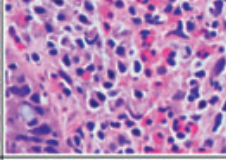
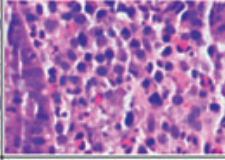
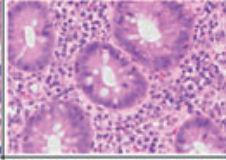
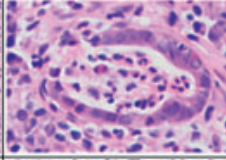
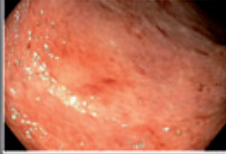
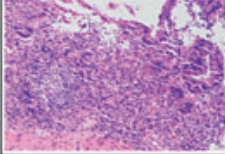
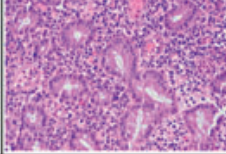

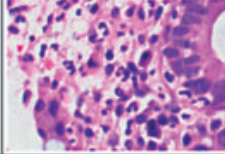
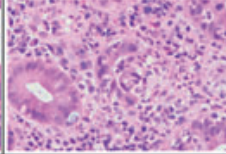
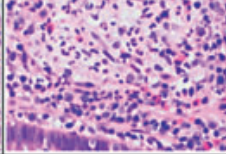







Ha mélyebbre ásunk...



Mayo&Geboes

Endoscopic Findings (Mayo score)

Histologic Findings (Geboes scores)

	Structural (arch. change)	Chronic inflammatory infiltrate	Lamina propria eosinophilia	Lamina propria neutrophilia	Neutrophils in epithelium	Crypt destruction	Erosion or ulceration	
0								0
1								1
2								2
3								3
4								4

None in cohort

Geboes

Conversions		ORIGINAL GEBOES SCORE/MAYO ENDOSCOPIC SUBSCORE						
3	9			Mayo 0	Mayo 1	Mayo 2	Mayo 3	Total
		Grade 0: Arquitectural changes	0.0: no abnormality	9	3	0	0	12
			0.1: mild abnormality	12	3	0	0	15
			0.2: mild/moderate diffuse/multifocal abnormalities	0	0	0	0	0
			0.3: severe diffuse or multifocal abnormalities	0	0	0	0	0
		Grade 1: Chronic inflammation infiltrate	1.1: mild but unequivocal increase	9	6	2	1	18
			1.2: moderate increase	0	0	0	0	0
			1.3: marked increase	0	0	0	0	0
		Grade 2B: Neutrophils in lamina propria	2B.1: mild but unequivocal increase	1	0	1	0	2
			2B.2: moderate increase	0	0	0	0	0
			2B.3: marked increase	0	0	0	0	0
		Grade 3: Neutrophils in epithelium	3.1: <5% crypts involved	2	1	3	1	7
			3.2: <50% crypts involved	0	0	0	0	0
			3.3: >50% crypts involved	0	0	0	0	0
		Grade 4: Crypt destruction	4.1: probable-local excess of neutrophils in part of crypts	0	1	1	0	2
			4.2: probable-marked attenuation	0	0	1	0	1
			4.3: unequivocal crypt destruction	0	1	1	0	2
		Grade 5: Erosions and ulcerations	5.1: recovering epithelium + adjacent inflammation	5	25	33	21	84
			5.2: probable erosion–focally stripped	1	23	34	28	86
			5.3: unequivocal erosions	0	10	30	46	86
			5.4: ulcer or granulation tissue	1	1	1	21	24

Riley

*0 = none, 1 = mild, 2 = moderate, 3= severe

Subcomponents	Score *
Acute inflammatory cell infiltrate (PMNs in lamina propria)	0-3
Crypt abscesses	0-3
Mucin depletion	0-3
Chronic inflammatory cell infiltrate (round cells in lamina propria)	0-3
Surface epithelial integrity	0-3
Crypt architectural irregularities	0-3

MARQUEE

Endoscopic and Histological Assessment, Correlation, and Relapse in Clinically Quiescent Ulcerative Colitis

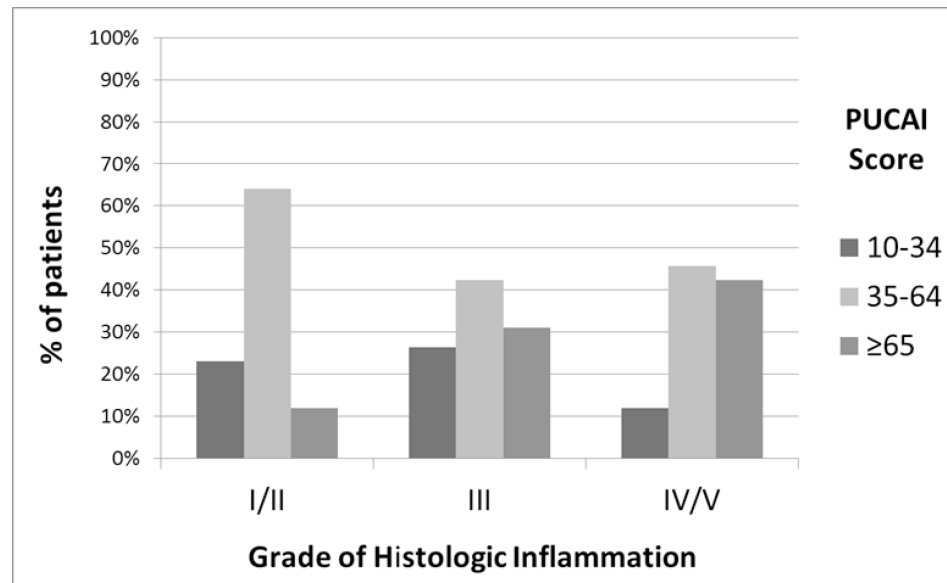
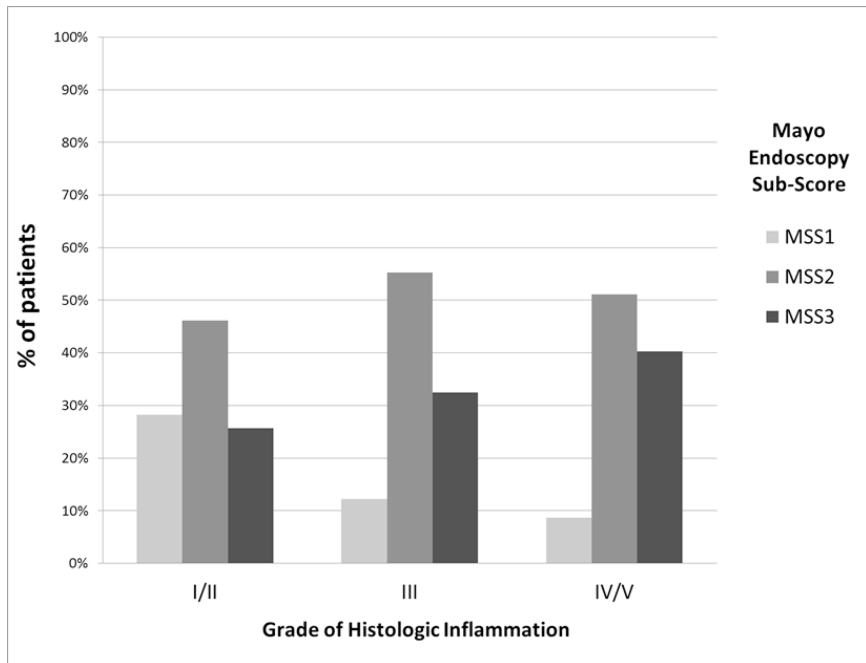
n=100 felnőtt, dysplasia szűrés, remisszió

MES, UCEIS, UCCIS

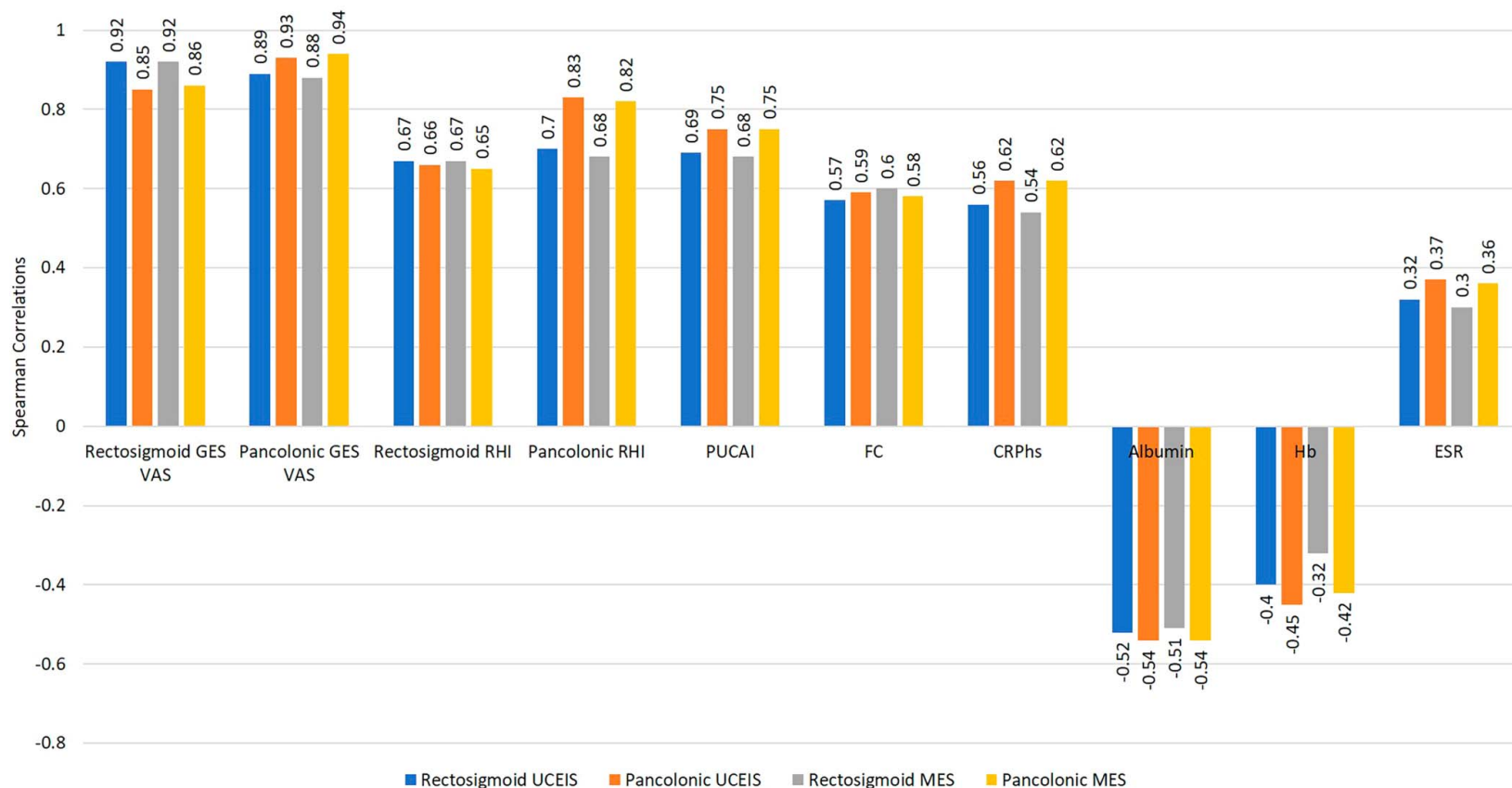
endoszkópos score, szövettan, aktivitás között korreláció alacsony

relapszus előrejelzésre mérsékelt hatás

PROTECT



Endoszkópia, szövettan (Robarts, Nancy) , pUC



Pathologia

Mayo

A. 0

B. 1

C. 2

D. 3



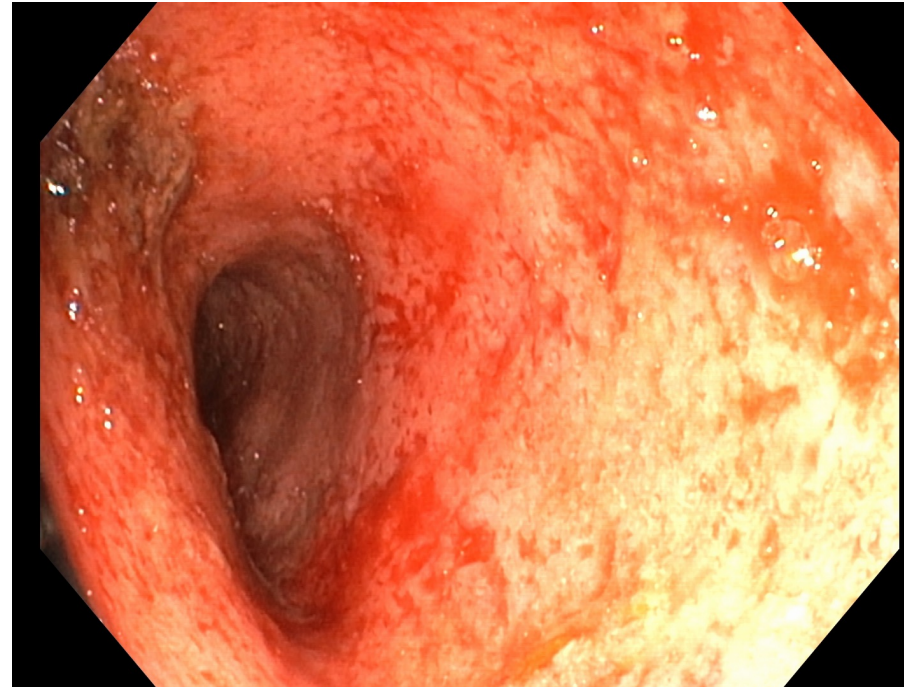
A colon különböző területéről származónak jelzett mintákban súlyos krónikus aktív gyulladás jeleit láttuk cryptitis-szel, cryptaabscessussal, cryptarupturával. Enyhe nyákdepletio jelen van. Granulomát nem találtunk. Egy-egy fókuszbán lymphoid halmazok azonosíthatók voltak. A "C" jelű minta tartalmaz vaskos muscularis mucosae-t is. Ebben némi gyulladásos folyamat azonosítható volt. Cytomegalovirus okozta cytopathiás eltéréseket kimutatni nem tudtunk. Dysplasia, malignitás jeleit nem láttuk.

A leírtak pancolitis ulcerosa súlyos relapsusára utalnak.

Módosított Riley score: grade 3,

Geboes score: grade 5.3,

Nancy score: 3.



Összefoglalás

Endoszkópos score célja:

- összehasonlíthatóság
- korreláció az állapottal és a szövettannal
- állapotfelmérés
- terápia hatásosságának megítélése
- prognosztika

Javasolt: közös rendszer használata (IMHO).