

بسم الله الرحمن الرحيم



-C-02-50-2-





شبكة المعلومات الجامعية التوثيق الالكتروني والميكرونيلم





جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأقراص المدمجة يعيدا عن الغيار













بالرسالة صفحات لم ترد بالأصل





Colonoscopy versus bowel ultrasound in assessment of disease activity and severity in patients with Ulcerative Colitis

Thesis

Submitted in Partial Fulfillment of the Requirement of the Master Degree
In

Internal medicine

Ву

Ahmed Abo El Kasem Ahmed

M.B.B.CH

Supervisors

Prof. Dr. Hanan Mohammed Badawy

Professor of internal Medicine Faculty of Medicine, Ain Shams University

Dr. Eslam Safwat Mohammed

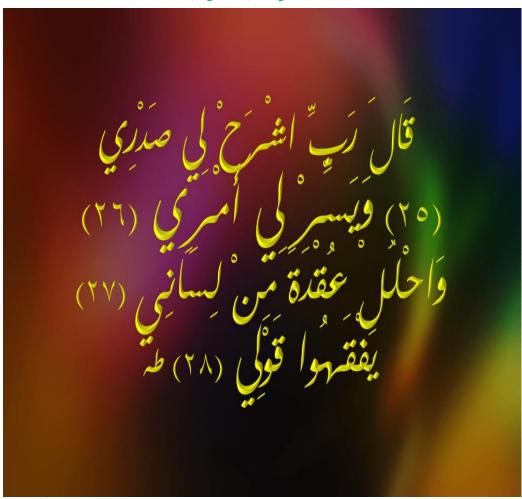
Assistant Professor of internal Medicine Faculty of Medicine, Ain Shams University

Dr. Ramy samir Ghait

Lecturer of internal Medicine Faculty of Medicine, Ain Shams University

Faculty of Medicine
Ain Shams University
2021

بسم الله الرحمن الرحيم



صدق الله العظيم سورة طه

Acknowledgments

First and foremost, my deep gratefulness and indebtedness is to Allah, "The Most Gracious and The Most Merciful".

I would like to express my sincere gratitude to Prof. Dr Hanan Mohammed Badawy, Professor of internal Medicine, Faculty of Medicine, Ain Shams University who offered me advice during the present work. I will appreciate her continuous guidance, valuable directions, extensive revision, objective criticism, and she was helping me to overcome many difficulties during the study.

In addition, my deep appreciation and sincere thanks to Dr Eslam Safwat Mohammed, Assistant professor internal Medicine, Faculty of Medicine, Ain Shams University for his valuable and expert supervision. He offered me advice during the present work. His kind insight and encouragement helped me to bring out the best work.

Furthermore, I would like to express my sincere gratitude to Dr Ramy samir Ghait, Lecturer of internal Medicine, Faculty of Medicine, Ain Shams University, for his continuous guidance, sincere help during the stages of this work, and for his continuous advice and encouragement during the preparation of the thesis.

At last but not least all thankfulness, deep respects to internal Medicine department, Faculty of Medicine, Ain Shams University, where this study was done.

Ahmed Abo El Kasem Ahmed

Contents

Title	Page
List of abbreviations	I
List of tables	III
List of figures	IV
Introduction	3
Aim of the Work	6
Review of Literature	7
Chapter 1: Ulcerative colitis	7
• Chapter 2: Colonoscopy	47
• Chapter 3: Ultrasound in patients with Ulcerative Colitis	66
Patients and methods	71
Results	76
Discussion	97
Summary	106
Conclusion	
Recommendations	
References	
Arabic Summary	

List of abbreviations

5-ASA	5-aminosalicylate
ACP	American College of Physicians
ACS	American Cancer Society
ACT	Active Ulcerative Colitis Trial
AHA	American Heart Association
ANCA	antineutrophil cytoplasmic antibodies
anti-TNF	anti-tumor necrosis factor
APC	argon plasma coagulation
ASA	acetylsalicylic acid
ASCA	anti– Saccharomyces cerevisiae antibodies
ASLC	Acute self-limiting colitis
AVMs	arteriovenous malformations
BMI	body mass index
BWT	Bowel wall thickness
CBC	Complete blood cell
CD	Crohn disease
CDH1	Cadherin-1
CRP	c reactive protein
CT	computed tomography
DS	Doppler signal
ECDC	European Centre for Disease Prevention and Control
EMR	endocopic mucosal resection
ESD	endoscopic submucosal dissection
ESR	erythrocyte sedimentation rate
FAP	familial adenomatous polyposis
FDA	food and drug administration
FOBT	fecal occult blood testing
FSFI	Female Sexual Function Index
GI	Gastrointestinal
GMA	granulocyte/monocyte apheresis
HAMA	human anti-mouse antibody
Hb	Hemoglobin
HMPAO	hexamethylpropylamine oxime
HNPCC	hereditary nonpolyposis colorectal cancer
IBD	inflammatory bowel disease
IBS	Irritable bowel syndrome
IgE	immunoglobulin E
IgG	immunoglobulin G
IMA	inferior mesenteric artery
IV	Intravenous

JAK	Janus kinase
MRI	magnetic resonance imaging
NSAID	nonsteroidal anti-inflammatory drug
PAF	platelet-activating factor
pANCA	perinuclear ANCA
PEG	polyethylene glycol
Plt	Platelets
PSC	Primary sclerosing cholangitis
PURSUIT	Program of Ulcerative Colitis Research Studies
	Utilizing an Investigational Treatment
SC	Subcutaneous
SMA	superior mesenteric artery
UC	Ulcerative colitis
US	ultrasonography
USPSTF	US Preventive Services Task Force
WBC	white blood counts
WHO	World Health Organization
WLS	wall layer stratification

List of tables

Table	Table of Reviw	Page
(1)	Distinguishing Ulcerative Colitis from Crohn Disease	19
(2)	The Demographic characteristics of 2 groups	73
(3)	Sonographic findings among patients diagnosed with colitis	
	ulcerative (group A) and control group (B); UC, ulcerative	
	colitis, NA, nonaccessible, mm, millimeter	73
Table	Table of Results	Page
(1)	Comparison between the studied groups as regard	
	Demographic data	77
(2)	Distribution of Cases as regard Disease characteristics	78
(3)	Comparison between the studied groups as regard Laboratory	
	investigations	79
(4)	Comparison between the studied groups as regard	
	Radiological Examination	82
(5)	Distribution of Cases as regard Endoscopic Findings	85
(6)	Relation between Endoscopic Findings and Laboratory	
	investigations	86
(7)	Relation between Endoscopic Findings and Radiological	
	Examination	90
(8)	Correlation between Endoscopic Findings with Bowel wall	
	thickness	92
(9)	Relation between bowel U/S (bowel wall thickness) and	
	laboratory investigations	93

List of Figures

Figure	Fig. of Review	Page
(1)	Ulcerative colitis. Ulcerative colitis as visualized with a	
	colonoscope	5
(2)	Ulcerative colitis. Increased postrectal space is a known feature of	
	ulcerative colitis	27
(3)	Ulcerative colitis	28
(4)	Double-contrast barium enema study shows changes of early	
	disease. Note the granular mucosa	30
(5)	Postevacuation image obtained after a single-contrast barium	
	enema study shows extensive mucosal ulceration resulting from	
	Shigella colitis	30
(6)	Inflammatory bowel disease	50
(7)	Ulcerative colitis as visualized with colonoscope	50
(8)	Colonoscopic image of large ulcer and inflammation of	
	descending colon in 12-year-old boy with Crohn disease	51
(9)	Ulcerative colitis with thickened mucosa and submucosa. The	60
(10)	muscularis is normal by ultrasound	68
(10)	Ulcerative colitis sigmoid colon by ultrasound	68
(11)	Ulcerative colitis transverse colon	68
(12)	Relation between disease activity and sonographic records of bowel wall thickness	72
(12)		73
(13)	Sonographic appearance of inflamed colon segment in ulcerative colitis. Findings include thickened bowel wall, loss of	
	stratification and narrow lumen	74
(14)	Thickening of sigmoid wall with enlarged mesenteric lymph node	74
(15)	Sensitivity and specificity of Transabdominal ultrasonography	, ,
(10)	fordiagnosing ulcerative colitis based on different variables	74
	Fig. of results	
(1)	Distribution of studied groups as regard Disease extent at	
	diagnosis	78
(2)	Comparison between the studied groups as regard CRP	80
(3)	Comparison between the studied groups as regard ESR	80
(4)	Comparison between the studied groups as regard WBCs	81
(5)	Comparison between the studied groups as regard Hb	81
(6)	Comparison between the studied groups as regard Plts	82
(7)	Comparison between the studied groups as regard Bowel wall	
	thickness	83
(8)	Comparison between the studied groups as regard Doppler signal	83
(9)	Comparison between the studied groups as regard Wall layer	
/4.53	stratification	84
(10)	Distribution of Cases as regard Endoscopic Findings	85
(11)	Relation between Endoscopic Findings and CRP	87
(12)	Relation between Endoscopic Findings and ESR	87
(13)	Relation between Endoscopic Findings and WBCs	88
(14)	Relation between Endoscopic Findings and Hb	88
(15)	Relation between Endoscopic Findings and Plts	89
(16)	Relation between Endoscopic Findings and Fecal calprotrctin	89

Introduction

Figure	Fig. of Review	Page
(17)	Relation between Endoscopic Findings and Bowel wall thickness	90
(18)	Relation between Endoscopic Findings and Doppler signal	91
(19)	Relation between Endoscopic Findings and Wall layer	
	stratification	91
(20)	Correlation between Endoscopic Findings (Mayoscore) with	
	Bowel wall thickness	92
(21)	Relation between bowel wall thickness and CRP	
		94
(22)	Relation between bowel wall thickness and ESR	94
(23)	Relation between bowel wall thickness and WBCs	
		95
(24)	Relation between bowel wall thickness and Hb	
		95
(25)	Relation between bowel wall thickness and Fecal calprotrctin	
		96
(26)	Relation between bowel wall thickness and Fecal calprotrctin	
	•	96

Introduction

Ulcerative colitis (UC) is a chronic inflammatory bowel disease (IBD) characterized by alternating periods of remission and relapse (Langholz et al., 1991). As ulcerative colitis (UC) is a disease affecting the superficial layers of colonic wall, mucosal healing is, theoretically, a more achievable result of therapy compared with the transmural inflammation of Crohn's disease; thus, endoscopic response is often a target in clinical trials (Parente et al., 2009).

In Egypt, IBD appears to be rare and there is no accurate registry or cohort of patients that has ever studied the exact prevalence of UC, but in a case-series study, there is marked increase in the frequency in the last 5 years with the ratio of patients diagnosed with UC to patients diagnosed with CD is approximately 6:1 and the mean age at diagnosis is (27.3) years with the male: female ratio is 1:1.15 (Esmat et al., 2014).

Clinical symptoms alone are no longer acceptable as the sole indicator of disease activity, but should be used in combination with objective markers that assess inflammation (**Peyrin-Biroulet et al.**, **2015**). Currently, colonoscopy is regarded as the most accurate objective measure of colorectal inflammation (**Dignass et al.**, **2012**).

Unfortunately, UC patients are often reluctant to be re-endoscoped during follow-up because of the invasiveness of the procedure and pain sensation during colonoscopy; thus, in clinical practice, response to medical therapy of these patients usually relies on clinical symptoms only. Even the addition of serological markers of inflammation adds little to conventional clinical scores for predicting clinical outcome (**Parente et al., 2010**).