

# CLINICAL CHARACTERISTICS AND OUTCOME OF ISCHEMIC COLITIS IN SPAIN. A MULTICENTRE AND PROSPECTIVE STUDY

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## Introduction

Colonic ischemia is a disease with a poorly well-known natural history. This is due to the fact that it is a disorder with a wide spectrum of clinical presentation and therefore many cases are frequently misdiagnosed and confused with other disorders.

## Aims

To review clinical features and outcome of patients diagnosed of ischemic colitis in Spain.

## Methods

- Multicentre, prospective and observational study
- Patients with ischemic colitis diagnosis from 20 Hospitals were included
- Ischemic colitis diagnosis was classified in probable and definitive in accordance with Brandt's criteria (Table)
- Clinical characteristics, endoscopy presentation, histopathology, outcome and diagnosis concordance between admission and hospital discharge were analyzed

## Brandt's criteria for diagnosing CI

	Clinical	Colonoscopy or Barium Enema	Pathologic
Definite	+	+	+
Probable	+	+	Not done or neg.
Possible	+	Not done or neg. > 24h	Not done or neg. > 24h

## Results

### 1. Demographics and clinical characteristics

Between May 2005 and April 2006 we included 171 patients from 20 different hospitals in Spain (mean age: 75 +/- 8.9; Male/female 95/76)

Colonic ischemia diagnosis was definitive in 121 patients (70.7%) and probable in 39 (22.8%) (The histopathologic diagnosis was contradictory in 11 patients)

Over 65 years old (86%), hypertension (65.7%), diabetes (23.8%) and constipation (27.9%) were the main risk factors associated with ischemic colitis

Nine patients (5.2%) fulfilled criteria Rome II for irritable bowel syndrome.

### 2. Clinical presentation and diagnosis

#### Clinical presentation

Clinical symptoms	n (%)
Abdominal pain	126 (73.3)
Rectal bleeding	138 (80.2)
Acute diarrhea	63 (36.6)
AP – RB – UD *	80 (46.5)
Physical examination	n (%)
Temperature > 38° C	29 (18.2)
Abdominal tenderness	91 (52.9)
Peritoneal signs	16 (9.3)
Laboratory	n (%)
White blood cell count > 12000	130 (76)
Hemoglobine < 12 gr/dl	63 (36.6)
Albumine < 3 gr/dl	38 (22.1)

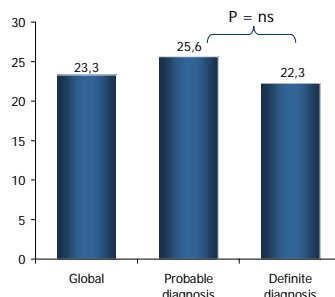
\* Abdominal pain – rectal bleeding – urgent desire to defecate

#### Risk Factors (%)

Age > 65 years	148 (86)	Chronic constipation	48 (27.9)
Hypertension	113 (65.7)	Irritable bowel syndrome	9 (5.2)
Diabetes mellitus	41 (23.8)	Medications	
Dyslipidemia	38 (22.1)	NSAID	53 (30.8)
Smoking	28 (16.3)	Diuretics	58 (33.7)
Coronary heart disease	37 (21.5)	Digitalis	5 (2.9)
Atrial fibrillation	37 (21.5)	Calcium channel blockers	36 (20.9)
Cardiac failure	22 (12.8)	Beta blockers	16 (9.3)
Brain ischemia	34 (19.8)	Psychotropic drugs	39 (22.7)
Peripheral arterial disease	24 (14)	Laxative	16 (9.3)
Venous thrombosis	6 (3.5)		

#### Index of suspicion at admission (%)

Eighty patients (46.5%) had a typical presentation with abdominal pain followed by rectal bleeding and urgent desire to defecate, however CI diagnosis at admission was only established in 23.3%



#### Most common colonoscopy findings (%)

Oedema and hyperaemia	138 (86.9)
Hemorrhagic nodules	37 (21.5)
Superficial ulceration	104 (60.5)
Deep ulceration	34 (19.8)
Necrosis	14 (8.1)
Luminal narrowing	10 (5.8)

Typical hemorrhagic nodules were not seen as often (21.5%), but colonoscopy was rarely performed before 48 hours (16.3%)

The sigmoid (34.9%) and the left colon (32.6%) were the most common localization of ischemic lesions. Patognomonic histopathologic findings, such as infarct of the mucosa and ghost cells were only seen in 5.6% and 3.2% respectively

#### Distribution of ischemic lesions (%)

Rectum	3 (1.7)
Sigmoid colon	60 (34.9)
Descending colon	9 (5.2)
Splenic flexure	17 (9.9)
Left colon	56 (32.6)
Transverse colon	2 (1.2)
Right colon	9 (5.2)
Pancolitis	3 (1.3)

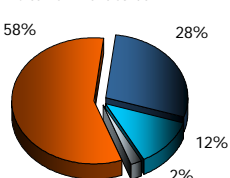
#### Histopathology (%)

Mucosal infarction	7 (5.6)
Loss of glands	34 (27.2)
Ghost cells	4 (3.2)
Fibrin exudation	38 (30.4)
Mucosal hemorrhage and edema	42 (33.6)
Capillary fibrin thrombi	14 (11.2)
Neutrophils infiltration	39 (31.2)
Superficial ulceration	45 (36)
Chronic inflammatory cells	56 (44.8)
Cryptitis or crypt abscesses	16 (9.3)
Pseudomembranes covering ulcers	20 (11.6)
Granulation tissue	43 (34.4)
Hemosiderin-laden macrophages	13 (10.4)

### 3. Spectrum of disease and outcome

#### Clinical evolutive patterns (%)

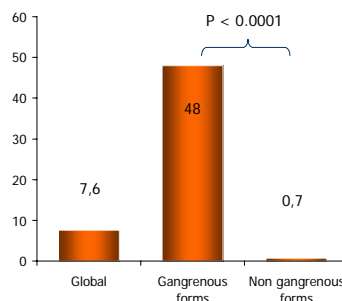
- "Restitutio ad integrum"
- Chronic segmental colitis
- Gangrenous necrosis
- Universal fulminant colitis



One hundred and forty seven patients (85.5%) presented a nongangrenous form of ischemic colitis  
Most of patients (77%) with a chronic segmental colitis were asymptomatic

Overall mortality rate was 7.6% and it was associated with gangrenous forms

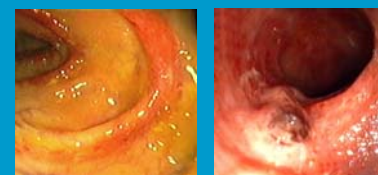
#### Mortality (%)



## Conclusions

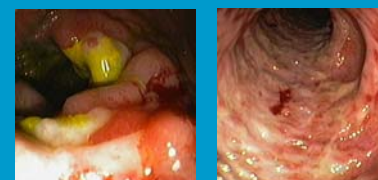
- The Index of suspicion for clinical diagnosis of ischemic colitis was lower than we expected
- Nongangrenous forms were the most common of clinical patterns, and most of these patients had a favourable clinical course with restitution of the mucosa

## Endoscopic findings



Transient colitis

Hemorrhagic nodule



Chronic segmental colitis

Gangrenous necrosis

## GTECIE group

Workgroup for the study of ischemic colitis – Spain- ([www.colitisisquemica.org](http://www.colitisisquemica.org))

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