Enteroscopia por Videocápsula na Investigação da Anemia Ferropénica

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- Prevalência de 2-5% da população adulta;
- Importante causa de referenciação para a consulta de GE;
- 1-10% com patologia simultânea do tracto GI alto e baixo;

INTRODUÇÃO

Etiologia da Anemia Ferropénica

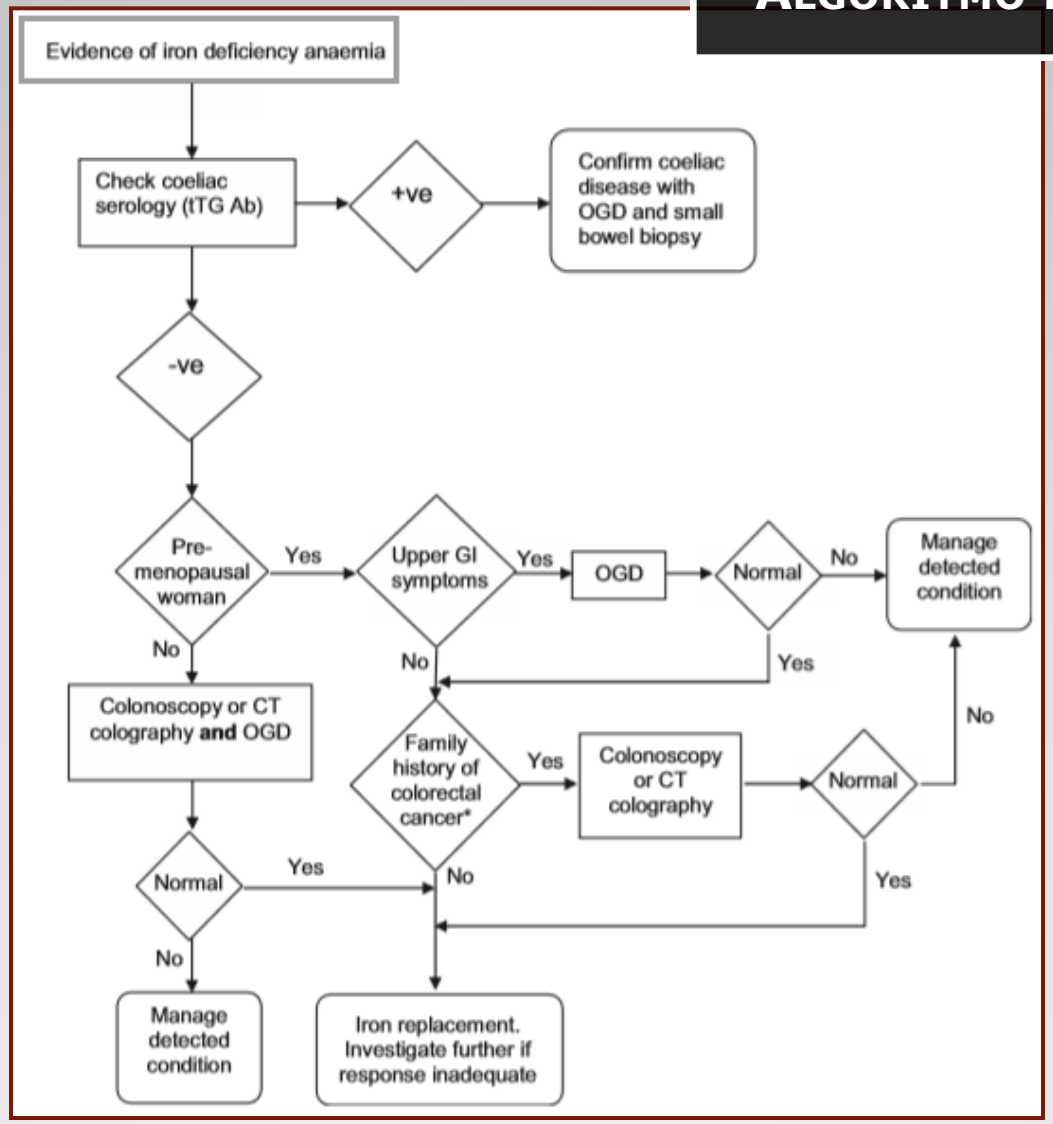
Contributor	Prevalence
Occult GI blood loss	
Common	
Aspirin/NSAID use	10–15%
Colonic carcinoma	5–10%
Gastric carcinoma	5%
Benign gastric ulceration	5%
Angiodysplasia	5%
Uncommon	
Oesophagitis	2–4%
Oesophageal carcinoma	1–2%
Gastric antral vascular ectasia	1–2%
Small bowel tumours	1–2%
Cameron ulcer in large hiatus hernia	<1%
Ampullary carcinoma	<1%
Ancylomasta duodenale	<1%

Contributor	Prevalence
Malabsorption	
Common	
Coeliac disease	4–6%
Gastrectomy	<5%
Helicobacter pylori colonisation	<5%
Uncommon	
Gut resection	<1%
Bacterial overgrowth	<1%
Non-GI blood loss	
Common	
Menstruation	20–30%
Blood donation	5%
Uncommon	
Haematuria	1%
Epistaxis	<1%

Goddard, AF et al; *Guidelines for the management of iron deficiency anemia*, Gut 2011; 60: 1309-1316

Introdução

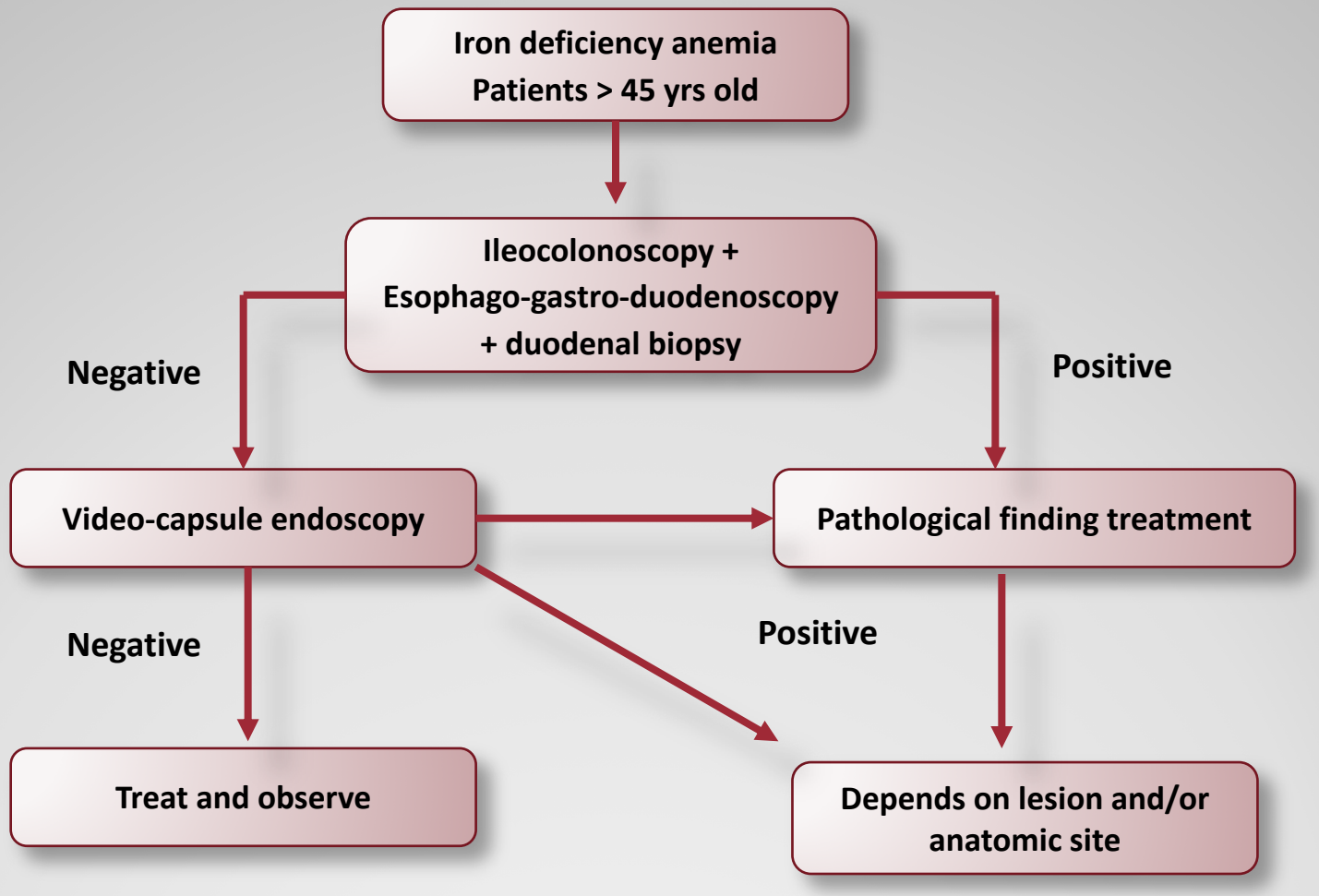
Algoritmo de Abordagem



Goddard, AF et al; *Guidelines for the management of iron deficiency anemia*, Gut 2011; 60: 1309-1316

Introdução

Algoritmo de Abordagem



*Adaptado de " **Fireman, Z.** et al; The role of videocapsule endoscopy in the evaluation of iron deficiency anemia;* Digestive and Liver Disease 36 (2004)*"*

- Avaliar o papel da enteroscopia por videocápsula na detecção de lesões em doentes com anemia ferropénica

Objectivo

- Estudo retrospectivo
- Janeiro de 2011 e Dezembro de 2012
- Doentes submetidas a VCE por anemia ferropénica
- Consulta dos relatórios dos exames
- Consulta do processo clínico
- Análise estatística descritiva dos dados

Material e Métodos

Caracterização da Amostra

Características	M		F		Total
Sexo	22 (35%)		41 (65%)		63 (100%)
Idade média (anos)	67.95 (±13.3)	Mínimo: 49 Máximo: 85	63.70 (± 14.5)	Mínimo: 21 Máximo: 89	65.19 (± 14.5)
Hb média (g/dL)	10.22 (± 1.14)	Mínimo: 8.5 Máximo: 12.8	9.76 (± 1.14)	Mínimo: 7.5 Máximo: 11.3	9.92 (± 1.14)

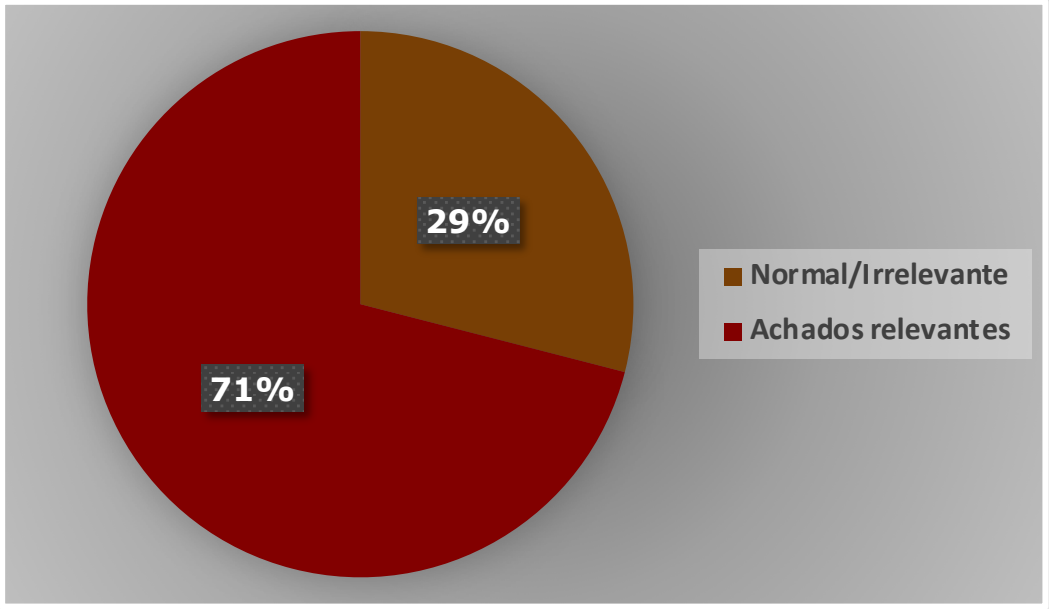
Resultados

Dados	Estatística	
% Exames completos	63 (100%)	
% Exames com deficiente preparação intestinal	3 (5%)	
% Complicações	0 (0.0%)	
Tempo de trânsito gástrico (minutos)	29.43 (± 28.31)	Mínimo: 3 Máximo: 154
Tempo de trânsito piloro-cecal (minutos)	261.38 (± 85.51)	Mínimo: 106 Máximo: 515

Resultados

Acuidade Diagnóstica

Achados	FA	FR
Exame normal/achados irrelevantes	18	29%
Exames com achados relevantes	45	71%



Resultados

Achados Enteroscópicos

Achados	FA	FR
Exame normal/achados irrelevantes	18	29%
Angiectasias	19	30%
Erosões	18	29%
Úlceras	10	16%
Pólipos/Tumores	11	17%
Sangue no lúmen sem lesão detectada	3	5%
Lesões no estômago, duodeno ou cólon	8	13%
Ancilostoma	1	1,5%

Resultados

Angiectasias

Localização	FA	FR
Estômago	2	11%
Duodeno	2	11%
Jejuno	9	47%
Íleon	9	47%
2 ou + segmentos	7	37%

	FA	FR
Sem hemorragia activa	16	84%
Com hemorragia activa	3	16%
Total	19	100%

	FA	FR
Únicas	5	26%
Múltiplas	14	74%
Total	19	100%

Resultados

Angiectasias

Atitude Terapêutica	N
EDA + árgon plasma	4
Ileocolonoscopia + árgon plasma	3
Enteroscopia por duplo balão + árgon plasma	2
Alteração da terapêutica AAP	2
Terapêutica marcial	19

Correcção da Anemia

N = 11

FR = 58%

Resultados

Erosões/Úlceras

Localização	FA	FR
Estômago	2	7%
Duodeno	3	11%
Jejuno	7	25%
Íleon	5	18%
Duodeno + Jejuno	6	21%
Totalidade do delgado	5	18%
Total	28	100%

	FA	FR
Sem hemorragia activa	26	93%
Com hemorragia activa	2	7%
Total	28	100%

	FA	FR
Únicas	7	25%
Múltiplas	21	75%
Total	28	100%

Resultados

Erosões/Úlceras

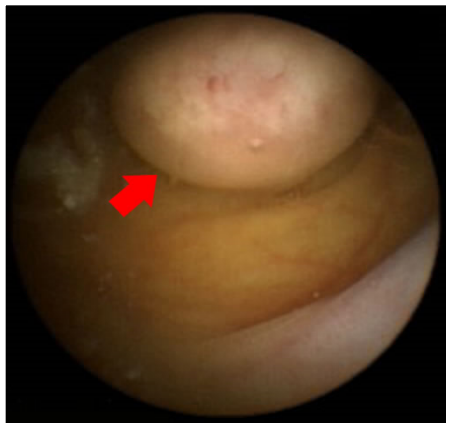
Atitude Terapêutica	N
EDA + esclerose com PDC	2
Irradicação do *H. pylori*	4
Suspensão de AINEs	10

Correcção da Anemia

N = 14

FR = 50%

Resultados



Pólipos/Tumores

Localização	FA	FR
Duodeno	2	18%
Jejuno	4	36.5%
Íleon	5	45.5%
Total	11	100%

	N
Sem hemorragia activa	11
Com hemorragia activa	0
Erosionado e/ou irregular e/ou suspeito	1

Resultados

Does Purgative Preparation Influence the Diagnostic Yield of Small Bowel Video Capsule Endoscopy?: A Meta-Analysis

T. Rokkas[1], K. Papaxoinis[2], K. Triantafyllou[3], D. Pistiolas[1] and S.D. Ladas[2]

OBJECTIVES: Video capsule endoscopy (VCE) is a useful tool in investigating small bowel pathology. However, the role of bowel preparation is controversial. Therefore, the aim of this study was to explore the role of bowel preparation and in particular its consequences on diagnostic yield in a meta-analysis of all relevant studies.

METHODS: Extensive English-language medical literature searches were performed up to February 2008, using suitable keywords, looking for human studies that compared different modes of small bowel preparation (purgative vs. clear liquids diet). We examined the effects of this preparation on the following three primary end points, diagnostic yield (DY), small bowel visualization quality (SBVQ), and VCE completion rate (CR) by meta-analysis of relevant studies.

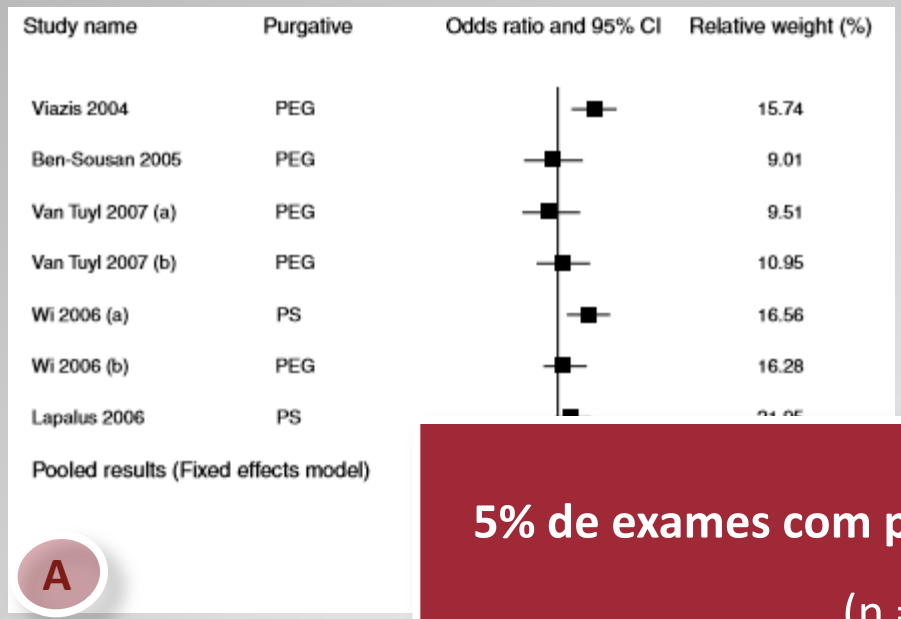
RESULTS: A total of 12 eligible studies (6 prospective, 6 retrospective) were identified, including 16 sets of data relevant to our primary end points. There were significant differences between patients prepared with purgative vs. those prepared with clear liquids diet in DY (263 vs. 213 patients, respectively; OR (95% CI)=1.813 (1.251–2.628), P=0.002) and SBVQ (404 vs. 249 patients, respectively; OR (95% CI)=2.113 (1.252–3.566), P=0.005). There was no statistically significant difference regarding CR rate. Purgatives did not affect VCE gastric transit time (GTT) or VCE small bowel transit time (SBTT).

CONCLUSIONS: Pooled data showed that in comparison to clear liquids diet, purgative bowel cleansing, before VCE, improves the SBVQ and increases the DY of the examination, but does not affect the VCE completion rate.

Am J Gastroenterol 2009; 104:219– 2 27; d oi:1 0.1038/ajg.2008.63

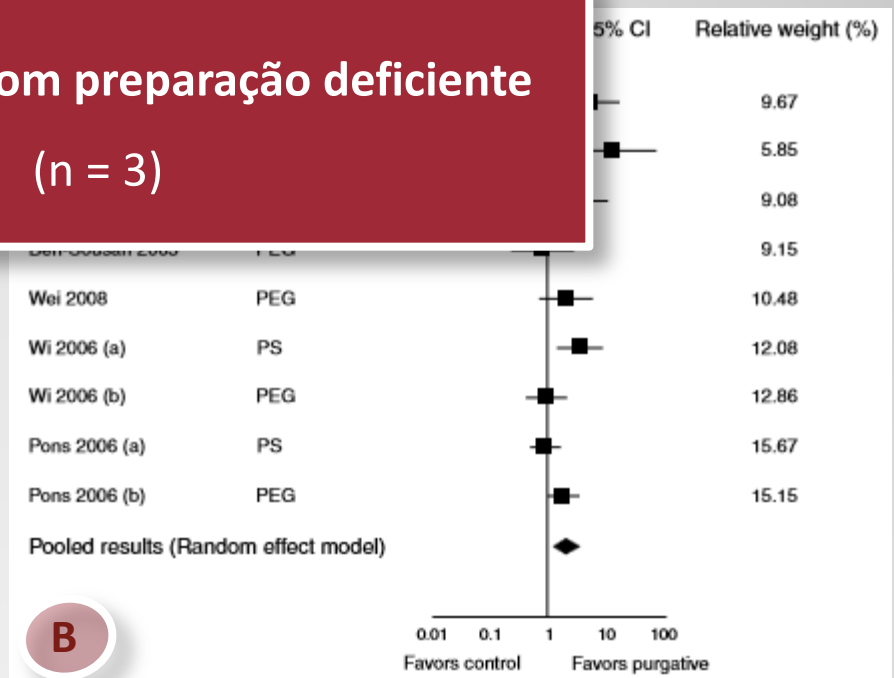
DISCUSSÃO

Preparação intestinal



5% de exames com preparação deficiente

(n = 3)



A – Acuidade diagnóstica

B – Qualidade da visualização

Am J Gastroenterol 2009; 104:219– 2 27; d oi:1 0.1038/ajg.2008.63

Discussão

Segurança e Limitações

- **Exame seguro**
- Contraindicações:
  - Oclusão intestinal
  - Pseudo-obstrução intestinal
- Limit
  -
  -
  - Suspeitas de estenoses e/ou fístulas
  - Alterações da deglutição
  - Dismotilidades
  - Pacemaker ou CDI

0% de complicações

Discussão

Acuidade Diagnóstica

Authors	Design	Consecutive	Country	No. of centers	Total no. of patients	[illegible] patients	DY, no. (%)
Pennazio et al, 2004[12]	Retrospective	Yes	Italy	Multicenter	100	43	19 (44.2)
Fireman et al, 2004[13]	Retrospective	Yes	Israel	Multicenter	160	70	37 (52.8)
Enns et al, 2004[14]	Retrospective	Yes	Canada	Single center	209	14	7 (50)
Ben Soussan et al, 2004[15]	Prospective	Yes	France	Single center	35	18	7 (38.8)
De Leusse et al, 2005[16]	Retrospective	Yes	France	Single center	64	20	6 (30)
Kalantzis et al, 2005[17]	Retrospective	Yes	Greece	Single center	193	64	27 (42.2)
Qvigstaad et al, 2006[18]	Retrospective	Yes	Norway	Single center	167	40	11 (27.5)
van Tuyl et al, 2006[19]	Retrospective	Yes	Netherlands	Single center	250	150	49 (32.6)
Estevez et al, 2006[20]	Prospective	Yes	Spain	Single center	100	48	30 (62.5)
Apostolopoulos et al, 2006[21*]	Prospective	Yes	Greece	Single center	51	51	29 (56.9)
Carey et al, 2007[22]	Retrospective	Yes	USA	Single center	260	134	62 (46.3)
Chami et al, 2007[23]	Retrospective	Yes	Canada	Single center	70	12	4 (33.3)
Muhammad et al, 2009[24]	Retrospective	Yes	USA	Single center	652	231	127 (55)
Sidhu et al, 2009[25]	Retrospective	Yes	UK	Single center	427	316	152 (48.1)
Kim et al, 2009[26]	Retrospective	Yes	USA	Single center	193	25	12 (48)
Sheibani et al, 2010[27]	Retrospective	Yes	USA	Single center	82	57	35 (61.4)
Laine et al, 2010[28]	Prospective	Yes	USA	Single center	66	40	13 (32.5)
van Turenhout et al, 2010[29]	Retrospective	Yes	Netherlands	Single center	592	240	106 (44.2)
Riccioni et al, 2010[30*]	Retrospective	Yes	Italy	Single center	650	138	91 (65.9)
Katsinelos et al, 2011[31]	Retrospective	Yes	Greece	Single center	63	38	13 (34.2)
Goenka et al, 2011[32]	Retrospective	Yes	India	Single center	505	96	35 (36.5)
Milano et al, 2011[33*]	Prospective	Yes	Italy	Single center	189	45	35 (77.7)
Efthymiou et al, 2011[34]	Prospective	Yes	Australia	Single center	68	40	15 (37.5)
Yamada et al, 2011[35*]	Prospective	Yes	Japan	Single center	91	30	19 (63.3)

27.5 – 77.7%

SGE-CHS: 71%

Discussão

Koulaouzidis, MD et al. *"Diagostic yield of capsule endoscopy in patients with iron deficiency anemia";* Gastrointestinal Endoscopy 2012; Vol 76; No. 5; 983:992

Achados Enteroscópicos

Authors	All patients (with IDA)	DY definitive findings, no. (%)	DY breakdown			
			Vascular lesions, no. (%)	Inflammatory lesions, no. (%)	Tumor/mass lesions, no. (%)	Other significant or N/S, no. (%)
Pennazio et al, 2004[12]	43	19 (44.2)	4 (9.3)	9 (20.9)	0 (0)	6 (13.9)
Fireman et al, 2004[13]	70	37 (52.8)	18 (25.7)	11 (15.7)	0 (0)	8 (11.4)
Enns et al, 2004[14]	14	7 (50)	2 (14.3)	3 (21.4)	2 (14.3)	0 (0)
Apostolopoulos et al, 2006[21]*	51	29 (56.9)	12 (23.5)	13 (25.5)	4 (7.8)	0 (0)
Carey et al, 2007[22]	134	62 (46.3)	35 (26.1)	16 (11.9)	4 (2.9)	7 (5.2)
Muhammad et al, 2009[24]	231	127 (55)	35 (15.1)	N/R	0 (0)	92 (39.8)
Sidhu et al, 2009[25]	316	152 (48.1)	84 (26.6)	25 (7.9)	10 (3.2)	33 (10.4)
Kim et al, 2009[26]	25	12 (48)	8 (32)	2 (8)	0 (0)	2 (8)
Sheibani et al, 2010[27]	57	35 (61.4)	21 (36.8)	4 (7)	5 (8.7)	5 (8.7)
Laine et al, 2010[28]	40	13 (32.5)	4 (10)	9 (22.5)	0 (0)	0 (0)
Riccioni et al, 2010[30]*	138	91 (65.9)	51 (36.9)	18 (13)	9 (6.5)	13 (9.4)
Milano et al, 2011[33]*	45	35 (77.7)	13 (28.8)	9 (20)	6 (13.3)	7 (15.5)
Yamada et al, 2011[35]*	30	19 (63.3)	6 (20)	7 (23.3)	2 (6.7)	4 (13.3)
Total*	1194	638 (53.4)	293 (24.5)	126 (10.5)	42 (3.5)	177 (14.8)

Koulaouzidis, MD et al. *"Diagostic yield of capsule endoscopy in patients with iron deficiency anemia";* Gastrointestinal Endoscopy 2012; Vol 76; No. 5; 983:992

Discussão

Achados Enteroscópicos

Achados	Revisão Sistemática	Estudo SGE-HSB
Exame normal	22.3% - 67.5% (46.5%)	29%
Angiectasias	9.3% - 36.9% (24.5%)	30%
Erosões/Úlceras	7% - 25.5% (10.5%)	44%
Pólipos/Tumores	0% - 14.3% (3.5%)	17%

Discussão

Impacto Diagnóstico

	N
Angiectasias	11
Erosões/Úlceras	14
Ancilostomíase	1
Total	**26**

41%

da totalidade dos exames efectuados

58%

da totalidade dos exames com achados relevantes

Discussão

Impacto Diagnóstico

Dig Liver Dis. 2010 Aug;42(8):560-6. doi: 10.1016/j.dld.2010.01.023. Epub 2010 Mar 15.

Unexplained iron deficiency anaemia: Is it worthwhile to perform capsule endoscopy?

Riccioni ME, Urgesi R, Spada C, Cianci R, Pelecca G, Bizzotto A, Costamagna G.

Digestive Endoscopy Unit, Catholic University of Rome, Rome, Italy.

Abstract

BACKGROUND: In around 30% of iron deficiency anaemia (IDA) cases a definite diagnosis cannot be made.

AIM: To investigate the role of capsule endoscopy (CE) in detecting lesions in patients with unexplained IDA after a negative endoscopic, serologic and haematologic diagnostic work up and its possible role in influencing clinical outcome.

METHODS: 138 patients suffering from IDA were identified among 650 consecutive patients undergoing CE at our unit.

RESULTS: CE revealed the following positive findings in 91/138 patients: angiodysplasias in 51 patients; jejunal and/or ileal micro-ulcerations in 12; tumours/polyps in 9; erosive gastritis in 4; Crohn's disease in 5; jejunal villous atrophy in 5; a solitary ileal ulcer in 1 and active bleeding in the last 4 patients. Follow up data were available for 80/91 patients (87.9%). In 15 out of 46 patients with angiodysplasias IDA spontaneously resolved without any treatment; 9 patients required iron supplementation; 10 patients healed after lanreotide administration; APC was performed in 9 out of 46 patients and 3 patients underwent regular blood transfusion without any success on IDA. 10 out of the 12 patients with small bowel micro-ulcers spontaneously recovered from IDA whilst 2 patients after iron supplementation. All 9 patients affected by tumours/polyps were surgically addressed. In all erosive gastritis cases, patients recovered from IDA after PPI and Helicobacter pylori eradication. Four patients with Crohn's disease diagnosis restored to health with medical therapy. One out of the 4 patients with jejunal villous atrophy and the sole patient with a solitary ileal ulcer spontaneously healed. In 1 out of 3 patients with active bleeding IDA resolved without further treatment after blood transfusion whilst 2 patients were referred for surgical treatment. At follow up, complete resolution of IDA was achieved in 96.25%.

CONCLUSIONS: Small bowel investigation is a matter of great importance in IDA patients after negative upper and lower gastrointestinal endoscopy.

32 – 77% ⟷ **SGE-CHS: 41%**

Discussão

"Second-look Endoscopy"

J Clin Gastroenterol. 2007 Mar;41(3):242-51.

Obscure gastrointestinal bleeding: diagnostic and therapeutic approach.

Concha R, Amaro R, Barkin JS.

Division of Gastroenterology, University of Miami, Miller School of Medicine/Mt. Sinai Medical Center, Miami Beach, FL 33140, USA.

Abstract

Obscure gastrointestinal bleeding (OGIB) is defined as an intermittent or continuous loss of blood in which the source has not been identified after upper endoscopy and colonoscopy. It constitutes a diagnostic and therapeutic challenge for the general internist and the gastroenterologist. This article provides an overview of the etiology, clinical presentation, and diagnostic modalities of OGIB including push enteroscopy, double balloon enteroscopy, wireless capsule endoscopy, enteroclysis, angiography, bleeding scanning with labeled red blood cells, and surgery with intraoperative enteroscopy. Therapeutic modalities including iron replacement, combined hormones, octreotide acetate, therapeutic endoscopy, and surgery are also discussed. In addition, a rational approach to patients with OGIB according to the clinical presentation is presented herein.

35 – 75% ⟷ SGE-CHS: 13%

Discussão

- Exame seguro;
- Importância da preparação prévia;
- Elevada taxa de detecção de lesões;
- Lesões vasculares, erosões e úlceras são os achados mais frequentes
- Elevado número de casos de enteropatia a AINE's;
- Importante impacto clínico da VCE;
- Baixo limiar para a repetição de exames convencionais;

Conclusão

- **Rokkas T** et al. *Does purgative preparation increase the diagnostic yield of small bowel video capsule endoscopy? A meta-analysis*. Am J Gastroenterol 2009; 104: 219–227;
- **Apostolopoulos P** et al. *Evaluation of capsule endoscopy in active, mild-to-moderate, overt GI bleeding.* Gastrointest Endosc 2007; 66: 1174–1181 10;
- **Lai LH** et al. *Long term follow-up of patients with obscure gastrointestinal bleeding after negative capsule endoscopy*. Am J Gastroenterol 2006; 101: 1224–1228 11;
- **Carey Ej** et al. *A single-center experience of 260 consecutive patients undergoing capsule endoscopy for obscure gastrointestinal bleeding*. Am J Gastroenterol 2007; 102: 89–95;
- **Goddard AF** et al. *Guidelines for the management of iron deficiency anemia*, Gut 2011; 60: 1309-1316;
- **Fireman Z** et al. *The role of videocapsule endoscopy in the evaluation of iron deficiency anemia;* Digestive and Liver Disease 36 (2004*);*
- **Koulaouzidis MD** et al. *Diagnostic yield of small-bowel capsule endoscopy in patients with iron deficiency anemia: a systematic review*; Gastrointestinal Endoscopy 2012; Vol 76; No. 5; 983:992;
- **Concha R et al*;*** *Obscure gastrointestinal bleeding: diagnostic and therapeutic approach*. J Clin Gastroenterol 2007; 4 1: 2 42–251;
- **Ladas S D.** et al. *ESGE recommendations on VCE in investigation of small-bowel, esophageal, and colonic diseases*; Gastrointestinal Endoscopy 2010; 42: 220–227;
- **Barreiro P** et al. *Enteroscopia por videocápsula na prática clínica. Experiência dos primeiros 5 anos e 528 exames de um Centro Hospitalar e revisão da literatura.* GE 2012; 19: 12-20;

Bibliografia

OBRIGADO!