

Financiación

Este trabajo no ha recibido ningún tipo de financiación.

Conflicto de intereses

Los autores declaran no tener ningún conflicto de intereses.

Bibliografía

1. Gisbert JP, Alcedo J, Amador J, Bujanda L, Calvet X, Castro-Fernández M, et al. V Spanish consensus conference on *Helicobacter pylori* treatment. Gastroenterol Hepatol. 2022;45:392–417, <http://dx.doi.org/10.1016/j.gastrohep.2021.07.011>.
2. Arenas A, Serrano C, Quiñones L, Harris P, Sandoval M, Lavanderos M, et al. High prevalence of clarithromycin resistance and effect on *Helicobacter pylori* eradication in a population from Santiago, Chile: Cohort study and meta-analysis. Sci Rep. 2019;9:20070, <http://dx.doi.org/10.1038/s41598-019-56399-7>.
3. Reyes D, Ortiz J, Fuentes-López E, Budnik S, Gándara V, Gallardo A, et al. Quadruple therapies are superior to standard triple therapy for *Helicobacter pylori* first-line eradication in Chile. Gastroenterol Hepatol. 2022;45:515–23, <http://dx.doi.org/10.1016/j.gastrohep.2021.11.010>.
4. Li C, Shi Y, Suo B, Tain X, Zhou L, Song Z. PPI-amoxicillin dual therapy four times daily is superior to guidelines recommended regimens in the *Helicobacter pylori* eradication therapy within Asia: A systematic review and meta-analysis. Helicobacter. 2021;26:e12816, <http://dx.doi.org/10.1111/hel.12816>.
5. Tai WC, Liang CM, Kuo CM, Huang PY, Wu CK, Yang SC, et al. A 14 day esomeprazole- and amoxicillin-containing high dose dual therapy regimen achieves a high eradication rate as first-line anti-*Helicobacter pylori* treatment in Taiwan: A prospective randomized trial. J Antimicrob Chemother. 2019;74:1718–24, <http://dx.doi.org/10.1093/jac/dkz046>.

Rodrigo Quera*, Andrea Córdova, Paulina Núñez y Christian von Muhlenbrock

Centro de Enfermedades Digestivas, Clínica Universidad de los Andes, Universidad de los Andes, Santiago, Chile

* Autor para correspondencia.

Correo electrónico: rquera@clinicaandes.cl (R. Quera).

<https://doi.org/10.1016/j.gastrohep.2022.12.001>

0210-5705/ © 2022 Elsevier España, S.L.U. Todos los derechos reservados.

Barium enema: Compassionate therapy for refractory colonic diverticular bleeding?



Enema de bario: ¿terapia de uso compasivo para la hemorragia diverticular colónica refractaria?

A 67-year-old man with a history of arterial hypertension and religious orientation of Jehovah's Witness, and refusing to receive red cell concentrate (RCC) transfusions, was admitted for acute lower gastrointestinal haemorrhage (LGH). By performing an initial colonoscopy, the LGH was associated with a sigmoid diverticular origin, without locating any specific bleeding point for treatment. Because of exteriorization persistence, an abdominal angiography computed tomography (angioCT), an arteriography, and a second colonoscopy were performed, with no possibility of therapeutic application. Haemoglobin (Hb) levels progressively decreased to 4.2 g/dL. After compassionate administration of a barium enema, no new episodes of bleeding were reported, allowing discharge of the patient 12 days' post-enema, with an Hb level of 6.4 g/dL. At 88 months of follow-up, no new LGH episodes had been detected.

A 91-year-old woman with a history of hypertension, congestive heart failure, and atrial fibrillation on antiplatelet treatment was admitted for acute painless LGH, with initial haemodynamic instability. An angioCT was performed, visualizing multiple diverticula in the whole colonic tract, with an active bleeding point in the cecum. The patient did well and arterial blood pressure values returned to normal.

Colonoscopy showed a cecal diverticulum with a visible vessel, treated with adrenaline and a haemostatic clip. Despite the endoscopic treatment, blood exteriorization persisted, with daily RCC transfusion requirements. During the following three weeks two more colonoscopies were carried out, along with a second angioCT with an arteriography, without revealing a specific bleeding spot to be treated. Finally, a barium enema was administered, leading to the cessation of the LGH. At 17 days' post-enema, the patient was discharged, with an Hb of 8.5 g/dL, after having received a total transfusion support of 17 RCC during the 5 weeks of admission. No new episodes of LGH were detected at 5 months of follow-up, when the patient was admitted for cardiac decompensation and acute pulmonary oedema with an end-of-life denouement.

LGH of diverticular origin is the main cause of bleeding below the angle of Treitz requiring hospital admission in patients over 50 years of age. The usual clinical course in this type of bleeding is self-limiting (80–90% of cases). However, there are patients who require aggressive management of the pathology, with the need for RCC transfusion support, as well as interventions such as colonoscopy, arteriography, or even surgery.¹ The patient's comorbidities and/or antecedents may lead to situations of contraindication of the usual management algorithms in this type of pathology, as in the two cases presented in this scientific letter. The use of barium enema as a therapeutic option in case of LGH of diverticular origin was first reported in 1970 by Adams et al.² Since then, a string of publications have appeared, most of them in the form of case-reports or short series of cases like our experience (Table 1).³ Only one randomized clinical trial has been published, highlighting the useful-

Table 1 Previous scientific literature on therapeutic barium enema for colonic diverticular haemorrhage (adapted, expanded, and updated from³).

Author	Journal	Year	Study type	n	Clinical success* (%)	Follow-up (months)	Recurrent bleeding (%)
Adams et al. ^[I]	Arch Surg	1970	Cohort	28	78.6 (22/28)	6–84	27.3 (6/22)
Koperna et al. ^[II]	Heptaogastroenterology	2001	Case series	63	84.1 (53/63)	NR	NR
Chorost et al. ^[III]	Clin Radiol	2001	Case report	1	100 (1/1)	NR	NR
Matsuhashi et al. ^[IV]	Am J Roentgenol	2003	Case report	1	100 (1/1)	13	0 (0/1)
Iwamoto et al. ^[V]	World J Gastroenterol	2008	Case series	4	100 (4/4)	17–35	0 (0/4)
Pausawasdi et al. ^[VI]	Case Rep Gastroenterol	2011	Case report	1	100 (1/1)	18	0 (0/1)
Fujimoto et al. ^[VII]	Colorectal Dis	2011	Cohort	11	100 (11/11)	1–56	54.5 (6/11)
Niikura et al. ^[VIII]	Case Rep Gastrointest Med	2013	Case report	1	100 (1/1)	3	0 (0/1)
Nagata et al. ^[IX]	Ann Surg	2015	RCT	27	100 (27/27)	7–12	14.8 (4/27)
Matsuura et al. ^[X]	World J Gastroenterol	2015	Case series	20	80 (16/20)	1–19	25 (4/16)
Koga et al. ^[XI]	Endosc Int Open	2016	Case series	3	100 (3/3)	NR	NR
van Dijk et al. ^[XII]	ACG Case Rep J	2018	Case series	3	100 (3/3)	6–36	0 (0/3)
Murayama et al. ^[XIII]	Eur J Radiol Open	2019	Case series	4	100 (4/4)	12	0 (0/4)
Our cases	Gastroenterol Hepatol	2022	Case series	2	100 (2/2)	5–88	0 (0/2)

NR: not reported; RCT: randomized clinical trial.

^[I] Adams JT. Therapeutic barium enema for massive diverticular bleeding. *Arch Surg* 1970;101:457–60. ^[II] Koperna T, et al. Diagnosis and treatment of bleeding colonic diverticula. *Hepatogastroenterology* 2001;48:702–5. ^[III] Chorost MI, et al. The therapeutic barium enema revisited. *Clin Radiol* 2001;56:856–8. ^[IV] Matsuhashi N, et al. Barium impaction therapy for refractory colonic diverticular bleeding. *AJR Am J Roentgenol* 2003;180:490–2. ^[V] Iwamoto J, et al. Therapeutic barium enema for bleeding colonic diverticula: four case series and review of the literature. *World J Gastroenterol* 2008;14:6413–7. ^[VI] Pausawasdi N, et al. Therapeutic high-density barium enema in a case of presumed diverticular haemorrhage. *Case Rep Gastroenterol* 2011;5:88–94. ^[VII] Fujimoto A, et al. Effectiveness of high-dose barium enema filling for colonic diverticular bleeding. *Colorectal Dis* 2011;13:896–8. ^[VIII] Niikura R, et al. High-dose barium impaction therapy is useful for the initial hemostasis and for preventing the recurrence of colonic diverticular bleeding unresponsive to endoscopic clipping. *Case Rep Gastrointest Med* 2013;2013:365954. ^[IX] Nagata N, et al. High-dose barium impaction therapy for the recurrence of colonic diverticular bleeding: a randomized controlled trial. *Ann Surg* 2015;261:269–75. ^[X] Matsuura M, et al. Effectiveness of therapeutic barium enema for diverticular haemorrhage. *World J Gastroenterol* 2015;21:5555–9. ^[XI] Koga M, et al. Barium impaction therapy with balloon occlusion for deep colonic diverticular bleeding: a three-case series. *Endosc Int Open* 2016;4:E560–3. ^[XII] van Dijk B, et al. Barium enema for treatment for diverticular bleeding. *ACG Case Rep J* 2018;5:e71. ^[XIII] Murayama Y, et al. Effectiveness of therapeutic standard concentration barium enema for colonic diverticular bleeding: Preliminary results. *Eur J Radiol Open* 2019;6:139–43.

* No rebleeding within first 7 days after barium enema administration, allowing discharge of patient.

ness of high-dose barium impaction therapy in the long-term prevention of recurrent bleeding (42.5% vs. 14.8%; log-rank test, $P = 0.04$).²

When performing a colonoscopy in case of colonic diverticular bleeding, it is difficult to locate the bleeding vessel and it is usually not possible to apply targeted therapy. Recently, non-directed endoscopic haemostatic techniques using haemostatic powder devices have appeared, with favourable results described (initial clinical success greater than 95%, with one-month rebleeding rate of 5.5–12.9%).^{4,5} Although the use of the barium enema might hypothetically

be compared to these devices for non-directed attempts at haemostasis, the published literature is limited and a direct causal relationship between its use and LGH cessation cannot be clearly established, because in most cases the bleeding ceases spontaneously. Barium enema might be an option to consider in selected cases, like the two presented here, in which the usual management options for diverticular LGH are not successful, or when it is not possible to apply them. More studies with larger numbers of patients would be needed to clarify its use as a compassionate therapy for diverticular LGH.

Authors' contributions

Josep M^a Botargues, Mireia Peñalva, Antonio Soriano, Jordi Guardiola: study concept and design, acquisition of data, analysis and interpretation of the data, critical revision of the article, and final approval.

Francesc Bas-Cutrina, Albert Martín-Cardona, Francisco Rodríguez-Moranta: study concept and design, acquisition of data, analysis and interpretation of the data, drafting of the article, editing of the table, critical revision of the article, and final approval.

Ethical approval

The study researchers have carried out their tasks in compliance with the ethical principles of clinical research established in the Declaration of Helsinki, and with the norms of Good Clinical Practices (International Conference on Harmonization).

The data underlying this short report cannot be shared publicly in order to protect the privacy of the subjects for ethical/privacy reasons. The data, without personal identification of participant subjects, will be shared on reasonable request to the corresponding author.

Funding

No specific funding has been received. Data have been generated as part of our routine work at our hospital.

Conflict of interest

Albert Martín-Cardona has received financial support for travelling and educational activities from Abbvie, Biogen, Ferring, Janssen, MSD, Takeda, Dr Falk Pharma and Tillotts.

Jordi Guardiola has served as a speaker and as consultant for or has received research or education funding from MSD, Abbvie, Kern, Pfizer, Takeda, Janssen, Ferring, Roche and General Electric.

Francisco Rodríguez-Moranta has served as a speaker for Abbvie, Takeda, Pfizer, Jansen, and MSD, and has served as an advisor for Abbvie, Jansen, MSD, and Pfizer.

The rest of the authors declare no conflicts of interest.

Bibliografía

- Guardiola J, García-Iglesias P, Rodríguez-Moranta F, Brullet E, Saló J, Alba E, et al. Management of acute lower gastrointestinal hemorrhage: position statement of the Catalan Society of Gastroenterology. *Gastroenterol Hepatol*. 2013;36:534–45, <http://dx.doi.org/10.1016/j.gastrohep.2013.04.002>.
- Nagata N, Niikura R, Shimbo T, Ishizuka N, Yamano K, Mizuguchi K, et al. High-dose barium impaction therapy for the recurrence of colonic diverticular bleeding: a randomized controlled trial. *Ann Surg*. 2015;261:269–75, <http://dx.doi.org/10.1097/SLA.0000000000000658>.
- Koga M, Kusano C, Gotoda T, Suzuki S, Sato T, Fukuzawa M, et al. Barium impaction therapy with balloon occlusion for deep colonic diverticular bleeding: a three-case series. *Endosc Int Open*. 2016;4:E560–3, <http://dx.doi.org/10.1055/s-0042-103237>.
- Facciorusso A, Bertini M, Bertoni M, Tartaglia N, Pacilli M, Pavone G, et al. Efficacy of hemostatic powders in lower gastrointestinal bleeding: clinical series and literature review. *Dig Liver Dis*. 2021;53:1327–33, <http://dx.doi.org/10.1016/j.dld.2021.05.026>.
- Cha B, Lee D, Shin J, Park JS, Kwon GS, Kim H. Hemostatic efficacy and safety of the hemostatic powder UI-EWD in patients with lower gastrointestinal bleeding. *BMC Gastroenterol*. 2022;22:170, <http://dx.doi.org/10.1186/s12876-022-02247-4>.

Francesc Bas-Cutrina^{a,b,*}, Albert Martín-Cardona^{a,c,d}, Josep M. Botargues^a, Mireia Peñalva^a, Antonio Soriano^a, Jordi Guardiola^a, Francisco Rodríguez-Moranta^a

^a Department of Digestive Diseases, Hospital Universitari de Bellvitge, Barcelona, Spain

^b Digestive Diseases Unit, Hospital General de Granollers, Barcelona, Spain

^c Department of Digestive Diseases, Hospital Universitari Mútua Terrassa, Barcelona, Spain

^d Centro de Investigación Biomédica en Red de Enfermedades Hepáticas y Digestivas (CIBEREHD), Madrid, Spain

* Corresponding author.

E-mail address: fbas@fphag.org (F. Bas-Cutrina).

<https://doi.org/10.1016/j.gastrohep.2022.12.009>

0210-5705/ © 2022 Elsevier España, S.L.U. All rights reserved.

Anemia ferropénica como primera manifestación del síndrome de poliposis juvenil



Iron deficiency anemia as the first manifestation of juvenile polyposis syndrome

Presentamos una mujer de 41 años con antecedente de tumor de Wilms en la infancia y madre fallecida por cáncer colorrectal a los 28 años, remitida a consultas de digestivo por anemia ferropénica refractaria a hierro intravenoso de un año de evolución. La gastroscopia inicial objetivó más de 200 pólipos gástricos de entre 3-18 mm, agrupados en

masas mamelonadas a nivel subcardial, cuerpo distal, incisura y antro. Su caracterización con luz blanca y NBI mostró lesiones eritematosas de superficie lisa, friabilidad con restos hemáticos frescos adheridos, de aspecto túbulo-velloso y patrón vascular denso pero regular. La ecoendoscopia describió un marcado engrosamiento irregular de la mucosa, sin cambios de ecogenicidad, infiltración de otras capas ni adenopatías adyacentes. Se realizó polipectomía de las lesiones de mayor tamaño con estudio anatomopatológico compatible con pólipos hiperplásicos (PH). Tras valoración por comité multidisciplinar y consensuado con la paciente, se decidió tratamiento mínimamente invasivo mediante resecciones endoscópicas. En la tercera gastroscopia, la histología de algunos fragmentos detectó cambios adenomatosos con