VOLUME 49 · N°1 · January-February 2026

Open access

rapdONLINE

ANDALUSIAN JOURNAL OF DIGESTIVE PATHOLOGY

POSITION STATEMENT

10

SAPD position statement on the integration of digestive ultrasound into digestive system units as a clinical, teaching, and organizational necessity

Santamaría Rodríguez Gj, Estévez Escobar M, Olmedo Martín RV, Benítez Cantero JM, Ampuero Herrojo J

REVIEW ARTICLE

12

Angiodysplasias: a therapeutic challenge.

Selfa Muñoz A, Candel Erenas JM, Moreno Barrueco M, Bailón Gaona MC

CLINICAL CASES

23

Upper gastrointestinal bleeding secondary to gastric varices due to segmental portal hypertension after Warshaw-type distal pancreatectomy.

Rodríguez Mateu A, Plaza Fernández A, Fernández Carrasco M, Fernández Muñóz LR

26

Gastric outlet obstruction secondary to annular pancreas with signs of complicated acute pancreatitis and duodenal perforation

Alonso Belmonte C, Sánchez Sánchez M, Bravo Aranda A

30

A chance for Rituximab in Primary Biliary Cholangitis–Autoimmune Hepatitis Overlap Syndrome.

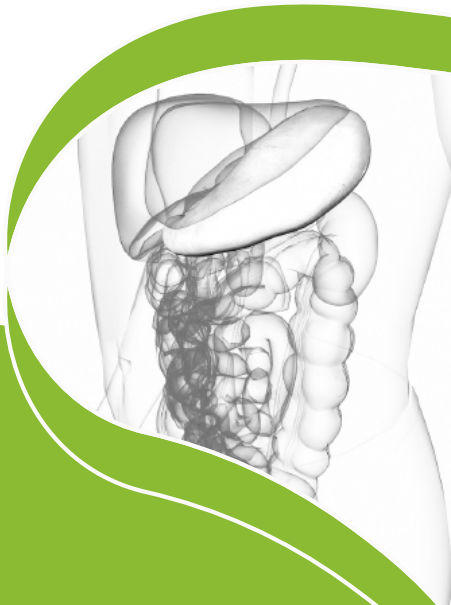
Fernandez Carrasco M, Plaza Fernández A, Sánchez Tripiana M, Diéguez Castillo C

IMAGE IN CLINICAL MEDICINE

33

Herpes simplex esophagitis in immunocompetent patients: a rare entity to consider.

León Sanjuan GF, Aguilar Martínez JC, Molina Jiménez L



Official Body
of Sociedad Andaluza
de Patología Digestiva

www.sapd.es

rapdONLINE
ANDALUSIAN JOURNAL OF DIGESTIVE PATHOLOGY

OFFICIAL BODY OF THE ANDALUSIAN SOCIETY OF DIGESTIVE PATHOLOGY

Edition
Sulime Diseño de Soluciones, S.L.U.
Edificio Centris. Glorieta Fernando Quiñones s/n
Planta BSS- Módulo 7A - 41940 Tomares (Sevilla)
Tlf. 954 15 75 56
Email: bbriones@sulime.net - *Web:* www.sulime.net

Legal Deposit: M-26347-1978
Valid support com: 07/2
ISSN: 1988-317X

AUTHOR STANDARDS **2026**

>> Directive Board of the Andalusian Society of Digestive Pathology

PRESIDENT
J. Ampuero Herrojo

VICE-PRESIDENT
A. Bejarano García

SECRETARY
JM. Pérez Pozo

TREASURE
M. García Cortes

DIRECTOR RAPD ONLINE JOURNAL
A. Pérez Aisa

DIRECTOR OF THE WEBSITE
F.J. García Fernández

PRESIDENT SCIENTIFIC BOARD
M. Casado Martín

GENERAL DIRECTOR
M. Ortega Ortega

>> Working group coordinators

INFLAMMATORY BOWEL DISEASE
R.V. Olmedo Martín

HEPATOLOGY
J. M. Rosales Zabal

COLORECTAL CANCER
Á. Pizarro Moreno

FUNCTIONAL DISORDERS
I. Grilo Bensuan

ENDOSCOPY
P. Rosón Rodríguez

PANCREAS
C. Ortiz Moyano

1. RAPD Objectives and characteristics
2. RAPD Contents
3. Submission of manuscripts
4. Writing standard for manuscripts

A) Specific standard for manuscripts writing
Original research papers
Thematic reviews
News and Updates in Gastroenterology and Hepatology
Clinical cases
Clinical cases with video or Videoforum
Images of the month
Letters to the Editor
B) Common standards and other supporting documents
Units, generic names and abbreviations
Bibliographical references
Figures, photographs, graphs, tables and videos
Copyright
Conflict of interest
Statistics
Other documents and ethical standards
C) Downloading documentation
Standards for Authors
Cover letter
Transfer of copyright form
Conflict of interest disclosure form
Permission to use photographs forms

1. RAPD Objectives and characteristics: The Revista Andaluza de Patología Digestiva is the official publication of the Andalusian Society of Digestive Pathology (SAPD), which since 2007 has been published in electronic format only, under the name RAPD Online. Its purpose is to disseminate all epidemiological, clinical, basic and sociological aspects of digestive diseases, through the contributions sent to the journal from Andalusia and from the entire scientific community. The official language for the publication of this journal is Spanish, but some contributions may be accepted in the author's original language in English, French or Italian. RAPD Online is published bimonthly, with one of the issues being specially dedicated to the Annual Meeting of the SAPD and the Editorial Board deciding to reserve one or more issues per year for the monographic development of a topic related to the speciality.

All submitted contributions must be original and not be simultaneously under review for publication in another journal. The publication of abstracts or posters is not considered duplicate publication. Manuscripts will be evaluated by expert reviewers, appointed by the editorial board, before being accepted for publication, in a process that will take less than 30 days.

2. RAPD Contents: *regular numbers of RAPD Online include defined sections such as:*

- *Original articles on clinical or basic research.*
- *Thematic reviews on specific aspects of Gastroenterology.*
- *Consensus documents.*
- *Clinical cases.*
- *Clinical cases with videos or Videoforum.*
- *Images of the month.*
- *News and updates on gastroenterology and hepatology.*
- *Letters to the Editor.*

Other contributions that are considered of interest by the Editorial Board, relating to different aspects of clinical practice in the recent past, biographical comments, or other contents of a cultural nature, or related to scientific activities in any territorial area, will be inserted in RAPD Online in sections designed specifically for this purpose.

3.Submission of manuscripts: *The preferred way to submit manuscripts is through the SAPD website (https://www.sapd. es), by accessing the RAPD Online page and clicking on the "Submit an original" button located on the same access page to the journal. This will take you to the Manuscript Centre, from where you will be able to send manuscripts and all the required documentation. To use this tool you must be previously registered, access requires a username and password. If you are a member of the SAPD, you can use your usual username. If you are not a member, you can request a username for access to the Manuscript Centre using the form on the website. You can write to sulime@ sulime.net or RAPDonline@sapd.es, for the solution of any problem in the submission of manuscripts.*

4. Writing standard for manuscripts: *monographic numbers, thematic reviews, updates and annotated articles will be commissioned by the Editorial Board, but the submission of any of these contributions at the request of an author will be considered by the RAPD Online Management and evaluated with great interest for inclusion in the journal.*

All manuscripts will be subject to specific rules, depending on the type of contribution, and to common ethical and legal standards.

A) Specific standard for manuscripts writing

They refer to the recommended length and structure of each type of manuscript. As a basic unit of length for the text, in any of the contributions, a page of 30-31 lines, spaced 1.5 lines apart, with a font size of 12, with 75-80 characters without spaces per line and a total of 400-450 words per page is considered. Texts should be sent spell-checked and in editable format in all their applications (main text, figures, legends or figure captions, tables, graphs, drawings).

Originals: *originals can be up to 12 pages long (5,100 words), excluding bibliographical references and captions to figures and tables. It is not advisable to insert more than 10 images, including tables and figures. Colour illustrations and videos will not represent an economic charge for the authors, but the insertion of videos, for technical reasons, will be previously agreed with the editor. However, the editing method of RAPD Online allows, in specific cases, the acceptance of longer manuscripts, or the inclusion of a greater number of images, provided that the characteristics of the material presented so require. It is not advisable to have more than 9 authors, except in the case of collaborative works. In these originals, the first nine participants will be listed at the head of the paper and the rest of the participants will be listed at the end of the first page of the manuscript.*

Through the Manuscript Centre, the following information will be required for the submission of an original:

- General data:

1° Full title of the paper in Spanish and English
2° Surnames and first names of all authors.
3° Centre(s) of origin(s) (department, institution, city and country).
4° Full postal address of the responsible author, to whom correspondence should be addressed, including telephone, fax and email address.
5° Declaration on the existence or non-existence of a source of funding for the work, or conflicts of interest.

- Main body of the manuscript, containing:

1° Structured abstract in Spanish (optional also in English) and 3-5 keywords. The abstract will have a maximum length of 250 words and should be structured as follows:

a) Introduction and objectives
b) Material and methods
c) Results
d) Conclusions

2° List of abbreviations used in the text.

3° Text: it will include the following sections:
a) Introduction
b) Material and methods
c) Results
d) Discussion
e) Conclusions; each of them appropriately headed.

4° Bibliography: according to the specifications established in the group of common standards (See common standards and other supporting documents).

5° Acknowledgements.

6° Figure captions.

7° Tables and figures in text.

Thematic Reviews: *texts on Thematic Reviews can be up to 15 pages long (6,375 words), excluding bibliographical references and captions to figures and tables, and chapters corresponding to Update series up to 20 pages (8,500 words). In both cases the number of inserted images should not exceed 15, including tables and figures. However, the RAPD Online editing method allows, in specific cases, for manuscripts of greater length, or the inclusion of a greater number of images, provided that the characteristics of the material presented so require. Illustrations in colour will not be charged to the authors. Exceptionally, the inclusion of videos will be accepted. It is not advisable to include more than 4 authors per chapter.*

Through the Manuscript Centre, and for the submission of Reviews and Issues and Updates, the following information will be required:

- General data:

1° Full title of the work (in Spanish and English).
2° Surnames and first names of all authors.
3° Centre(s) of origin(s) (department, institution, city and country).
4° Full postal address of the responsible author, to whom correspondence should be addressed, including telephone, fax and email address.
5° Declaration on the existence or non-existence of a source of funding for the work, or conflicts of interest.

- Main body of the manuscript, containing:

1° Structured abstract in Spanish and English. 3-5 key words. The abstract will have a maximum length of 350 words, emphasising the most important aspects of the manuscript.
2° Text: Structured according to the criteria of the author(s), for a better understanding of the topic developed.
3° Bibliography: According to the specifications established in the group of common standards (See common standards and other supporting documents).
4° Acknowledgements.
5° Figure captions
6° Tables and Figures in the text.

Consensus documents: texts on Consensus documents are not limited in length in terms of text or images and tables. Exceptionally, the inclusion of videos is allowed. It is not advisable to have more than 10 authors per chapter.

Through the Manuscript Centre, and for the submission of Reviews and Updates, the following information will be required:

- General data:

1° Full title of the work in Spanish and English).
2° Surnames and first names of all authors.
3° Centre(s) of origin (department, institution, city and country).
4° Full postal address of the responsible author, to whom correspondence should be addressed, including telephone, fax and email address.
5° Declaration on the existence or non-existence of a source of funding for the work, or conflicts of interest.

- Main body of the manuscript, containing:

1° Structured abstract in Spanish and English. 3-5 key words. The abstract will have a maximum length of 350 words, emphasising the most important aspects of the manuscript.
2° Text: Structured according to the criteria of the author(s), for a better understanding of the topic developed.
3° Bibliography: According to the specifications established in the group of common standards (See common standards and other supporting documents).
4°Acknowledgements
5° Figure captions.
6° Tables and Figures in the text.

Clinical Cases: *the manuscripts included in this section will include 1-5 clinical cases, which due to their infrequent or unusual clinical behaviour, or because they provide some diagnostic or therapeutic novelty, deserve to be reported.*

The length of the texts in the Clinical Cases section should not exceed 5 pages (2,125 words), excluding bibliographical references and captions to figures and tables, and the number of inserted images should not exceed 5, including tables and figures. However, the RAPD Online editing method allows, in specific cases, the acceptance of longer manuscripts, or the inclusion of a greater number of images, provided that the

characteristics of the material presented so require. Colour illustrations and videos will not represent a financial charge for authors, but the insertion of videos, for technical reasons, will be previously agreed with the editor. No more than 5 authors will be admitted, except in specific and reasoned cases.

Through the Manuscript Centre, and for the submission of Clinical Cases, the following information will be required:

- General data:

1° Full title of the paper in Spanish (optional also in English).
2° Surnames and first names of all authors.
3° Centre(s) of origin(s) (department, institution, city and country).
4° Full postal address of the responsible author, to whom correspondence should be addressed, including telephone, fax and e-mail address.

- Main body of the manuscript, containing:

1° Structured abstract in Spanish and English. 3-5 key words. The abstract will have a maximum length of 250 words.
2° Introduction. To present the clinical problem reported.
3° Description of the clinical case.
4° Discussion. To highlight the peculiarities of the case and its consequences.
5° Bibliography: According to the specifications established in the group of common standards (See common standards and other supporting documents).
6°Acknowledgements.7° Figure captions.
8° Tables and text figures.

Clinical Cases with Videos or Videoforum: *the manuscripts included in this section will include 1-5 clinical cases, which due to their infrequent or unusual clinical behaviour, or because they provide some diagnostic or therapeutic novelty, deserve to be communicated.*
The length of the texts in the Videoforum section should not exceed 5 pages (2,125 words), excluding bibliographical references and captions to figures and tables, and the number of images inserted should not exceed 5, including tables and figures. However, the RAPD Online editing method allows, in specific cases, the acceptance of longer manuscripts, or the inclusion of a greater number of images, provided that the characteristics of the material presented so require. Colour illustrations and videos will not represent a financial charge for authors, but the insertion of videos, for technical reasons, will be previously agreed with the editor. No more than 5 authors will be admitted, except in specific and reasoned cases.

Videos should be submitted in AVI, MPEG, MP4 OR MOV format, and at a recommended high quality resolution (720p or 1080p). They must not contain personal data of the patients. It is recommended that they be edited to minimise editing time, which should not exceed 10 minutes. If the video includes sound, it must be processed in MP3 format. If the videos to be included are in other formats, please contact the publisher to verify their validity. They should not exceed 2GB.
Through the Manuscript Centre, and for the submission of Clinical Cases - Videoforum, the following information will be required:

- General data:

1° Full title of the work in Spanish and English. 2° Surnames and first names of all authors.
3° Centre(s) of origin (department, institution, city and country).
4° Full postal address of the responsible author, to whom correspondence should be addressed, including telephone, fax and email address.

- Main body of the manuscript, containing:

1° Structured abstract in Spanish and English. 3-5 key words. The abstract will have a maximum length of 250 words.
2° Introduction. To present the clinical problem reported. 3° Description of the clinical case.
4° Discussion. To highlight the peculiarities of the case and its consequences.
5° Bibliography: According to the specifications established in the group of common standards (See common standards and other supporting documents).
6°Acknowledgements.7° Figure captions.
8° Tables and figures in text.
9° Videos.

Link tutorial videos: https://www.sapd.es/videoteca/varios/ tutoriales/

Images of the month: *the manuscripts included in this section can take two formats, depending on the authors' preference.*

- Format A. Images with educational value: these shall include images of any kind, clinical, radiological, endoscopic, anatomopathological, macro and microscopic, which contribute to postgraduate training and therefore deserve to be shown because of their peculiarity, or because they represent a characteristic example.
- Format B. Key images for a diagnosis: These will include images of any kind, clinical, radiological, endoscopic, anatomopathological, macro and microscopic, together with a summarised clinical history, which will provide the possible final diagnostic resolution. This will be presented in a separate section in the same issue of the journal.

The length of the texts in the Images of the Month section must not exceed 1 page (425 words) in the clinical approach to the image presented and 2 pages (850 words), excluding bibliographical references and captions to figures and tables, in the commentary on the image (Format A) or in the diagnostic resolution of the case (Format B). However, the RAPD Online editing method allows, in specific cases, the acceptance of longer manuscripts, or the inclusion of a greater number of images, provided that the characteristics of the material presented so require. Colour illustrations and videos will not represent a financial charge for authors, but the insertion of videos, for technical reasons, will be previously agreed with the editor. No more than 3 authors will be accepted, except in specific and reasoned cases.

Through the Manuscript Centre, and for the submission of an Image of the Month, the following information will be required:

-General data:

1° Full title of the work in Spanish and English.. 2° Surnames and first names of all authors.
3° Centre(s) of origin (department, institution, city and country).
4° Full postal address of the responsible author, to whom correspondence should be addressed, including telephone, fax and email address.
5° Type of Image of the Month format chosen.

-Main body of the manuscript, containing:

1° Structured abstract in Spanish and English and 3-5 key words. The abstract will have a maximum length of 250 words.
2° Description of the image.
3° Comments on the image.
4° Bibliography: According to the specifications established in the group of common standards (See common standards and other supporting documents).
5° Figure captions.

New developments and updates in gastroenterology and hepatology: this section will be devoted to commenting on the scientific and medical developments that have occurred in recent years in the speciality of Gastroenterology and Hepatology.

This section will systematically and periodically analyse all facets of the speciality.

Texts on " New developments in Gastroenterology" may be up to 5 pages long (2,125 words), excluding bibliographical references and captions to added figures and tables. In both cases the number of inserted images must not exceed 5, including tables and figures. However, the RAPD Online editing method allows,

in specific cases, the acceptance of longer manuscripts, or the inclusion of a greater number of images, provided that the characteristics of the

material presented so require. It is not advisable to have more than 3 authors per chapter.

Through the Manuscript Centre, you will be asked to provide the following information:

- General data:

1° Name of the bibliographic area reviewed and period analysed 2° Surname and first name of all authors. It is advisable to place a hyphen between the first and second surname.
3° Centre(s) of origin (department, institution, city and country).
4° Full postal address of the responsible author, to whom correspondence should be addressed, including telephone, fax and email address.
5° Declaration on the existence or non-existence of a source of funding for the work, or conflicts of interest.

- Main body of the manuscript, containing:

1° Structured abstract in Spanish and English. 3-5 key words. The abstract will have a maximum length of 250 words.
2° Description of the bibliographic material analysed.
3° Critical comments on the results contained in the selected works.
4° Bibliography: According to the specifications established in the group of common standards (See common standards and other supporting documents). If two or more originals have been chosen for the analysis, it is advisable to divide the section into sections at the authors' discretion.
5° Figure captions.
6° Tables and Figures in text.

Letters to the Editor: *this section will be dedicated to comments on any manuscript published in RAPD Online. This section may also include comments of a more general nature, establishing the authors' own hypotheses and suggestions, within the scientific field of Gastroenterology. The length of the texts in this section of Letters to the Editor should not exceed 2 pages (850 words), including bibliographical references. Two figures or tables may be included and the number of authors should not exceed four.*

Through the Manuscript Centre, and for the submission of a Letter to the Editor, the following information will be required:

- General data:

1° Full title of the work in Spanish and English.
2° Surnames and first names of all authors. It is advisable to place a hyphen between the first and second surname.
3° Centre(s) of origin (department, institution, city and country).
4° Full postal address of the responsible author, to whom correspondence should be addressed, including telephone, fax and e-mail address.
5° Declaration on the existence or non-existence of a source of funding for the work, or conflicts of interest.

- Basic body of the manuscript, containing:

1° Text of the manuscript.
2° Bibliography: According to the specifications set out in the common standards group (See common standards and other supporting documents).

B)Common standards and other supporting documents

This refers to the set of mandatory standards, both for uniformity in the presentation of manuscripts and for compliance with current legal regulations. In general, the style of manuscripts should follow the guidelines set out in the Vancouver Agreement of the International Committee of Medical Journal Editors. (http://www.ICMJE.org).

Units, generic names and abbreviations:

- Units. Biochemical and haematological parameters shall be expressed in International Units (SI), except haemoglobin which shall be expressed in g/dL. Length, height and weight measurements shall be expressed in decimal metric units and temperatures in degrees Celsius. Blood pressure shall be measured in millimetres of mercury.
There is an aid for the conversion of non-international (non-SI) units into international (SI) units. (http://www.techexpo.com/techdata/techcntr.html).

- Generic names. The generic names of medicinal products, clinical instruments and tools and software shall be used. When a brand name is the subject of research, the brand name and the name of the manufacturer, city and country shall be included in parentheses the first time the generic name is mentioned in the Methods section.

- Abbreviations. Abbreviations should be avoided, but if they have to be used, in order not to repeat long technical names, the full word should appear the first time in the text, followed by the abbreviation in brackets, which will already be used in the manuscript.

Bibliographical references: bibliographical references should be presented in the order in which they appear in the manuscript, with a sequential number, which will appear in the appropriate place in the text, in brackets. This numbering will be maintained and will serve to order the list of all references at the end of the manuscript, as normal text and never as a footnote. Personal communications and unpublished data will not be included in the final list of bibliographical references, although they will be mentioned in the appropriate place in the text, in brackets, as appropriate, i.e. personal communication or unpublished data. When the bibliographic citation includes more than 6 authors, the first 6 authors should be cited, followed by the abbreviation et al.

The style of bibliographic references will depend on the type and format of the source cited:

- Medical journal article: journal names should be abbreviated according to the style of the Index. Medicus/Medline (http://www.ncbi.nlm.nih.gov/journals?itool=sidebar).

- Article already published in print and online journals Internet:
The authors (surname and initial of the first name, comma separation between authors), the full name of the manuscript, the abbreviation of the journal, the year of publication and after a semicolon the volume of the journal and after a colon the complete numbers of the first and last page of the paper.

Kandulsky A, Selgras M, Malfertheiner P. Helicobacter pylori infection: A Clinical Overview. Dig Liver Dis 2008; 40:619-626.

Alvarez F, Berg PA, Bianchi FB, Bianchi L, Burroughs AK,Cancado EL, et al. International Autoimmune Hepatitis Group Report: review of criteria for diagnosis of autoimmune hepatitis. J Hepatol 1999; 31:929-938.

- Admitted article, published only on the Internet, but not yet included in a regular number of the journal: the authors, the full name of the manuscript, the abbreviation of the journal, the year and month since the article is available on the Internet and DOI will be noted. The original paper to which reference is made usually details how to cite the manuscript.
Stamatakos M, Sargedi C, Stefanaki C, Safi oleas C, Matthaiopoulou I, Safi oleas M. Anthelminthic treatment: An adjuvant therapeuticstrategy against Echinococcus granulosus. Parasitol Int (2009), doi:10.1016/j.parint.2009.01.002

Inadomi JM, Somsouk M, Madanick RD, Thomas JP, Shaheen NJ. A cost-utility analysis of ablative therapy for Barrett'sesophagus, Gastroenterology (2009), doi: 10.1053/j.gastro.2009.02.062.

- Article from a journal that is published only on the Internet, but arranged in a conventional way: the authors, the full name of the manuscript, the abbreviation of the journal (can be added in brackets online), the year of publication and after a semicolon the volume of the journal and after a colon the complete numbers of the first and last page of the paper. If the original work being referenced provides the DOI and Internet address (URL), these can be added at the end of the reference.

Gurbulak B, Kabul E, Dural C, Citlak G, Yanar H,Gulluoglu M, et al. Heterotopic pancreas as a leading point for small-bowel intussusception in a pregnant woman. JOP (Online) 2007; 8:584-587.

Fishman DS, Tarnasky PR, Patel SN, Raijman I. Managementof pancreaticobiliary disease using a new intra-ductal endoscope: The Texas experience. World J Gastroenterol 2009; 15:1353-1358. Available from: URL: http://www.wjgnet.com/1007-9327/15/1353.asp. DOI: http://dx.doi.org/10.3748/wjg.15.1353

- Article from a journal that is published only on the Internet, but is not conventionally arranged: the authors, the full name of the manuscript, the abbreviation of the journal, the year of publication and the DOI will be listed.

Rossi CP, Hanauer SB, Tomasevic R, Hunter JO, Shafran I, Graffner H. Interferon beta-1a for the maintenance of remission in patients with Crohn's disease: results of a phase II dose-finding study.BMC Gastroenterology 2009, 9:22doi:10.1186/1471-230X-9-22.

-Article published in an abstract or in a supplement of a journal: the authors (surname and first initial, separated by commas between authors), the full name of the manuscript, the word abstract in square brackets, the abbreviation of the journal, the year of publication and after a semicolon the volume of the journal, followed by the abbreviation Suppl, or Supl, in brackets and after a colon the complete numbers of the first and last page of the paper.

Klin M, Kaplowitz N. Differential susceptibility of hepatocytesto TNF-induced apoptosis vs necrosis [Abstract]. Hepatology 1998; 28(Suppl):310A.

- Books: the authors of the book (surname and first initial, comma separated by the authors), the title of the book, the city where it was published, the name of the publisher and the year of publication will be listed.

Takada T. Medical Guideline of Acute Cholangitis and Cholecystitis. Tokyo: Igaku Tosho Shuppan Co; 2005.

- Chapter of a book: the authors of the chapter should be listed (surname and first initial, separated by commas between authors), followed by In: the names of the editors of the book and, after a full stop, the name of the book. The city where it was published, the name of the publisher, the year of publication and after a colon the complete numbers of the first and last page of the work.

Siewert JR. Introduction. In: Giuli R, Siewert JR, Couturier D, Scarpignato C, eds. OESO Barrett's Esophagus. 250 Questions. Paris: Hors Collection, 2003; 1–3.

- Information from a document produced at a meeting: this type of reference should be avoided whenever possible. However, if it has to be cited, the title of the subject, the name of the meeting and the city where it was held should be given. The entity that organised the meeting, and the year. The e-mail address through which the document can be accessed.
U.S. positions on selected issues at the third negotiating session of the Framework Convention on Tobacco Control. Washington, D.C.: Committee on Government Reform, 2002. (Accessed March 4, 2002, at:http://www.house.gov/reform/min/inves_tobacco/index_accord. htm.)

Figures, tables and videos: iconography, whether photographs, radiographs, diagrams or graphs, should be referred to under the generic name of "Figure". References to figures, tables and videos should be highlighted in bold. They should be numbered with Arabic numerals, according to their order of appearance in the text. Panels of two or more photographs grouped together will be considered as a single figure and may be referred to as "Figures 1A, 1B, 1C".

- Photographs: photographs should be sent in digital format TIFF (.TIF), JPEG (.JPG) or BMP, in black and white or colour, well contrasted, with an appropriate resolution (preferably 150-300 dots per inch). In the case of JPEG files, the minimum compression should be used to maintain maximum quality, i.e. in a non-reduced size.

X-ray, ultrasound, CT and MRI images, if not directly available in electronic format, should be scanned in grayscale and saved in JPG format.

Endoscopic images and other techniques generating colour images, if not directly available in electronic format, shall be scanned in colour. Special details shall be indicated by arrows, using for these and any other type of symbols the maximum contrast plot with respect to the figure.

Figure files will be identified according to their order of appearance in the text, with the name of the file, its number and surname of the first signatory (e.g.: fig1_Gómez.jpg) or the title of the article. Each image must have an associated figure caption that serves as a description. Figure captions must be submitted in a separate text document with clear reference to the figures to which they refer. Images may be inserted in Word/PowerPoint files to facilitate their identification or association with the figure captions, but they must always be submitted as separate images in the formats mentioned above.

Photographs of patients must not make them unidentifiable. If it is not possible to obtain them, the publication of the photograph must be accompanied by written permission (Model Photograph Permission Form).

- Diagrams, drawings, graphs and tables: diagrams, drawings, graphs and tables must be sent in digital format, as high resolution images or, preferably, in Word/PowerPoint format with editable text. Schemes, drawings, graphs or figures scanned from other publications will not be accepted. For diagrams, drawings, graphs, tables or any other figures, the colour black should be used for lines and text, and a light background, preferably white. If it is necessary to use several colours, easily distinguishable colours with high contrast to the background should be used. Graphics, symbols and letters should be of sufficient size to be clearly identifiable when reduced. Tables should be made with the -Table- tool (not with the use of tabulators and drawing lines or text boxes).

- Videos: videos must be submitted in AVI or MPEG format, processed with the CINEPAC RADIUS or MPEG codec and at a resolution of 720x576 or 320x288. It is recommended that they are edited to minimise their length, which should not exceed 2 minutes. If the video includes sound, it must be processed in MP3 format. If the videos to be included are in other formats, please contact the publisher to verify their validity. For the inclusion of videos in articles, prior authorisation must be obtained from the editorial board.

Copyright

he Author declares that he or she is the holder of the copyright in the Article and that the work is original and has not been previously published elsewhere. By accepting this agreement, the Author grants the Journal a non-exclusive licence to publish and distribute the Article in any format, whether in print or digital form, as well as to make it available through databases and digital repositories.

Permitted Uses

The Author retains the right to use his or her own Article for personal, academic, and research purposes, including its deposit in institutional repositories or on personal websites, provided that the first publication in the Journal is acknowledged and the terms of the Creative Commons BY 4.0 Licence are observed.

Publication licence

Editorial Licensing Policy Change RAPDOnline hereby informs its readership that, within the framework of its commitment to open access and the dissemination of scientific knowledge, it shall, as from 15 January 2026, adopt the Creative Commons Attribution 4.0 International Licence (CC BY 4.0) for all works published henceforth.

This licence permits users to copy, redistribute, remix, transform and create derivative works from the material, including for commercial purposes, provided that appropriate credit is given to the author and to the original source.

Works published between 1 January 2024 and 14 January 2026 shall remain subject to the Creative Commons Attribution–NonCommercial–NoDerivatives 4.0 International Licence (CC BY-NC-ND 4.0), or to whichever licence was specified at the time of publication.

Authors may, should they so wish, request the individual re-licensing of previously published articles, subject to the consent of the editorial committee.

Current Licence
The Andalusian Journal of Digestive Pathology is an open-access journal, meaning that all its content is available freely and at no cost to the user or their institution. The works collected in this journal are subject to a Creative Commons BY 4.0 Licence.

Terms

Share — to copy and redistribute the material in any medium or format for any purpose, including commercial use.

Adapt — to remix, transform and build upon the material for any purpose, including commercial use.

The Licensor may not revoke these freedoms as long as the user complies with the terms of the licence.

Under the following terms, users wishing to reuse these articles must take into account:

Attribution — appropriate credit must be given, a link to the licence must be provided, and any changes made must be indicated. This may be done in any reasonable manner, but not in any way that suggests that the Licensor endorses the user or the use made of the material.

No additional restrictions: You may not apply legal terms or technological measures that legally restrict others from doing anything the licence permits.

Notices: to comply with the licence for elements of the material that are in the public domain, or where your use is permitted by an applicable exception or limitation.

No warranties are given. The licence may not grant you all the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how the material may be used.

This work is licensed under

CC BY 4.0

Patient or health-related photographs
If the Article includes photographs that contain information related to the health of individuals (such as images of patients, clinical samples or other sensitive data), The Author represents and warrants that:

It has obtained the express, free and informed consent of the persons involved or, where applicable, their legal representatives, for the capture and use of such images in the Article.
You have the necessary rights to include such photographs in the Article, respecting the Creative Commons BY-NC-ND 4.0 licence.
All necessary measures have been taken to ensure the confidentiality and protection of the privacy of the persons involved.

Conflicts of Interest
As stipulated in the conflict of interest section of the Journal's publication guidelines and in accordance with the rules of the International Committee of Medical Journal Editors, it is necessary to communicate in writing the existence of any relationship between the authors of the article and any public or private entity from which a possible conflict of interest could arise.

The Author declares that he/she has informed The Journal of any conflict of interest that could influence the interpretation or presentation of the Article. Conflicts of interest, if any, will be clearly indicated in the Article itself.

Revision and Correction
The Journal reserves the right to revise, rectify or withdraw the Article if substantial errors, ethical breaches or violations of the terms of this agreement are detected. The Author will be notified and given the opportunity to respond before corrective action is taken.

Ethical Standards
The Author assures that the Article complies with the applicable standards of ethics and scientific integrity. In particular, the Author warrants that:

The work has been carried out with the approval of the relevant Ethics Committee and with respect for the rules laid down by the Human Rights committees for research involving human subjects and laboratory animals.
The necessary permissions have been obtained, especially the consent of the patients in order to safeguard their privacy, and the necessary consent forms have been completed.
Necessary permissions have been obtained for the reproduction of copyrighted materials from third parties, if applicable.
The content of the Article is original, non-plagiarised, and has not been falsified or manipulated.
Images and data relating to the health of individuals have been obtained and used in accordance with clause 5 of this agreement.

Other documents and ethical standards:
Human research: publications on human research should show in a prominent place in the original paper that: a) written informed consent has been obtained from each patient, b) The study protocol conforms to the ethical standards of the Helsinki Declaration of 1975 and has been approved by the ethical committee of the institution where the study was conducted.
Animal research: experimental animal studies must show in a prominent place in the original paper that they receive care according to the criteria outlined in the "Guide for the Care and Use of Laboratory Animals" written by the National Academy of Sciences and published by the National Institutes of Health (http://www.nap.edu/readingroom/books/labrats).
Controlled clinical trials: the development of controlled clinical trials should follow the CONSORT standard, available at: http://www.consort-statement.org and be registered before patient inclusion begins.
Data obtained by microarray: data must be sent to a repository such as Gene Expression Omnibus or ArrayExpress before submission of the manuscript.

Data protection
The personal data requested from the authors will be used by the Andalusian Society of Digestive Pathology (SAPD), exclusively for the purpose of managing the publication of the article submitted by the authors and accepted in the RAPD online. Unless otherwise indicated, by submitting the article the authors expressly authorise that their data relating to name, surname, institutional postal address and e-mail address be published in the RAPD online, possibly in the annual abstracts published by the SAPD on CD support, as well as on the SAPD website and in Medline, or other bibliographic search agencies, to which the RAPD online may have access.

Statistics
RAPD Online does not require an exhaustive description of the statistical methods used in carrying out a research study, but it does specify certain requirements that must appear in the manuscripts as standards of good practice. A basic document on this subject can be found at: Bailar JC III, Mosteller F. Guidelines for statistical reporting in articles for medical journals: amplifications and explanations (http://www.sapd.es/public/guidelines_statistical_articles_medical_journals.pdf). Ann Intern Med 1988; 108:266-73.

- The statistical methods used, as well as the software and the name of

the software used must be clearly stated in the Material and Methods Section.
-To express mean, standard deviation and standard error, the following formats must be used: "mean (SD)" and "mean ± SE". To express the median, the values of the interquartile range (IQR) must be used.
- The P must be used in capital letters, reflecting the exact value and expressions such as less than 0.05, or less than 0.0001 should be avoided.
- Whenever possible, findings (means, percentages, odds ratios and others) should be quantified and presented with appropriate error indicators, such as confidence intervals.
- Studies showing levels of statistical significance should include the calculation of sample size. Authors should state research losses, such as dropouts from clinical trials.

Publication fees
The journal has no fees of any kind.

POSITION STATEMENT

SAPD POSITION STATEMENT ON THE INTEGRATION OF DIGESTIVE ULTRASOUND INTO DIGESTIVE SYSTEM UNITS AS A CLINICAL, TEACHING, AND ORGANIZATIONAL NECESSITY

Santamaria Rodríguez GJ[1], Estévez Escobar M[2], Olmedo Martín RV[3], Benítez Cantero JM[4], Ampuero Herrojo J[5]

[1]UNIVERSITY HOSPITAL OF PUERTO REAL. CÁDIZ.

[2]TORRECÁRDENAS UNIVERSITY HOSPITAL. ALMERÍA.

[3]MÁLAGA REGIONAL UNIVERSITY HOSPITAL. MÁLAGA.

[4]REINA SOFÍA HOSPITAL. CÓRDOBA.

[5]VIRGEN DEL ROCÍO UNIVERSITY HOSPITAL. SEVILLE.

Abstract

The Andalusian Society of Digestive Pathology, following the guidelines of the Spanish Society of Digestive Pathology (SEPD) and the Spanish Association of Digestive Ultrasound (AEED), endorses the recent position published in the Spanish Journal of Digestive Diseases on the use of ultrasound, which establishes as its primary and strategic objectives the continuous improvement of clinical practice, the training of specialists, and the promotion of training tools that, efficiently and with the highest quality available, contribute to improving patient-centred healthcare.

Keywords: abdominal ultrasound, tool, clinical practice.

Introduction and competence

Gastrointestinal ultrasound (GIUS) is a well-established technique with high diagnostic and therapeutic value in our units due to its safety, accessibility, cost-effectiveness, and ease of immediate use for our patients. Its non-invasive nature, absence of ionizing radiation, and portability with the new equipment available today make it an essential tool for clinical care and decision-making[1].

Despite the great advances made in recent decades and the constant efforts to promote ultrasonography by the Andalusian Society of Digestive Pathology (from Spanish "Sociedad Andaluza de Patología Digestiva") through the Andalusian Journal of Digestive Pathology (RAPD) and

German José Santamaría Rodríguez
University Hospital of Puerto Real. Cadiz.
germansrv@gmail.com

Santamaría Rodríguez GJ, Estévez Escobar M, Olmedo Martín RV, Benítez Cantero JM, Ampuero Herrojo J. SAPD position statement on the integration of digestive ultrasound into digestive system units as a clinical, teaching, and organizational necessity. RAPD 2026;49(1):10-11. DOI: 10.37352/2026491.1

its partners, a recent survey conducted in 22 hospitals in Andalusia shows that it has yet to be implemented in many gastroenterology services, with at least 20% of them not performing it, delegating this task to other units, dedicating an average of three days a week in the work schedule, and only 50% of residents are trained in their own department, largely due to the problems that gastroenterology specialists encounter in obtaining adequate training during their residency. In many gastroenterology services where GIUS is carried out, the necessary resources have not actually been allocated to develop true gastroenterology units, ultrasound equipment is obsolete in many cases and does not meet the care needs of the specialists, and, in some cases, the training organization chart delegates this responsibility to radiodiagnostic units, where rotation is rather passive, or interferes with the training of radiologists or other specialties where its learning is also becoming increasingly important. Despite its proven usefulness, in many cases, gastroenterology units rely entirely on the Radiology department to perform it, with the consequent delay in continuous care and clinical integration. In other specialties, such as Cardiology, Endocrinology, Obstetrics, Rheumatology, Pulmonology, or, for example, Internal medicine, through the SEMI-excellent program, which accredits Clinical Ultrasound Units at the teaching level for their specialists, unthinkable a few years ago, or Emergency medicine, where specialists, perfectly trained in ultrasound, provide fully integrated and widely extended care.

Added to this situation is the enormous heterogeneity in the teaching of this discipline in different hospitals across the country, where training is sometimes based on external rotations, which are of limited duration, shared with other rotators, or carried out in workplaces where, for logistical reasons, there are not enough rooms available on a daily basis, sufficient equipment, or days per week on which to perform the required number of procedures to implement a reasonable learning curve. The training program for the gastroenterology specialty includes a minimum of two months to perform at least 200 supervised ultrasounds. The reality is that this training time is insufficient to acquire the necessary skills and abilities in this discipline, which is increasingly demanding and growing in use in inflammatory bowel disease, percutaneous intervention, echoendoscopy, etc. Added to this is the advent of new equipment and features (use of Doppler modes, contrasts, elastography, etc.) that increase the level of complexity and, inevitably, the time required for quality training, requiring standardization in the performance of different techniques and the writing of reports, as is the case in other areas such as endoscopy, all of which results in a greater contribution to comprehensive care[2].

Conclusion

Based on the above, at SAPD, we believe that GIUS deserves a place in our specialty that, in many cases, it is not given, probably as a result of inadequate promotion and/or support for the technique, underestimating its usefulness and diverting resources away from its definitive implementation in gastroenterology services, despite being part of the training program in Spain under Ministerial Order SAS/2854/2009 of October 9[3]. To overcome these obstacles, it needs to be urgently considered as a tool based on scientific evidence and the experience of professionals, in order to achieve a result that is fully in line with the clinical care needs of today, with minimal risk to the patient. Our society advocates the need to promote GIUS as a key discipline in the diagnostic process of digestive diseases, considering the quality of its implementation to be the strategic element on which this transformation and improvement is based, and as conveyed by the SEPD-AEED, its implementation by gastroenterologists[3,4]. And, in accordance with all of the above, we understand that gastroenterology services and units, with the support of the Health Administration and the backing of our scientific societies, should be the auditors and guarantors of the correct training in ultrasound of gastroenterology specialists.

Bibliography

1. *Segura Cabral JM, editor. Ecografia Digestiva. 2.a ed. Madrid: Ediciones de la Universidad Autonoma de Madrid; 2011.*

2. *Education and Practical Standards Committee, European Federation of Societies for Ultrasound in Medicine and Biology. Minimum training recommendations for the practice of medical ultrasound. Ultraschall Med 2006;27(1):79-105.*

3. *Argüelles-Arias F, Poza Cordón J, Martín Arranz M, Téllez L, Iglesias-García J, Iborra M, et all. SEPD-AEED Position Statement – Integration of digestive ultrasound in gastroenterology services as a clinical, educational and organizational necessity. Rev Esp Enferm Dig 2025;117(10):554-556.*

4. *Marín-Serrano E. La calidad en ecografía digestiva: un aspecto que urge consensuar. Rev Esp Enferm Dig 2019; 111(8):633-636.*

DOI: 10.37352/2026491.1

REVIEW ARTICLE

ANGIODYSPLASIAS: A THERAPEUTIC CHALLENGE.

Selfa Muñoz A, Candel Erenas JM, Moreno Barrueco M, Bailón Gaona MC

SAN CECILIO CLINICAL UNIVERSITY HOSPITAL. GRANADA.

Abstract

The hospitalization rate for gastrointestinal angiodysplasias has increased by more than 30% over the last decade. These patients increasingly present with comorbidities and, in many cases, are on anticoagulant and/or antiplatelet therapy, necessitating a comprehensive diagnostic and therapeutic approach.

In the absence of clinical practice guidelines for the management of angiodysplasias, this manuscript will address the various available endoscopic treatments. It will review recent scientific evidence on available pharmacological treatments, including somatostatin analogs and thalidomide, among others. Finally, it will propose a therapeutic algorithm for the management of this condition.

Keywords: angiodysplasias, somatostatin analogues, thalidomide.

List of abbreviations

AD: angiodysplasia.

TAVI: transcatheter aortic valve implantation.

HHT: hereditary hemorrhagic telangiectasia.

VEGF: vascular endothelial growth factor.

APC: argon plasma coagulation.

GAVE: gastric antral vascular ectasia.

RCT: randomised controlled trial.

OGIB: obscure gastrointestinal bleeding.

Aida Selfa Muñoz
San Cecilio Clinical University Hospital. Granada.
aidasale@hotmail.com

Selfa Muñoz A, Candel Erenas JM, Moreno Barrueco M, Bailón Gaona MC. Angiodysplasias: a therapeutic challenge. RAPD 2026;49(1):12-22. DOI: 10.37352/2026491.1

Definition of angiodysplasias

Angiodysplasia (AD), also called angiectasia or vascular ectasia, is the most common vascular malformation of the digestive tract. It consists of tortuous and dilated blood vessels, generally less than 5 mm in diameter, located in the mucosal and submucosal layers. Although initially described in 1839, the term angiodysplasia (AD) was first introduced in 1974 by Galdabini when describing abnormal clusters of mucosal vessels in the colon[1].

AD can be found in any segment of the digestive tract. It is most common in the small intestine (57-80%, especially in the jejunum), followed by the colon (44%, especially in the caecum) and stomach (32%). Between 40% and 60% of cases of AD are multiple. And although they usually occur in the same portion of the gastrointestinal tract, in approximately 20% of cases they affect more than one segment of the digestive tract[2].

Prevalence and clinical manifestations

The prevalence of AD is difficult to determine, as most cases are asymptomatic. In a combined analysis of three prospective studies on colonoscopic screening for neoplasia in asymptomatic healthy adults over 50 years of age, only 8 of 964 participants (0.8%) had AD[3].

In 2025, an observational, retrospective, population-based study was published that included 4,327 adults with gastrointestinal AD (based on diagnostic codes) and concluded that the overall prevalence of AD is 0.092%, reaching a maximum prevalence of 0.37% among those aged 71–80 years[1].

AD causes 10% of gastrointestinal haemorrhages and 50% of cases of small intestine haemorrhage. Seventy-seven per cent of patients with gastrointestinal AD experience at least one episode of visible bleeding (haematemesis or melena) with or without haemodynamic instability, while the remainder have chronic anaemia requiring transfusion or intravenous iron infusion[2].

Risk factors

A significant association has been found between AD and age over 60, as well as with other diseases such as chronic obstructive pulmonary disease, liver cirrhosis, aortic stenosis (Heyde syndrome) and chronic renal failure (AD is related to the duration and severity of kidney disease)[2,4].

The association between bleeding AD and aortic stenosis is known as Heyde syndrome. The most widely accepted explanation is that aortic stenosis could cause the destruction of Von Willebrand factor multimers. Von Willebrand factor multimers are large protein complexes formed by the union of smaller subunits (monomers) and are essential for platelet adhesion and aggregation and for protecting factor VIII from degradation. A similar pathogenesis is postulated as the aetiology of gastrointestinal bleeding secondary to AD in patients with left ventricular assist devices.

Before the 21st century, surgical aortic valve replacement was the only technique available, but transcatheter aortic valve implantation (TAVI) is increasingly being used. Goltstein *et al*[5] conducted a meta-analysis that included 300 patients with Heyde syndrome from 10 cohort studies, which determined a combined rate of bleeding cessation after valve repair of 73% (62–81%, 95% CI). Subgroup analyses revealed significantly lower rates of bleeding cessation after TAVI compared with surgical valve replacement (64% vs 82%), which is attributed to the fact that paravalvular leakage is more common after TAVI. Advances in latest-generation TAVI valves have reduced the rate of paravalvular leakage, bringing the results of TAVI closer to those of surgical valve replacement. It should also be noted that bleeding cessation rates are higher between one and five years after TAVI, compared to the first year (85% vs 53%)[6].

Among the hereditary causes of AD, Rendu-Osler-Weber syndrome or hereditary hemorrhagic telangiectasia (HHT) stands out. This is a rare autosomal dominant disorder with various clinical manifestations, including arteriovenous malformations that can occur in the skin, mucous membranes, and any organ. Up to 80–90% of patients have AD in the small intestine. In these patients, gastrointestinal involvement is the second most common cause of bleeding (25–30%), with epistaxis being the first. In 2020, the Annals of Internal Medicine published clinical guidelines for the diagnosis and therapeutic management of patients with HHT[4,7].

Pathogenesis

It is postulated that muscle contractions at the level of the muscularis propria produce chronic, intermittent, and recurrent low-grade vascular obstructions in the submucosa. This triggers local hypoxia, which leads to angiogenesis mediated by chemical agents, the most important of which is vascular endothelial growth factor (VEGF). VEGF stimulates neovascularisation with the formation of ADs, which are aberrant vessels, as they are lined only by endothelium with minimal or no smooth muscle (Figure 1)[2,8].

DOI: 10.37352/2026491.2

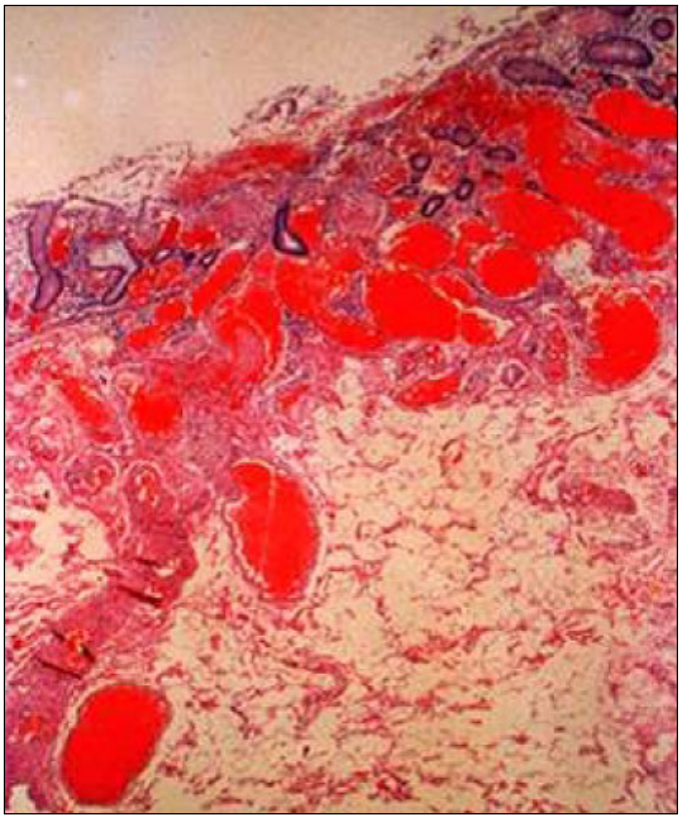


Figure 1. ***Colonic biopsy of an angiodysplasia, showing mucosal and submucosal vascular dilation and congestion (image taken from Saltzman JR, angiodysplasia of the gastrointestinal tract, UpToDate: 2025).***

Multiple chemical mediators are involved in angiogenesis. Higher tissue expression and elevated serum levels of VEGF have been observed in patients with gastrointestinal AD compared to healthy subjects[9]. A significant association has been found between AD and the metabolic pathway of angiopoietins (Ang-1 and Ang-2), which are a group of proteins involved in the formation of new blood vessels. Elevated levels of Ang-2 and a low tendency in Ang-1 and TNF-α levels have been demonstrated in patients with AD, compared to individuals with hemorrhage from other causes[10]. Von Willebrand factor is stored in endothelial cells and regulates the release of Ang-2 and integrin through a complex interaction with the VEGF receptor[11].

Monitoring biochemical markers of angiogenesis could serve as a diagnostic tool or to evaluate response to treatment and distinguish responders from non-responders. Despite the advances made, the clinical use of angiogenesis biomarkers is still in the research phase[2].

Endoscopic treatment

The treatment of gastrointestinal AD (particularly those located in the small intestine) represents a major challenge due to the insidious behavior of the disease, the inaccessibility of the affected sites, and the high recurrence rate.

After endoscopic therapy, the rebleeding rate is 36% during an average follow-up of 22 months. This risk increases to 45% in AD located exclusively in the small intestine[12].

The high recurrence of bleeding in patients with AD after endoscopic treatment could be due to the presence of untreated AD, undetected endoscopically, or the neoformation of lesions. For all these reasons, it is necessary to have other options available, such as pharmacological treatment, as we will see later.

Multiple endoscopic methods are available to treat AD. The choice between these approaches will depend on the location of the lesion, the experience of the endoscopist, and the availability of equipment[2,4,8,13]:

- **Argon plasma coagulation (APC)**: inert argon gas is converted into ionized argon gas (plasma) by a monopolar electrode at the tip of the probe, which is placed between 2 and 8 mm from the bleeding lesion, causing tissue coagulation with low depth penetration (2-3 mm), thereby reducing the risk of perforation (Figure 2). The injection of submucosal saline solution (with or without adrenaline) into localized ADs in the colon protects against deep lesions and further reduces the risk of perforation. Due to its availability, low cost, and good safety profile, APC is positioned as the first-line endoscopic treatment for bleeding gastrointestinal ADs. Cases of intestinal perforation due to colonic gas explosion due to poor bowel preparation have been reported[14,15]. Therefore, adequate colon cleansing is recommended before performing APC.

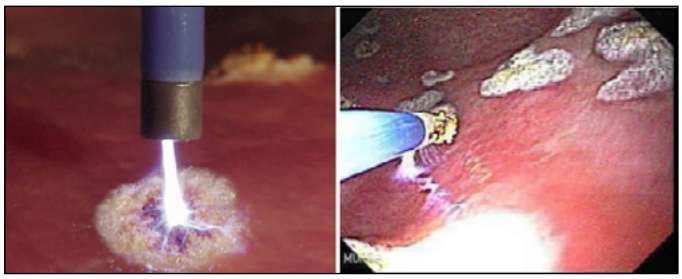


Figure 2. ***Application of argon plasma coagulation (APC) to angiodysplasia in the stomach. Image taken from the website of the Center for Advanced Therapeutic Endoscopy®.***

- **Bipolar electrocoagulation and photocoagulation with Nd: YAG (neodymium: yttrium-aluminium-garnet) and argon laser**. Endoscopic contact probe methods have similar hemostatic efficacy to APC for bleeding ADs. However, they have a higher incidence of perforation, especially when used in the colon.

DOI: 10.37352/2026491.2

- **Sclerotherapy:** the lesion is obliterated by injecting a sclerosing agent that causes local inflammation and thrombosis, followed by hemostasis. It has not been associated with serious complications, but the literature is limited.

- **Mechanical:** endoscopic placement of haemoclips or ligation with elastic bands, leading to ischemia and subsequent necrosis of the target vessels. By avoiding tissue injury, they can be particularly useful in patients taking anticoagulants and/or antiplatelet agents. Elastic band ligation is the method of choice for treating gastric antral vascular ectasia (GAVE) with excellent clinical results and minimal adverse events[16].

- **Radiofrequency ablation:** this has been used to treat GAVE and small bowel AD. In a series of 20 patients with bleeding from small bowel AD, a radiofrequency ablation catheter was passed through the working channel of the enteroscope. The median follow-up time was 195 days (30-240 days), and recurrence of bleeding was observed in 4 patients (20%), 3 of whom had a left ventricular assist device[17]. Further studies are needed to evaluate this technique.

Cochrane[13] is currently working on a protocol for the endoscopic treatment of AD. It will include randomized controlled trials (RCTs) and quasi-randomized trials on adults with AD at any level of the gastrointestinal tract, with occult or overt gastrointestinal bleeding, or iron deficiency anemia. These will compare any treatment, whether endoscopic or not, including one or more of the following: medical (any drug and dose), surgical treatment, interventional radiology, blood transfusion, or therapeutic abstention. GAVE and hypertensive portal gastropathy will be excluded, as will combinations of treatments (e.g., endoscopy and medical therapy, combinations of endoscopic approaches, etc.). Response and adverse events will be assessed.

When should endoscopic treatment be performed?

During digestive endoscopy, we can objectively determine the presence of AD. Depending on the different possible clinical scenarios, endoscopic treatment may or may not be necessary (Figure 3)[8,18]:

- **Incidental finding:** in the case of AD found incidentally during digestive endoscopy, endoscopic treatment is not necessary. This is provided that the patient has no history of gastrointestinal bleeding and/or iron deficiency anemia.

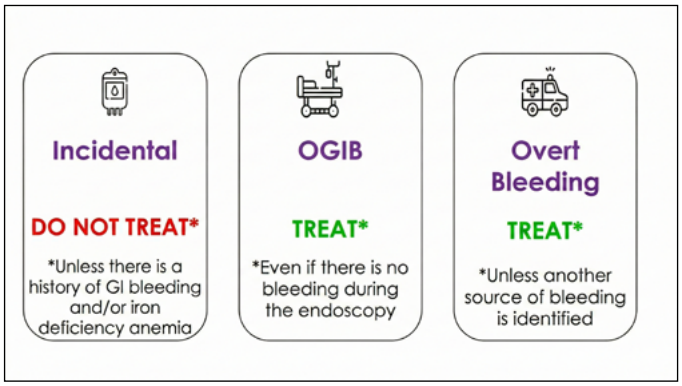


Figure 3. ***Possible scenarios regarding the finding of angiodysplasia during digestive endoscopy and the need or lack thereof for endoscopic treatment (by the author of the manuscript). GI: Gastrointestinal bleeding; OGIB: obscure gastrointestinal bleeding.***

- **Obscure gastrointestinal bleeding (OGIB)**: in patients with OGIB, it is recommended to treat AD, even if it is not bleeding at the time of endoscopy. The current terminology has changed from 'OGIB' to 'small bowel bleeding', with the term OGIB being reserved for cases in which the source of the bleeding cannot be detected despite a thorough evaluation of the entire gastrointestinal tract, including the small bowel[4].

- **Overt gastrointestinal bleeding:** in the event of active bleeding, AD should be treated unless another source of gastrointestinal bleeding is identified during endoscopy

Embolisation by angiography

This is performed by selective catheterization of the vessel supplying the bleeding lesion and subsequent injection of embolizing agents (the most commonly used are biodegradable sponges and microcoils). It has a high hemostatic efficacy of 80-90%. It is associated with complications in 5-9% of cases, of which 2% are serious and include hematomas, intestinal infarction, arterial dissection, thrombosis, and pseudoaneurysms[2,19].

It is a complex procedure that requires special technical equipment and operators highly trained in endovascular radiology, and it presents more complications than endoscopic therapy[2,19].

DOI: 10.37352/2026491.2

Pharmacological treatment

Somatostatin

Somatostatin is a cyclic polypeptide secreted by D cells in the gastrointestinal mucosa that inhibits the secretion of gastric acid, bile, and pancreatic secretions.

Native somatostatin is not useful in clinical practice due to its extremely short half-life of 1 to 3 minutes. For this reason, synthetic somatostatin analogues with a longer half-life have been developed. To date, three have been approved for clinical use: first-generation lanreotide and octreotide, and second-generation pasireotide. They are administered in daily subcutaneous doses, and a long-acting form of octreotide (octreotide LAR) is now available that can be administered intramuscularly once a month.

Somatostatin analogues have proven useful in the treatment of gastrointestinal ADs through several mechanisms of action[20,21]:

- They inhibit VEGF, thereby reducing angiogenesis.

- They decrease splanchnic and portal blood flow by inhibiting vasodilator peptides (nitric oxide, glucagon) and through a direct vasoconstrictor effect.

- They improve platelet aggregation.

Several studies have been conducted since the 1990s investigating the use of SSA analogues in the context of gastrointestinal AD (Figure 4). These involve small samples, heterogeneous patient groups, with variable inclusion criteria and study designs.

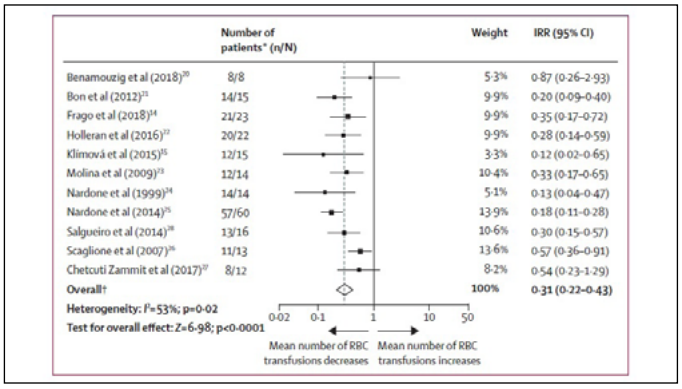


Figure 4. ***Studies on the effect of somatostatin analogues on the average number of red blood cell transfusions. RBC: red blood cell transfusions. Image taken from Goltstein et al., The Lancet Gastroenterology & Hepatology 2021.***

En el 2021 Goltstein *et al*[22] published a meta-analysis of individual data from 212 patients in 11 studies (1 randomized controlled trial and 10 cohort studies) with gastrointestinal AD and refractory bleeding treated with somatostatin analogues. They demonstrated a significant reduction in the need for blood transfusions from a mean of 12.8 to 2.3 units with somatostatin analogues over a 12-month follow-up period. Subanalysis showed that the location of ADs in the stomach, compared to ADs in the small intestine and colon, was associated with a poorer response to treatment. Octreotide had a better response to treatment than lanreotide (Figure 5). This finding could be explained by octreotide's 30% higher binding affinity to SSTR2, which is mainly expressed in the small intestine and colon. Furthermore, long-acting octreotide maintains serum concentrations better than extended-release lanreotide[22].

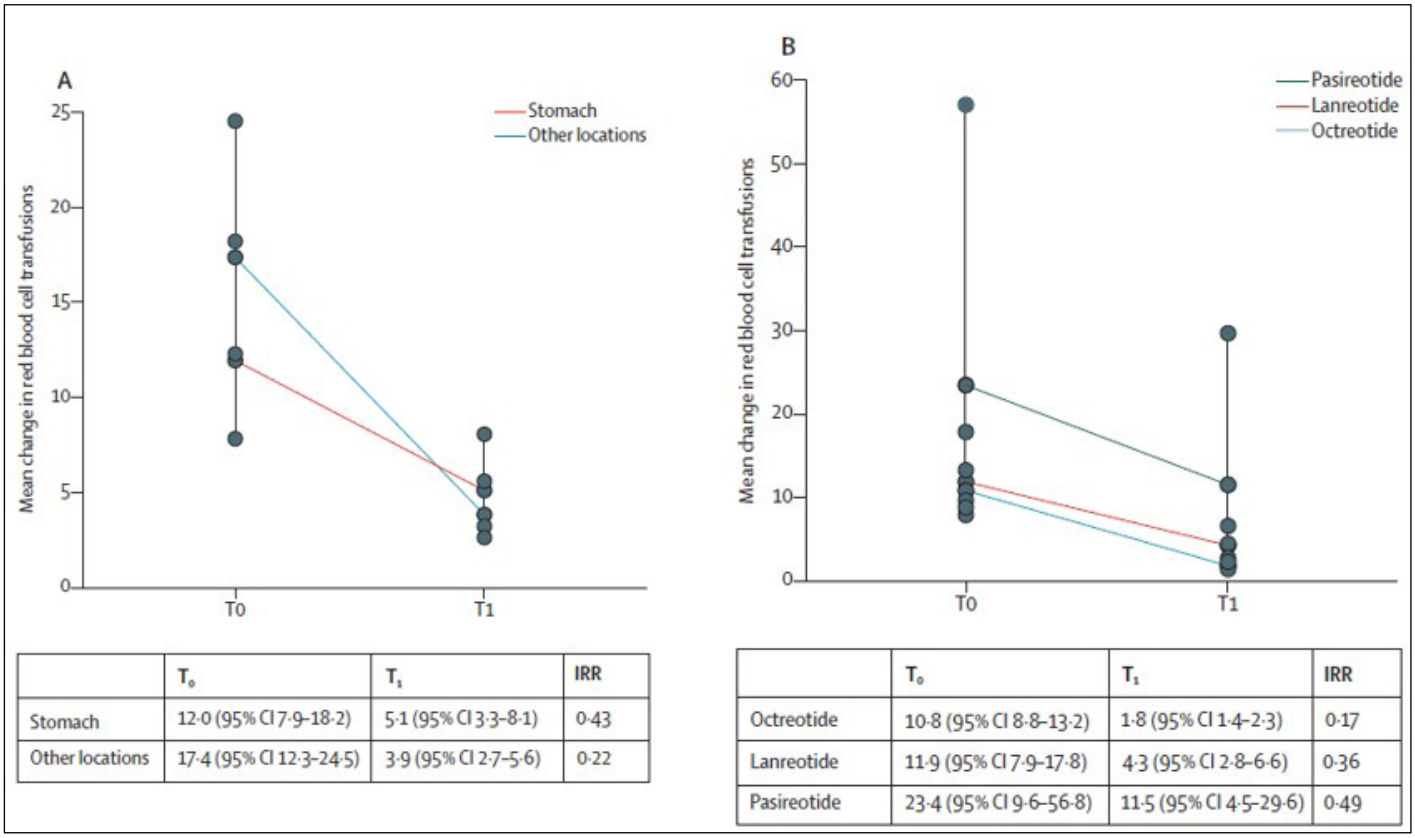
Additional evidence supporting the efficacy of somatostatin analogues comes from a large, multicenter, open-label RCT published in 2024[23]. In patients with AD bleeding who required at least 4 red blood cell transfusions, intravenous iron infusions, or both in the year prior to randomization, intramuscular administration of 40 mg octreotide LAR every 28 days was compared with standard treatment (intravenous iron +/- red blood cell transfusion). Patients in both groups were allowed to receive concomitant care, including endoscopic application of APC, discontinuation of antithrombotics, and use of tranexamic acid.

Patients receiving octreotide had a significantly lower transfusion requirement (11.0 units versus 21.2 units), and 61% achieved at least a 50% reduction in transfusions compared with baseline, versus only 19% in the standard treatment group. Octreotide also reduced the annual volume of endoscopic procedures by 0.9[23]. The beneficial effect was evident during the first month and remained consistent throughout the study year.

A relatively high dose of octreotide was used, which possibly resulted in more adverse events. These were reported in 25–65% of patients and were mostly mild: glucose intolerance, cholelithiasis, gastrointestinal symptoms (abdominal pain, diarrhea), and reactions at the injection site. Only 5-6% of patients experienced serious adverse events that required discontinuation of treatment, such as thrombocytopenia, renal failure, heart failure, and poor glycemic control[23,24].

Somatostatin analogues are expensive (Figure 6). Few studies have examined their cost-benefit ratio. A retrospective study of veterans with AD bleeding concluded that their use is not cost-effective in the US[25]. Tai *et al.*[26] showed that the use

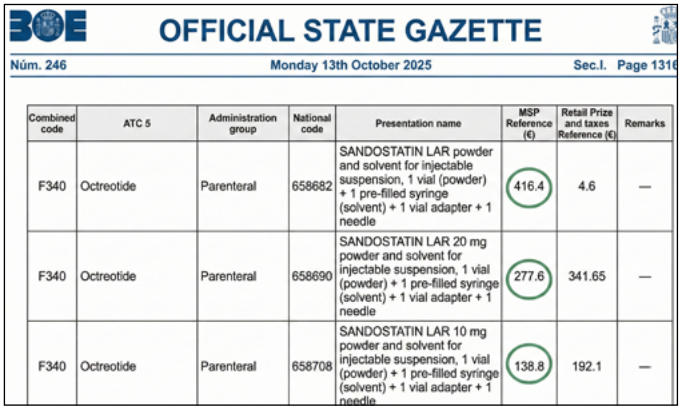
DOI: 10.37352/2026491.2



	T_0	T_1	IRR
Stomach	12·0 (95% CI 7·9–18·2)	5·1 (95% CI 3·3–8·1)	0·43
Other locations	17·4 (95% CI 12·3–24·5)	3·9 (95% CI 2·7–5·6)	0·22

	T_0	T_1	IRR
Octreotide	10·8 (95% CI 8·8–13·2)	1·8 (95% CI 1·4–2·3)	0·17
Lanreotide	11·9 (95% CI 7·9–17·8)	4·3 (95% CI 2·8–6·6)	0·36
Pasireotide	23·4 (95% CI 9·6–56·8)	11·5 (95% CI 4·5–29·6)	0·49

Figure 5. ***Angiodysplasia in the stomach responded less well to treatment with somatostatin analogs than that in the small intestine and colon. Octreotide was more effective than lanreotide. Image taken from Goltstein et al., The Lancet Gastroenterology & Hepatology 2021.***


BOE OFFICIAL STATE GAZETTE

Núm. 246 Monday 13th October 2025 Sec.I. Page 131

Combined code	ATC 5	Administration group	National code	Presentation name	MSP Reference (€)	Retail Prize and taxes Reference (€)	Remarks
F340	Octreotide	Parenteral	658682	SANDOSTATIN LAR powder and solvent for injectable suspension, 1 vial (powder) + 1 pre-filled syringe (solvent) + 1 vial adapter + 1 needle	416.4	4.6	—
F340	Octreotide	Parenteral	658690	SANDOSTATIN LAR 20 mg powder and solvent for injectable suspension, 1 vial (powder) + 1 pre-filled syringe (solvent) + 1 vial adapter + 1 needle	277.6	341.65	—
F340	Octreotide	Parenteral	658708	SANDOSTATIN LAR 10 mg powder and solvent for injectable suspension, 1 vial (powder) + 1 pre-filled syringe (solvent) + 1 vial adapter + 1 needle	138.8	192.1	—

Figure 6. ***Order SND/1118/2025, of October 6, updating the reference price system for medicines in the National Health System in 2025. Published in: "BOE" (Official State Gazette) no. 246, October 13, 2025, pages 131294 to 132480 (1187 pages).***

of somatostatin analogues as an adjunct to endoscopy is cost-neutral compared to conservative management.

Despite the price and adverse events, they would remain the first-line pharmacological treatment for AD[27].

Thalidomide

Thalidomide is known to cause severe birth defects. It inhibits angiogenesis through VEGF and β-fibroblast growth factor and is an immunomodulator (suppresses tumor necrosis factor). In the treatment of AD, it is administered orally in daily doses (50 to 300 mg) for a period of 4 to 6 months, most frequently 4 months, as it has been shown to have a lasting effect after discontinuation[24].

A double-blind, multicenter RCT[28] evaluated the efficacy of thalidomide in reducing bleeding in a cohort of 150 patients with gastrointestinal AD (and at least 4 episodes of bleeding in the previous year). Patients were randomly assigned to three groups receiving 100 mg or 50 mg daily of thalidomide or placebo for 4 months. At one year of follow-up, 68.6%, 52%, and 16% of patients had a reduction in the number of bleeding episodes of at least 50% when receiving 100 mg of thalidomide, 50 mg of thalidomide, and placebo, respectively.

In 2024, Song *et al*[29] conducted a meta-analysis of RCTs on thalidomide in gastrointestinal AD (279 patients: 166 thalidomide and 113 controls) (Figura 7). Thalidomide produced an improvement in hemoglobin levels, reduced the

DOI: 10.37352/2026491.2

First author (publication year)	Patients, *n* (Thalidomide/ Control)	Age (years), mean ± SD (Thalidomide *versus* Control)	M/F, *n* (Thalidomide *versus* Control)	Thalidomide	Control	Follow-up period	Proportion of small intestine (Thalidomide *versus* Control)
Chen *et al.*, 2023[9]	100/50	60.6 ± 7.3 *versus* 61.8 ± 7.5	39/61 *versus* 22/28	25 mg orally four times daily for 51 patients for 4 months; or 25 mg orally two times daily for 49 patients for 4 months	One placebo tablet four times daily for 4 months	One year after the end of treatment	100/100 *versus* 50/50
Ge *et al.*, 2011[10]	28/27	58.8 ± 12.2 *versus* 59.0 ± 10.5	4/24 *versus* 5/22	25 mg orally four times daily for 4 months	100 mg ferrous succinate tablets orally four times daily for 4 months	One year after the end of treatment	26/28 *versus* 26/27
Li and Qiu, 2015[24]	38/36	43.8 ± 9.7 *versus* 42.2 ± 12.5	18/20 *versus* 17/19	25 mg orally four times daily for 4 months	Ordinary infusion therapy to maintain electrolyte balance	One year after the beginning of treatment	21/38 *versus* 20/36

M/F, male/female; N, No; SD, standard deviation; Y, Yes.

Figure 7. ***Characteristics of the studies included in the meta-analysis of randomized clinical trials on the beneficial effect of thalidomide in gastrointestinal angiodysplasias. Image taken from Song et al., Therapeutic Advances in Gastroenterology 2024.***

number of bleeding episodes and improved the hospitalization rate compared to the control group.

Thalidomide has very common (≥1/10) mild-to-moderate side effects such as drowsiness, fatigue, constipation, dizziness, and peripheral edema. It also has very common serious side effects (≥1/10): peripheral neuropathy (dose-dependent, occurring in 80% of patients after 6 months of treatment), leukopenia, anemia, and thrombocytopenia.

The technical data sheet[30] recommends:

- Assessing thromboprophylaxis in patients with additional thrombotic risk factors.

- Testing for hepatitis B virus to prevent reactivation.

- Using contraceptive methods in women 4 weeks before, during, and 4 weeks after treatment, and in men until at least 7 days after discontinuation of treatment.

- Subject patients to clinical and neurological examinations before starting treatment with thalidomide. Monitor them for symptoms of neuropathy (paresthesia, dysesthesia, discomfort, abnormal coordination, or weakness).

Adverse events and lower adherence than somatostatin analogues (monthly injection) place it as a second-line pharmacological treatment in cases of intolerance or failure of somatostatin analogues[24,27].

Bevacizumab

It is a humanized monoclonal antibody, VEGF antagonist. It is used in oncology to inhibit tumor growth and metastasis, for example in metastatic colorectal cancer and non-small cell lung cancer.

There is growing evidence of the efficacy of bevacizumab in the treatment of gastrointestinal bleeding in the context of HHT. It is administered intravenously at a lower dose than for oncological purposes, with 5 mg/kg every 2 weeks for 4 to 6 doses in the induction phase and 5 mg/kg per month in the maintenance phase[31,32].

A review of the literature reveals some case reports describing the use of bevacizumab in AD. There is only one retrospective cohort study[32] of 21 patients treated with intravenous bevacizumab for refractory gastrointestinal bleeding secondary to GAVE and AD of the small intestine. After one year of treatment, 86%[18] achieved a 50% reduction in

DOI: 10.37352/2026491.2

red blood cell transfusion requirements. The mean hemoglobin concentration increased from 8.3 g/dl to 9.8 g/dl. In addition, the need for endoscopic procedures decreased after one year (median from 5 to 0).

Side effects include venous thromboembolism (2.8–17.3%) and gastrointestinal perforation (1–2.7%, with a fatal outcome in approximately one-third of severe cases of gastrointestinal perforation). It is contraindicated during pregnancy and should not be started within 28 days of major surgery or until the surgical wound has completely healed[33].

Patients with a history of diabetes or who are over 65 years of age have an increased risk of arterial thromboembolic reactions (acute myocardial infarction, stroke) during treatment. In those over 65 years of age, there is an increased risk of leukopenia, severe thrombocytopenia, and severe hypertension[33].

The low level of evidence, high cost, and adverse events position it as a last-resort alternative option.

Other treatments:

Sirolimus

Sirolimus is an inhibitor of mTOR (mammalian target of rapamycin) and its mechanism of action consists of blocking this protein to suppress the immune response and cell growth.

Sirolimus has demonstrated therapeutic efficacy in inhibiting abnormal blood vessel formation in the skin, cornea, and tumors, indirectly supporting its potential use for gastrointestinal AD.

There is only one self-controlled study[34] evaluating the efficacy and safety of sirolimus in 11 patients with recurrent AD bleeding. Patients received oral capsules, 0.8 mg/m^2 of body surface area once daily. Plasma concentrations were measured at 1, 3, and 6 months with the aim of maintaining a concentration of 5-10 ng/mL. Treatment with sirolimus achieved a significant reduction in the number of bleeding episodes, improved hemoglobin levels, and reduced the need for blood transfusions.

Adverse effects are described as very common (≥1/10): infections, anemia, leukopenia, and thrombocytopenia[35].

These results suggest that sirolimus may be an effective therapeutic option in patients with refractory gastrointestinal AD, although current evidence is limited by sample size and the absence of a control group. RCTs and a larger number of patients are needed to establish clinical recommendations on sirolimus.

Estrogens +/- progesterone

It has been proposed that hormone therapy (estrogens with or without progesterone) reduces the rate of gastrointestinal bleeding due to AD by contributing to hemostasis and decreasing fibrinolysis. However, a multicenter, double-blind RCT involving 72 patients with AD bleeding showed no therapeutic benefit compared with placebo. Based on these findings, there appears to be little role for hormone therapy in patients with AD[24,36].

Tranexamic acid

There has been little research on the use of tranexamic acid in the treatment of gastrointestinal AD. The international HALT-IT RCT[37] showed that tranexamic acid did not significantly reduce the risk of rebleeding or death from gastrointestinal hemorrhage.

Management algorithm

Recent publications propose evaluating a change in the management of patients with AD[24,27]. In the article by Becq *et al*[27], they propose a management algorithm (Figure 8).

In the event of bleeding due to AD, evaluate endoscopic treatment. APC would be a good option due to its safety profile, cost, and availability.

Although there is no consensus definition of failed endoscopic treatment, the criteria for refractory AD generally include recurrent bleeding, continued need for transfusions, and/or repeated endoscopies. At this point, assess the risk/benefit of discontinuing anticoagulants and/or antiplatelet agents if the patient is taking them.

In cases of aortic stenosis, consider aortic valve replacement. In all other cases of refractory AD, consider somatostatin analogues as the first therapeutic option due to their good tolerance profile: octreotide LAR 10 mg, intramuscularly, monthly, increasing to 40 mg if there is no response. Screening for cholelithiasis by abdominal ultrasound is recommended before and after 6 months of treatment, as well as monitoring of liver function tests and glycosylated hemoglobin levels.

DOI: 10.37352/2026491.2

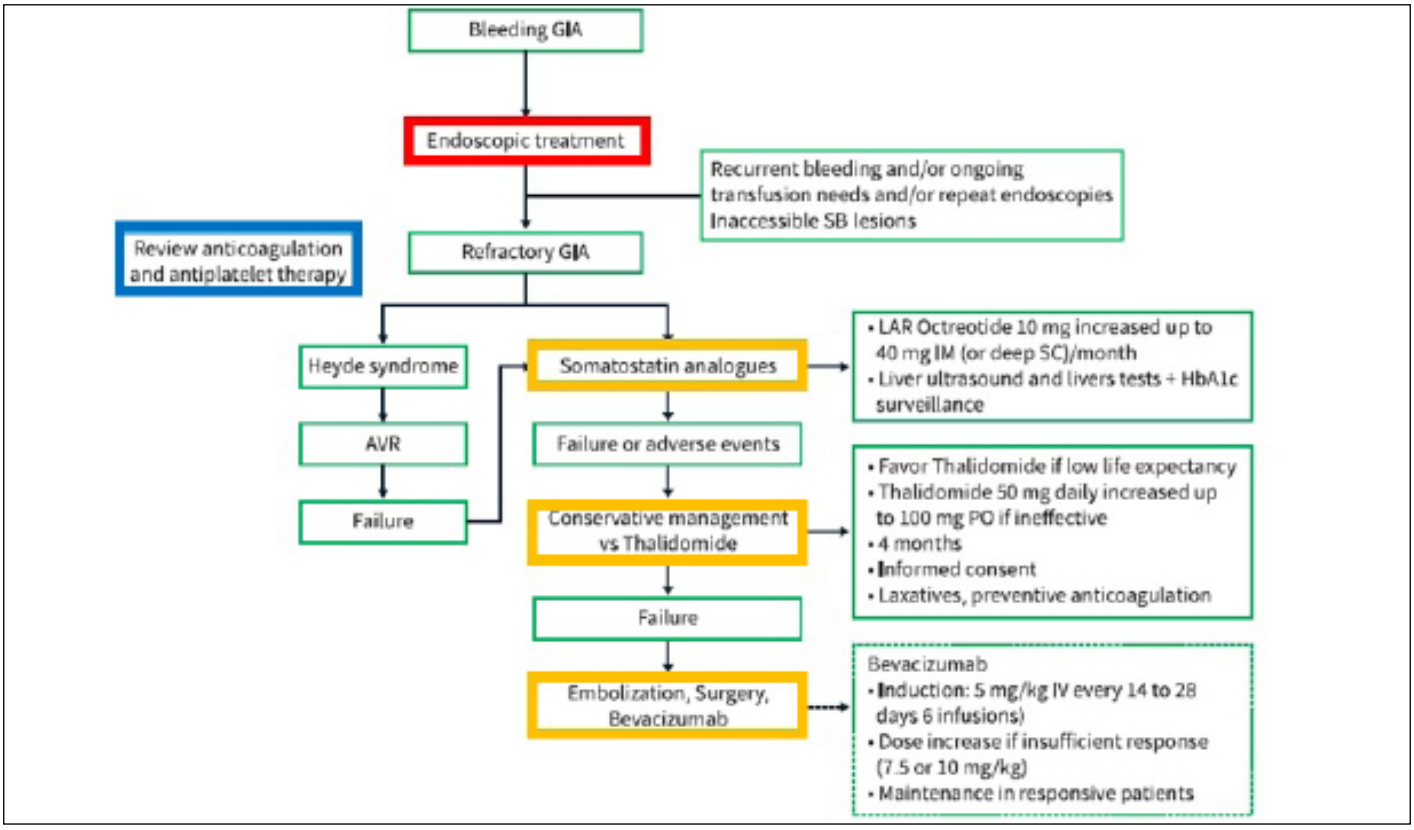


Figure 8. ***Algorithm for the management of refractory gastrointestinal angiodysplasia (image taken from Becq A et al., United European Gastroenterology Journal 2024). AVR, aortic valve replacement; SB, small bowel; GIA, gastrointestinal angiodysplasia.***

In case of failure or interruption due to adverse events, consider conservative management or thalidomide. Especially in patients who are unlikely to suffer from polyneuropathy (dose-dependent, occurs in 80% of patients after 6 months of treatment) due to their short life expectancy. Thalidomide at a dose of 50 mg, taken orally at night (causes drowsiness), with an increase to 100 mg if ineffective, for a total of 4 months. It is essential to inform patients about adverse effects and obtain informed consent. According to the technical data sheet, consider thromboprophylaxis in patients with additional thrombotic risk factors[30].

The next therapeutic option, according to the proposed algorithm, would be embolization, surgery, or bevacizumab. Bevacizumab would be used on a compassionate basis, administered intravenously, at a dose of 5 mg/kg every 2 weeks during the induction phase, for 4 to 6 doses, and at a maintenance dose of 5 mg/kg per month. Treatment should be discontinued in the event of recent deep vein thrombosis, severe infectious disease, or severe arteriopathy.

Bibliography

1. *Bermont A, Abu-Freha N, Cohen DL, Abu-Kaf H, Juma AA, Galion FA, et al. Epidemiology and risk factors for angiodysplasias of the upper and lower gastrointestinal tract: A large population-based study. Dig Liver Dis. 2025; 57(1):220-224.*

2. *García-Compeán D, Del Cueto-Aguilera ÁN, Jiménez-Rodríguez AR, González-González JA, Maldonado-Garza HJ. Diagnostic and therapeutic challenges of gastrointestinal angiodysplasias: A critical review and view points. World J Gastroenterol. 2019;25(21):2549-2564*

3. *Shovlin_CL. Hereditary haemorrhagic telangiectasia: pathophysiology, diagnosis and treatment. Blood Reviews 2010; 24(6):203-19.*

4. *Sandhu S, Gross J, Barkin JA. Small Bowel Bleeding Due to Vascular Lesions: Pathogenesis and Management. Curr Gastroenterol Rep 2025; 27(1):37.*

5. *Goltstein LCMJ, Rooijakkers MJP, Hoeks M, et al. Effectiveness of aortic valve replacement in Heyde syndrome: a meta-analysis. Eur Heart J. 2023;44(33):3168–77.*

6. *Goltstein LCMJ, Rooijakkers MJP, Görtjes NCC, et al. Reduction of gastrointestinal bleeding in patients with Heyde syndrome undergoing transcatheter aortic valve implantation. Circ Cardiovasc Interv. 2022;15(7): e011848.*

DOI: 10.37352/2026491.2

7. Faughnan ME, Mager JJ, Hetts SW, Palda VA, Lang-Robertson K, Buscarini E, et al. Second International Guidelines for the Diagnosis and Management of Hereditary Hemorrhagic Telangiectasia. Ann Intern Med. 2020;173(12):989-1001.

8. Saltzman JR. Angiodysplasia of the gastrointestinal tract. Friedman LS, Meyer C. UpToDate: 2025 (consultado 02/11/2025). Disponible en: https://www.uptodate.com.

9. Fujita H, Momoi M, Chuganji Y, Tomiyama J. Increased plasma vascular endothelial growth factor levels in patients with angiodysplasia. J Intern Med 2000; 248: 268-269.

10. Holleran G, Hussey M, Smith S, McNamara D. Assessment of serum angiogenic factors as a diagnostic aid for small bowel angiodysplasia in patients with obscure gastrointestinal bleeding and anaemia. World J Gastrointest Pathophysiol 2017; 8: 127-132.

11. Holleran G, Hall B, O'Regan M, Smith S, McNamara D. Expression of Angiogenic Factors in Patients With Sporadic Small Bowel Angiodysplasia. J Clin Gastroenterol 2015; 49: 831-836.

12. Jackson CS. Gerson LB Management of gastrointestinal angiodysplastic lesions (GIADs): a systematic review and meta-analysis. Am J Gastroenterol 2014;109:474–483.

13. Alhamid A, Aljarad Z, Chaar A, Grimshaw A, Hanafi I. Endoscopic therapy for gastrointestinal angiodysplasia. Cochrane Database Syst Rev 2024;9(9):CD014582.

14. Horák P, Peregrinová M, Erbenová A, Žižková T, Fulík J, Fanta J. Pneumoperitoneum, pneumomediastinum and subcutaneous emphysema following argon plasma coagulation treatment of colonic angioectasia. Rozhl Chir. 2023;102(3):130-133.

15. Seth AK, Kapoor N, Puri P. Colonic explosion with use of argon plasma coagulation for radiation proctitis. Indian J Gastroenterol. 2009;28(3):118-9.

16. Garg A, Moond V, Bidani K, Garg A, Broder A, Mohan BP, et al. Endoscopic band ligation versus argon plasma coagulation in the treatment of gastric antral vascular ectasia: systematic review and meta-analysis. Gastrointest Endosc. 2025;101(6):1100-1109.e13.

17. Lara LF, Silva R, Thakkar S, et al. Multicenter case series of patients with small-bowel angiodysplasias treated with a small-bowel radiofrequency ablation catheter. VideoGIE 2020; 5:162.

18. Aghighi M, Taherian M, Sharma A. Angiodysplasia. 2023 Aug 14. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan.

19. Mirsadraee S, Tirukonda P, Nicholson A, Everett SM, McPherson SJ. Embolization for non-variceal upper gastrointestinal tract haemorrhage: A systematic review. Clin Radiol 2011; 66: 500-509.

20. Gomes-Porras M, Cárdenas-Salas J, Álvarez-Escolá C. Somatostatin analogs in clinical practice: a review. Int J Mol Sci 2020; 21:1682.

21. Aslam M, Idrees H, Ferdinandy P, et al. Somatostatin primes endothelial cells for agonist-induced hyperpermeability and angiogenesis in vitro. Int J Mol Sci 2022;23:6.

22. Goltstein LCMJ, Grooteman KV, Rocco A, et al. Effectiveness and predictors of response to somatostatin analogues in patients with gastrointestinal angiodysplasias: a systematic review and individual patient data meta-analysis. Lancet Gastroenterol Hepatol. 2021;6 (11):922–932.

23. Goltstein LCMJ, Grooteman KV, Bernts LHP, et al. Standard of care versus octreotide in angiodysplasia-related bleeding (the OCEAN study): a multicenter randomized controlled trial. Gastroenterology 2024;166(4):690-703.

24. Johnson CM, Nandi N, Sidhu R. Pharmacotherapy for Gastrointestinal Angiodysplasia: is it effective? Expert Opin Pharmacother 2024;25(6):633-636.

25. Gutierrez M, Kesavan C, Das A, et al. Strategic management of bleeding small bowel gastrointestinal angiodysplasias (GIADs): a 12 year retrospective review in a veteran population and cost comparison. Diagnostics (Basel). 2023;13(3):525.

26. Tai FWD, Chetcuti-Zammit S, Sidhu R. Small bowel angioectasia-the clinical and cost impact of different management strategies. Clin Res Hepatol Gastroenterol. 2023;47(8):102193.

27. Becq A, Sidhu R, Goltstein LCMJ, Dray X. Recent advances in the treatment of refractory gastrointestinal angiodysplasia. United European Gastroenterol J. 2024; 1-8.

28. Chen H, Wu S, Tang M, et al. Thalidomide for Recurrent Bleeding Due to Small-Intestinal Angiodysplasia. N Engl J Med 2023; 389:1649.

29. Song K, He K, Yan X, Pang K, Tang R, Lyu C, et al. Efficacy and safety of thalidomide in gastrointestinal angiodysplasias: systematic review and meta-analysis with trial sequential analysis of randomized controlled trials. Therap Adv Gastroenterol 2024; 17: 17562848241255295.

DOI: 10.37352/2026491.2

30. Talidomida [prospecto]. Dublin: Bristol-Myers Squibb; 2018.

31. Furumaya A, Goltstein LCMJ, Tushuizen ME, Klemt-Kropp M. Bevacizumab for refractory gastrointestinal angiodysplasia: a case report and literature review. Eur J Gastroenterol Hepatol 2025;37(12):1396-1401.

32. Albitar HAH, Almodallal Y, Papadakis KA, Rajan E, Kamath PS, Iyer VN. Intravenous bevacizumab reduces transfusion requirements and endoscopic interventions in patients with gastric antral vascular ectasia and small bowel angioectasia. Gastroenterology 2020; 158:1162– 1163.e4.

33. Bevacizumab [prospecto]. Alemania: Roche; 2014.

34. Sun Q, Wu JC, Chen X, Li DH, Li BR, Xiao NJ, et al. Efficacy and safety of sirolimus in the treatment of gastrointestinal angiodysplasias. World J Gastroenterol 2025; 31(25): 105677.

35. Sirolimus [prospecto]. Bruselas: Pfizer; 2011.

36. Junquera F, Feu F, Papo M, et al. A multicenter, randomized, clinical trial of hormonal therapy in the prevention of rebleeding from gastrointestinal angiodysplasia. Gastroenterology 2001; 121:1073.

37. Fujimori S. Tranexamic acid may be a useful pharmacotherapy for endoscopically resistant small bowel angiodysplasia. World J Gastroenterol 2023; 29: 1131-1138.

DOI: 10.37352/2026491.2

CLINICAL CASE

UPPER GASTROINTESTINAL BLEEDING SECONDARY TO GASTRIC VARICES DUE TO SEGMENTAL PORTAL HYPERTENSION AFTER WARSHAW-TYPE DISTAL PANCREATECTOMY

Rodríguez Mateu A, Plaza Fernández A, Fernández Carrasco M, Fernández Muñóz LR
TORRECÁRDENAS UNIVERSITY HOSPITAL. ALMERIA.

Abstract

The Warshaw-type distal pancreatectomy is a surgical technique that preserves the spleen by ligating the splenic vessels while maintaining perfusion through the short gastric vessels and the left gastroepiploic artery. Although generally safe, it may lead to the development of left-sided (sinistral) portal hypertension, with the formation of perigastric collateral circulation and the appearance of gastric varices. While these varices are often asymptomatic, a minority of patients may develop complications such as upper gastrointestinal bleeding.

We present the case of a 38-year-old woman previously treated with a Warshaw-type distal pancreatectomy for mesenteric fibromatosis, who presented with hematemesis and syncope. Endoscopic evaluation revealed gastric varices, and imaging studies confirmed this diagnosis, demonstrating perisplenic collaterals associated with interruption of the splenic venous axis, consistent with postsurgical left-sided portal hypertension.

The patient received initial treatment with cyanoacrylate injection, somatostatin infusion, and blood transfusion, followed by initiation of beta-blocker therapy as secondary prophylaxis. She remained hemodynamically stable without further bleeding. Due to her postoperative vascular anatomy, radiological embolization and other shunt procedures were not feasible. Given the presence of significant thrombocytopenia, elective splenectomy was indicated as definitive treatment, resulting in complete resolution of the condition.

This case highlights a rare but potentially serious complication of the Warshaw technique and underscores the importance of considering sinistral portal hypertension as a cause of gastrointestinal bleeding, even many years after

Alejandro Rodríguez Mateu
Torrecárdenas University Hospital. Almería.
alexrodry97@gmail.com

Rodríguez Mateu A, Plaza Fernández A, Fernández Carrasco M, Fernández Muñóz LR. Upper gastrointestinal bleeding secondary to gastric varices due to segmental portal hypertension after Warshaw-type distal pancreatectomy. RAPD 2026;49(1):23-25. DOI: 10.37352/2026491.1

surgery. Individualized management and a multidisciplinary approach are essential for optimal outcomes.

Keywords: upper gastrointestinal bleeding, gastric varices, Warshaw.

Introduction

Warshaw-type distal pancreatectomy with spleen preservation is a widely used surgical alternative for resection of the pancreatic body and tail in benign lesions or those with low malignant potential. This technique is characterized by ligation of the splenic artery and vein, maintaining spleen viability through collateral circulation from the short gastric vessels and the left gastroepiploic artery.

Its main appeal lies in its technical simplicity, especially in laparoscopic or robotic approaches, and in its usefulness when preservation of the splenic axis is not possible due to tumor proximity or adhesions, thus differentiating it from the Kimura technique.

Although the procedure has a high safety profile, it may be associated with specific vascular complications resulting from the interruption of splenic drainage, such as splenic infarction or the appearance of gastric varices secondary to segmental portal hypertension. Although these findings are usually subclinical, in a minority of patients they can progress to upper gastrointestinal bleeding.

We present the case of a woman with a history of distal Warshaw-type pancreatectomy who presented with an episode of gastrointestinal bleeding secondary to gastric varices.

Clinical case

A 38-year-old woman with a history of distal Warshaw pancreatectomy performed 15 years ago for mesenteric fibromatosis. She currently attends the emergency department after presenting with an episode of hematemesis accompanied by transient loss of consciousness. On arrival, she was found to have severe anemia (Hb 7.1 g/dL) and a tendency to hypotension, and an urgent transfusion of two red blood cell concentrates was initiated. Other notable laboratory findings included moderate thrombocytopenia (45,000/mm3).

Initial endoscopy revealed a large clot occupying the gastric fundus, with no clear bleeding point identifiable. Gastroscopy was repeated later, revealing markedly thickened gastric folds and a small fibrinous area consistent with gastric varices, which presented bleeding during the examination, leading to the administration of cyanoacrylate, after which the patient remained stable.

An urgent abdominal CT angiogram confirmed the presence of large varices in the fundus and perisplenic region, abundant collateral circulation, and splenomegaly, in the context of an absence of major splenic vessels, all consistent with left portal hypertension secondary to previous surgery (Figures 1 y 2).

During admission, the patient remains stable and does not present any new bleeding episodes. She completes five days of somatostatin infusion, carvedilol is initiated at a dose of 6.25 mg every 12 hours as secondary prophylaxis, and intravenous iron is administered to treat anemia.

As definitive treatment, after joint assessment with the General Surgery and Interventional Radiology departments, the possibility of hepatic artery embolization is ruled out due to the post-surgical anatomical characteristics and the high risk of gastric ischemia in case of access through other branches. Finally, a scheduled splenectomy was indicated, which was performed without intraoperative incidents and with good subsequent evolution without new episodes of bleeding.

Discussion

Warshaw-type distal pancreatectomy allows preservation of the spleen by ligating the main splenic vessels and maintaining perfusion through the short gastric vessels and the left gastroepiploic artery. Although it is considered a safe and advantageous technique in benign or low-risk lesions, this forced redistribution of splenic drainage can cause significant hemodynamic alterations. The most relevant is left (sinistral) portal hypertension, a direct consequence of the interruption or occlusion of the splenic vein. This phenomenon causes splenic congestion and the development of a network of venous collaterals that drain preferentially into the short gastric vessels and the left gastroepiploic vein.

The formation of gastric varices is a classic manifestation of this hypertensive collateral circulation. Although up to a quarter of patients undergoing this technique may develop radiological perigastric varices, most remain asymptomatic. However, in a minority of cases, these varices can progress to rupture, leading to potentially serious upper gastrointestinal bleeding, which is more common in young patients with particularly strong collateral development.

DOI: 10.37352/2026491.3

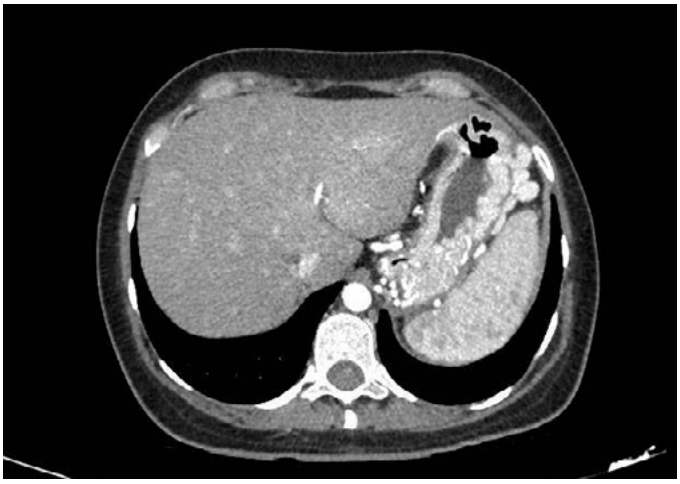


Figure 1. ***Perigastric and perisplenic varices on abdominal CT angiography.***

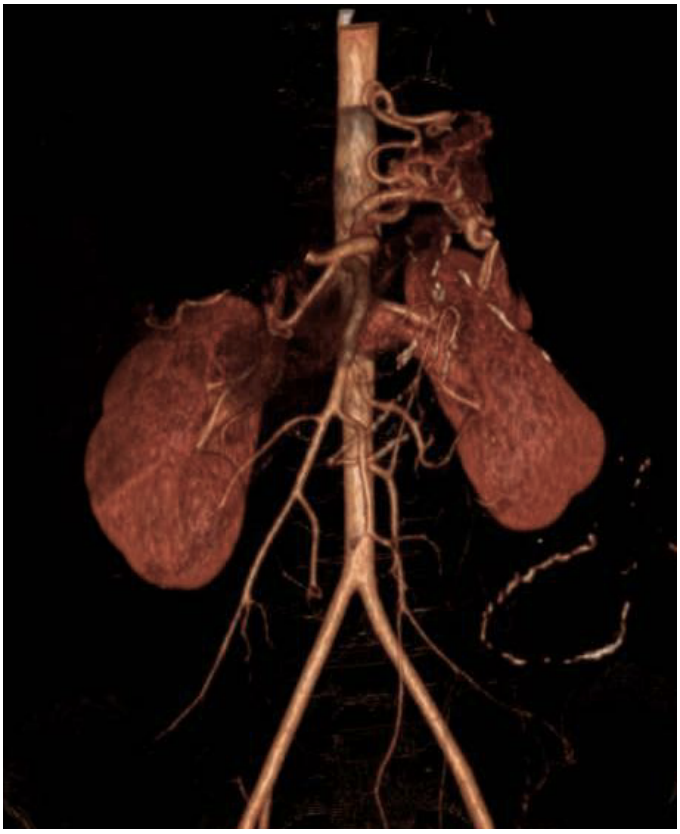


Figure 2. ***Perigastric and perisplenic varices on 3D reconstruction.***

The clinical picture usually manifests as hematemesis, melena, or acute anemia, and may be associated with shock in severe cases. Emergency endoscopy is the initial tool for identifying the cause of bleeding, along with imaging techniques (abdominal CT angiography and Doppler study), which are essential for confirming left portal hypertension, visualizing collateral circulation, and ruling out complications such as splenic infarction.

Acute management follows the general principles of variceal bleeding treatment: hemodynamic stabilization, prophylactic antibiotics, and splanchnic vasoconstrictor drugs such as somatostatin. The endoscopic treatment of choice for gastric varices is cyanoacrylate injection, while elastic ligation is reserved, with greater efficacy, for esophageal varices.

In scenarios where bleeding is refractory or anatomy prevents effective endoscopic or radiological procedures, splenectomy becomes the definitive treatment as it immediately corrects the pressure gradient and reduces the risk of rebleeding. It is also indicated in cases associated with splenic infarction, severe hypersplenism, or significant thrombocytopenia.

Optimal management of these patients requires a multidisciplinary approach, integrating gastroenterology, interventional radiology, and surgery. The therapeutic decision must be individualized, carefully assessing vascular anatomy, the extent of collaterals, and the options available at the center. Although the incidence of clinically significant bleeding after a Warshaw-type pancreatectomy is low, the potential severity of this event justifies a high index of suspicion in patients with a history of this technique who consult for gastrointestinal bleeding, even many years after the procedure.

Bibliography

1. *Warshaw AL. Distal pancreatectomy with preservation of the spleen. J Hepatobiliary Pancreat Sci. 2010;17(6):808-12.*

2. *Kotsifa E, Festen S, Busch OR, Besselink MG, Daams F; HPB-Amsterdam. Robotic spleen-preserving distal pancreatectomy: the Warshaw and Kimura techniques. J Vis Exp. 2024;(209).*

3. *Ebrahim E, Chae H, Kim HS, Yoon SJ, Shin SH, Han IW, et al. Natural history and risk factors of splenic infarction after spleen-preserving distal pancreatectomy using the Warshaw technique. J Hepatobiliary Pancreat Sci. 2025. Epub 2025 Sep 17.*

4. *Sugimachi K, Shimagaki T, Tomino T, Onishi E, Mano Y, Iguchi T, et al. Patterns of venous collateral development after splenic vein occlusion associated with surgical and oncological outcomes after distal pancreatectomy. Ann Gastroenterol Surg. 2024;8(6):1118-25.*

5. *Kawanaka H, Akahoshi T, Kinjo N, Iguchi T, Ninomiya M, Yamashita YI, et al. Effect of laparoscopic splenectomy on portal haemodynamics in patients with liver cirrhosis and portal hypertension. Br J Surg. 2014;101(12):1585-93.*

DOI: 10.37352/2026491.3

CLINICAL CASE

GASTRIC OUTLET OBSTRUCTION SECONDARY TO ANNULAR PANCREAS WITH SIGNS OF COMPLICATED ACUTE PANCREATITIS AND DUODENAL PERFORATION

Alonso Belmonte C, Sánchez Sánchez M, Bravo Aranda A
MALAGA REGIONAL UNIVERSITY HOSPITAL. MÁLAGA.

Abstract

We present the case of a male patient with a history of compensated advanced chronic liver disease secondary to hepatitis C virus infection and clinical signs of portal hypertension, who required three hospital admissions due to gastric outlet obstruction caused by duodenal stenosis secondary to acute pancreatitis in the setting of an annular pancreas. The patient had remained asymptomatic until the first episode of acute pancreatitis. Initial management was conservative, including symptomatic treatment and total parenteral nutrition until resolution of the inflammatory process.

He later presented with recurrent vomiting and abdominal pain. Imaging studies revealed multiple intra-abdominal fluid collections and duodenal perforation as complications of the previous episode. Given the severity and unfavorable clinical course, surgical management was indicated once the acute episode subsided. Portal hypertension significantly influenced therapeutic decision-making, and the surgical approach was adapted to select the safest technique for this high-risk patient.

Keywords: annular pancreas, gastric outlet obstruction, collections.

Introduction

An annular pancreas is a rare congenital anomaly in which pancreatic tissue partially or completely surrounds the duodenum, causing varying degrees of obstruction[1,2]. It is caused by a defect in the rotation and fusion of the pancreatic buds during embryogenesis[3]. Under normal conditions, the ventral bud migrates around the duodenum to fuse with the dorsal bud; when this process fails, a ring of pancreatic tissue forms around the duodenum[3].

Catiana Alonso Belmonte
Malaga Regional University Hospital
catianaalonsobelmonte3@gmail.com

Alonso Belmonte C, Sánchez Sánchez M, Bravo Aranda A. Gastric outlet obstruction secondary to annular pancreas with signs of complicated acute pancreatitis and duodenal perforation. RAPD 2026;49(1):26-29. DOI: 10.37352/2026491.1

The exact prevalence is not well established, as many patients remain asymptomatic and the diagnosis may be incidental. Population studies and clinical series suggest that it is probably an underdiagnosed entity in adults [4]. It may be associated with other congenital anomalies and most commonly affects the second portion of the duodenum[3,4].

The clinical presentation varies according to age. In the pediatric population, neonatal duodenal obstruction predominates, while in adults the presentation is usually more heterogeneous and often delayed[1]. Although many patients remain asymptomatic, the most characteristic clinical manifestation is obstruction of the gastric outlet tract secondary to duodenal compression[1,5]. Other common symptoms include abdominal pain, nausea, vomiting, and postprandial fullness[1,5]. Inflammatory processes, especially acute pancreatitis, can act as triggers or aggravators of obstructive symptoms[2].

Complications include persistent duodenal stenosis, recurrent pancreatitis, duodenal perforation, upper gastrointestinal bleeding, obstructive jaundice, retroperitoneal collections, and intra-abdominal infections[2,6].

The diagnosis is based on imaging tests such as contrast-enhanced computed tomography, magnetic resonance imaging, and magnetic resonance cholangiopancreatography, which allow for evaluation of the pancreatic anatomy and associated complications[4]. Upper gastrointestinal endoscopy may reveal extrinsic duodenal compression[4].

Treatment depends on clinical complexity. In patients with mild symptoms, conservative management may be chosen; however, in cases of significant or persistent obstruction, surgical treatment is the preferred option, with duodenal bypass techniques being the most commonly used[1,6]. Cephalic duodenopancreatectomy is reserved for selected cases[6] (Figura 1 and Table 1).

Clinical case

A 64-year-old man with a history of hepatitis C virus-induced liver cirrhosis with sustained viral response and clinically significant portal hypertension.

He came to the emergency room with repeated dark vomiting, with an initial suspicion of upper gastrointestinal bleeding. In the face of uncontrollable vomiting, a nasogastric tube was placed, with a discharge of up to 3000 cc of retained content. An abdominal CT scan was performed, showing obstruction of the gastric outlet tract secondary to paraduodenal pancreatitis in the context of an annular pancreas (Figure 2). He progressed favorably with conservative management and was discharged tolerating a pureed diet.

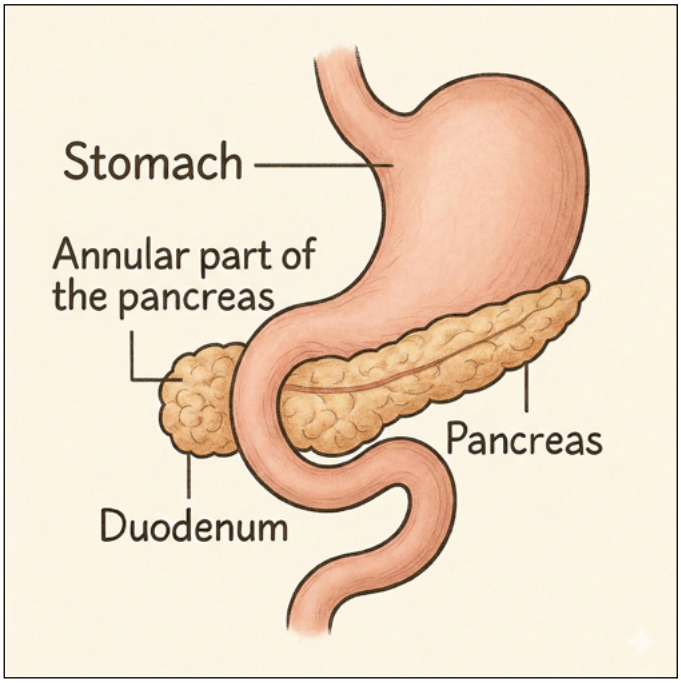


Figure 1. ***Anatomy of the annular pancreas.***

TIPE I	The annular duct empties directly into the main pancreatic duct.
TIPE II	The Wirsung duct surrounds the duodenum but drains into the major papilla.
TIPE III	The annular duct drains into the dorsal surface of the common bile duct.
TIPE IV	The annular duct drains into the common bile duct without connection to the Wirsung duct.
TIPE V	The annular duct drains into the Santorini duct from the ventral side.
TIPE VI	The annular duct drains into the Santorini duct with aberrant fusion.

Table 1. ***Anatomical variants of the annular pancreas.***

One week later, he returned to the hospital with vomiting and abdominal pain. He was admitted for duodenal stenosis secondary to annular pancreas with retention stomach, complicated by duodenal perforation, intra-abdominal collections, retroperitoneum, vena cava compression, and pleural effusion (Figure 3).

During this admission, he required parenteral nutrition and presented with febrile episodes initially treated with empirical antibiotic therapy with piperacillin-tazobactam. Given the slow progress, percutaneous drainage of collections was performed by interventional radiology, ruling out endoscopic drainage due to location and lack of encapsulation. Purulent material was obtained with growth of Enterobacter

DOI: 10.37352/2026491.4

cloacae and Candida spp., and treatment with cefepime and fluconazole was initiated.

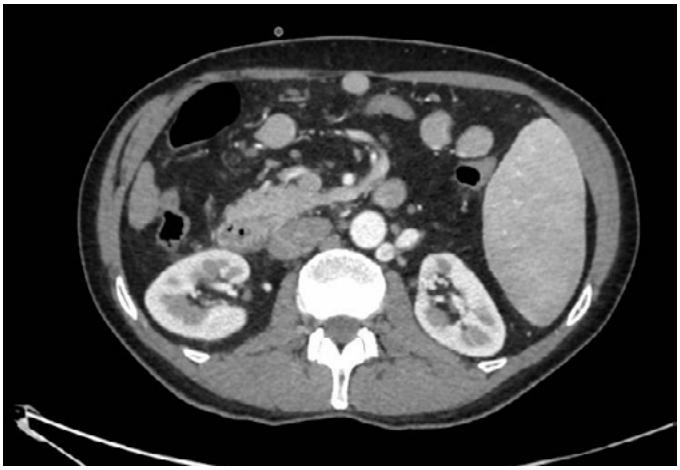


Figure 2. ***Axial CT scan of the abdomen - Anterior pancreatic tissue surrounding the duodenum consistent with an annular pancreas. There is an alteration of the periduodenal fat as well as inflammatory changes in the duodenal wall related to paraduodenal pancreatitis. Signs of chronic liver disease with portal hypertension (collaterals and splenomegaly).***

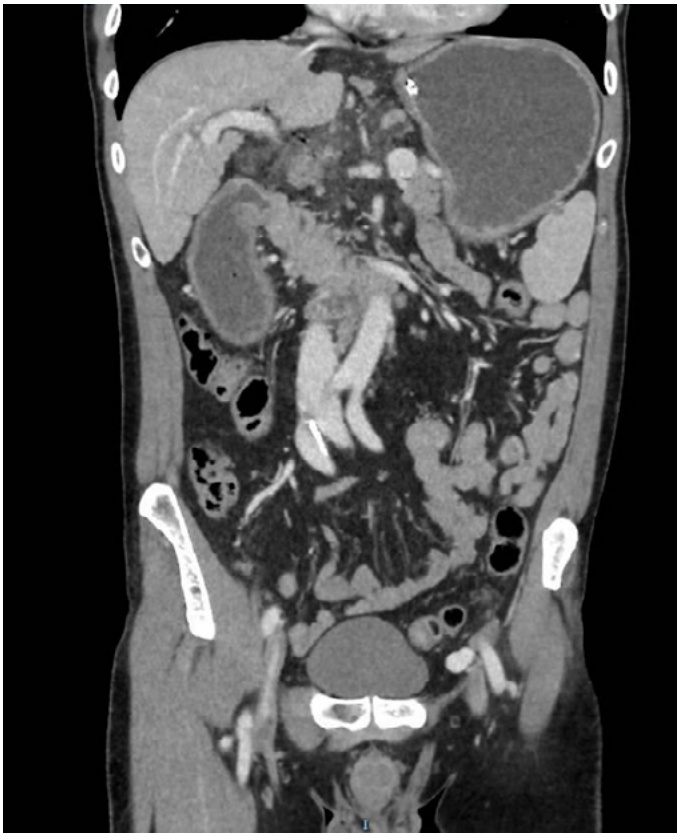


Figure 3. ***Coronal CT scan of the abdomen - Fluid collections are identified at the retropancreatic level and in the anterior and posterior right pararenal spaces, accompanied by retroneumoperitoneum bubbles. Obstruction of gastric emptying, with a change in caliber in the second portion of the duodenum. These findings suggest the presence of a pancreatic inflammatory process with possible associated duodenal microperforation. Compression of the inferior vena cava without thrombosis. NG tube ending in the antropyloric region.***

He also presented with perihepatic ascites controlled with diuretics and right pleural effusion causing respiratory failure, requiring thoracentesis. Isolated fever spikes persisted, and catheter-associated infection was ruled out. Radiological examinations reveal persistent retroperitoneal, pararenal, and pelvic collections, which are treated with different antibiotic regimens, with progressive improvement in the clinical picture (Figure 4).

Despite the improvement, persistent oral intolerance necessitated hospitalization. The case was presented to the surgical committee, which decided to perform a Roux-en-Y duodenal bypass, ruling out cephalic duodenopancreatectomy due to the risk associated with portal hypertension.

The postoperative period was favorable. The only incident was rapid atrial fibrillation assessed by cardiology, and it was decided not to anticoagulate in the acute phase. Abdominal progress was favorable, with the initiation of oral tolerance and a decrease in collections and pleural effusion observed in imaging controls. He was discharged asymptomatic.

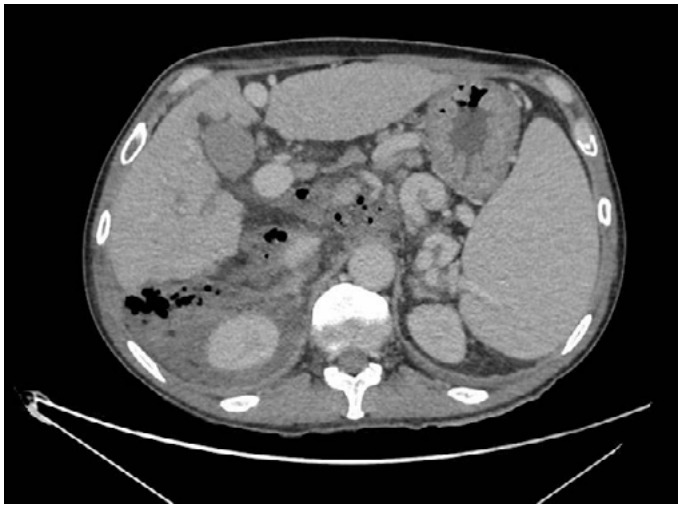


Figure 4. ***Axial CT scan of the abdomen - Chronic liver disease with signs of portal hypertension (splenomegaly, umbilical vein recanalization, ascites). Retroperitoneal and pararenal collections with air bubbles.***

Discussion

Annular pancreas is a rare condition in adults. Although its clinical presentation may be associated with inflammatory processes such as acute pancreatitis, the most characteristic manifestation continues to be obstruction of the gastric outlet tract secondary to duodenal compression, although this form of presentation is less common than in the pediatric population[1,5]. In adults, symptoms are often more insidious and nonspecific, which can delay diagnosis[1].

DOI: 10.37352/2026491.4

In our case, duodenal obstruction was the main feature of the clinical presentation, occurring in the context of an episode of acute pancreatitis and its complications. The coexistence of both processes illustrates the pathophysiological complexity of annular pancreas in adults, in whom inflammatory phenomena can aggravate preexisting duodenal stenosis and promote the onset of clinically significant obstructive symptoms[2].

The therapeutic approach depends on the severity of the symptoms and the presence of complications. In mild cases, conservative management with nutritional support and treatment of associated complications may be chosen. However, in the event of persistent obstruction or serious complications, surgical treatment is the option of choice[1,6]. The most commonly used techniques include duodenal bypass via Roux-en-Y anastomosis, while cephalic duodenopancreatectomy is reserved for selected situations[6].

In this patient, portal hypertension secondary to liver cirrhosis influenced both the clinical course and therapeutic decisions, increasing surgical risk and favoring complications such as ascites and pleural effusion.

It is worth noting the rare combination in the same adult patient of gastric outlet obstruction and acute pancreatitis secondary to annular pancreas, as well as the added complexity resulting from advanced chronic liver disease. This case highlights the importance of comprehensive clinical and radiological evaluation and a multidisciplinary approach.

Recent studies, including a meta-analysis published in 2024, reinforce that, although many adults remain asymptomatic, duodenal obstruction continues to be the most representative clinical manifestation of annular pancreas, while pancreatitis and other inflammatory processes often act as triggers or aggravating factors of the clinical picture[4].

Bibliography

1. *Zyromski NJ, Sandoval JA, Pitt HA, et al. Annular pancreas: dramatic differences between children and adults. J Am Coll Surg. 2008;206(5):1019–1025.*

2. *Paramythiotis D, Bangeas P, Karakatsanis A, et al. Annular pancreas in adults: endoscopic and surgical management. Ann Gastroenterol. 2018;31(4):446–454.*

3. *Maker AV, Sheikh R, Bhagia V, Riddell J, Ko C. Annular pancreas in adults: a report of two cases and review of literature. Am Surg. 2003;69(6):500–505.*

4. *Exploring the clinical characteristics and prevalence of the annular pancreas: a meta-analysis. HPB (Oxford). 2024;26(4):486–502. doi:10.1016/j.hpb.2024.01.006.*

5. *Maker AV, Zeh HJ, McFadden DW. Annular pancreas: review of the literature and current management. World J Gastrointest Surg. 2010;2(7):201–205.*

6. *Dhebri AR, Malone SM. Annular pancreas in adults: clinical presentation and management strategy. Int J Surg. 2006;4(3):139–144.*

7. *D'Haens GR, de Coster J, Cremer M. Annular pancreas in the adult: two case reports and a review of the literature. Acta Chir Belg. 1991;91(1):35–40.*

DOI: 10.37352/2026491.4

CLINICAL CASE

A CHANCE FOR RITUXIMAB IN PRIMARY BILIARY CHOLANGITIS–AUTOIMMUNE HEPATITIS OVERLAP SYNDROME

Pereira Martinez J, Ruiz Sánchez A, Herrería Fernández I, Sousa Martín JM
VIRGEN DEL ROCÍO UNIVERSITY HOSPITAL. SEVILLE.

Abstract

Autoimmune hepatitis (AIH) and primary biliary cholangitis (PBC) may coexist as an overlap syndrome, which can be challenging to diagnose and manage. In this case report, we describe a patient with AIH–PBC overlap syndrome refractory to conventional immunosuppressive therapy and with steroid-dependent disease. Rituximab was administered as rescue therapy, achieving biochemical normalization. This case supports the potential role of rituximab as a therapeutic option in patients refractory to standard immunosuppressive treatments.

Keywords: overlap syndrome, rituximab.

Introduction

Autoimmune hepatitis (AIH) and primary biliary cholangitis (PBC) are rare autoimmune diseases[1]. When both conditions occur in the same patient, it is referred to as AIH-PBC overlap syndrome[2]. Its clinical presentation varies, and diagnosis is sometimes difficult, with the Paris criteria commonly used[2-3]. Treatment is based on immunosuppressants for AIH and ursodeoxycholic acid for PBC[4]. Generally, the vast majority of patients with AIH-PBC overlap syndrome respond adequately to treatment with immunosuppressants and ursodeoxycholic acid[5]. However, the percentage of patients in whom standard treatment may be unsuccessful is not negligible, reaching up to 40% in patients with cirrhosis and 27% in patients without cirrhosis[6,7]. Various drugs are used in

Juan Pereira Martínez
Virgen del Rocío University Hospital. Seville.
juanbelmez1@gmail.com

Pereira Martinez J, Ruiz Sánchez A, Herrería Fernández I, Sousa Martín JM. A chance for Rituximab in Primary Biliary Cholangitis–Autoimmune Hepatitis Overlap Syndrome. RAPD 2026;49(1):30-32. DOI: 10.37352/2026491.1

cases of therapeutic failure, including mycophenolate mofetil, calcineurin inhibitors, and biological drugs (such as rituximab or infliximab).

Clinical case

A 57-year-old male diagnosed in 1992 with PBC by liver biopsy after investigation for persistent cholestatic alteration with negative antimitochondrial antibodies, initiating treatment with ursodeoxycholic acid with adequate initial response.

In 1998, he presented with a severe hepatocellular crisis with marked elevation of transaminases and positivity for anti-LKM antibodies, establishing the diagnosis of AIH-PBC overlap syndrome. In 2000, treatment with azathioprine was initiated but was immediately discontinued due to a hypersensitivity reaction.

The subsequent course was marked by persistent inflammatory activity, progressing to liver cirrhosis in 2011. Mycophenolate mofetil was then started as an alternative immunosuppressant, achieving a partial response but without complete normalisation of transaminases, developing corticosteroid dependence.

Since 2020, the patient has had multiple hepatocellular exacerbations requiring repeated increases in the dose of prednisone. Between late 2022 and early 2023, significant inflammatory activity persisted despite maintaining 15 mg daily of prednisone.

Given the failure of conventional immunosuppression and continued corticosteroid dependence, two doses of rituximab were administered in March 2023 as an alternative treatment to the usual regimen. In the following months, progressive normalisation of liver biochemical parameters was observed, with the response being maintained in the medium term and allowing for a reduction in the corticosteroid dose.

Discussion

There is little published evidence on the use of rituximab in AIH-PBC overlap syndrome, although some studies suggest its usefulness in disease refractory to conventional immunosuppressive therapy[8,9]. Its main mechanism consists of the depletion of CD20+ B lymphocytes, which leads to a reduction in autoantibody-producing cells and modulation of B cell-dependent immune activation[9]. In the context of immune-mediated diseases such as AIH-PBC overlap syndrome, B lymphocytes play an important role not only as producers of autoantibodies (anti-LKM, AMA), but also as antigen-presenting cells and modulators of the autoreactive T response[10,11]. In our patient, the use of rituximab reduced the number of hepatocellular crises as well as the dose of corticosteroids (Table 1, Figure 1).

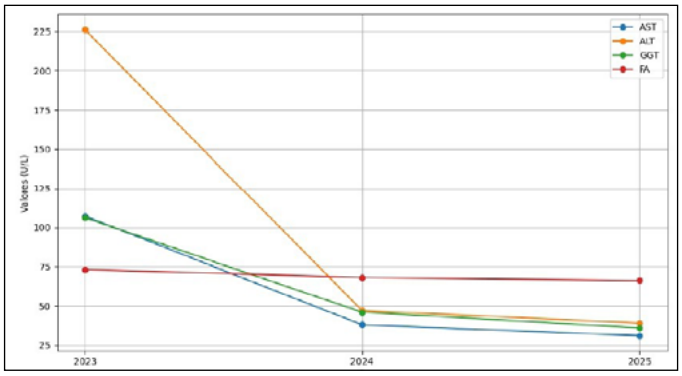


Figure 1. ***Changes in hepatobiliary biochemistry analysis.***

One way to monitor the efficacy of rituximab is by quantifying CD19 lymphocytes. The CD19 marker is a membrane protein present in virtually all B lymphocytes from the pre-B to mature stage (except terminal plasma cells)[12]. Depletion of CD19+ lymphocytes reflects the biological activity of the drug, and their reappearance may precede clinical relapse[13]. In the case of our patient, CD19 lymphocyte levels were monitored several months after rituximab administration and were undetectable.

Prednisone dose	Date	AST (U/L)	ALT (U/L)	GGT (U/L)	ALP (U/L)
15 mg	**2023**	107	226	106	73
7.5 mg	**2024**	38	47	46	68
5 mg	**2025**	31	39	36	66

Table 1. ***Changes in liver and bile biochemistry, before and after rituximab administration. On the left, corticosteroid doses at the time of analysis.***

DOI: 10.37352/2026491.5

In conclusion, although evidence is limited, the use of rituximab may be an effective alternative in patients with AIH-PBC overlap syndrome refractory to standard treatment, as it acts by depleting B lymphocytes and modulating the autoimmune response. In the case of our patient, its use reduced hepatocellular crises and the dose of corticosteroids, with an adequate clinical, analytical and biological response, as evidenced by the sustained depletion of CD19+ lymphocytes.

Bibliography

1. *Engel B, Taubert R, Jaeckel E, Manns MP. The future of autoimmune liver diseases - Understanding pathogenesis and improving morbidity and mortality. Liver Int. 2020 Feb;40 Suppl 1:149-153. doi: 10.1111/liv.14378. PMID: 32077605.*

2. *Chazouillères O, Wendum D, Serfaty L, Montembault S, Rosmorduc O, Poupon R. Primary biliary cirrhosis-autoimmune hepatitis overlap syndrome: clinical features and response to therapy. Hepatology. 1998 Aug;28(2):296-301. doi: 10.1002/hep.510280203. PMID: 9695990.*

3. *European Association for the Study of the Liver. EASL Clinical Practice Guidelines: management of cholestatic liver diseases. J Hepatol. 2009 Aug;51(2):237-67. doi: 10.1016/j.jhep.2009.04.009. Epub 2009 Jun 6. PMID: 19501929.*

4. *Freedman BL, Danford CJ, Patwardhan V, Bonder A. Treatment of Overlap Syndromes in Autoimmune Liver Disease: A Systematic Review and Meta-Analysis. J Clin Med. 2020 May 13;9(5):1449. doi: 10.3390/jcm9051449. PMID: 32414025; PMCID: PMC7291241.*

5. *Chazouillères O, Wendum D, Serfaty L, Rosmorduc O, Poupon R. Long term outcome and response to therapy of primary biliary cirrhosis-autoimmune hepatitis overlap syndrome. J Hepatol. 2006 Feb;44(2):400-6. doi: 10.1016/j.jhep.2005.10.017. Epub 2005 Nov 15. PMID: 16356577.*

6. *Ozaslan E, Efe C, Heurgué-Berlot A, Kav T, Masi C, Purnak T, Muratori L, Ustündag Y, Bresson-Hadni S, Thiéfin G, Schiano TD, Wahlin S, Muratori P. Factors associated with response to therapy and outcome of patients with primary biliary cirrhosis with features of autoimmune hepatitis. Clin Gastroenterol Hepatol. 2014 May;12(5):863-9. doi: 10.1016/j.cgh.2013.09.021. Epub 2013 Sep 26. PMID: 24076417.*

7. *Fan X, Zhu Y, Men R, Wen M, Shen Y, Lu C, Yang L. Efficacy and Safety of Immunosuppressive Therapy for PBC-AIH Overlap Syndrome Accompanied by Decompensated Cirrhosis: A Real-World Study. Can J Gastroenterol Hepatol. 2018 Aug 2;2018:1965492. doi: 10.1155/2018/1965492. PMID: 30155449; PMCID: PMC6098853.*

8. *Than NN, Hodson J, Schmidt-Martin D, Taubert R, Wawman RE, Botter M, Gautam N, Bock K, Jones R, Appanna GD, Godkin A, Montano-Loza AJ, Lammert F, Schramm C, Manns MP, Swain M, Burak KW, Adams DH, Hirschfield GM, Oo YH. Efficacy of rituximab in difficult-to-manage autoimmune hepatitis: Results from the International Autoimmune Hepatitis Group. JHEP Rep. 2019 Nov 5;1(6):437-445. doi: 10.1016/j.jhepr.2019.10.005. PMID: 32039395; PMCID: PMC7005655.*

9. *Appanna GD, Pembroke TPI, Miners KL, Price DA, Gallimore AM, Ladell K, Godkin AJ. Rituximab depletion of intrahepatic B cells to control refractory hepatic autoimmune overlap syndrome. QJM. 2019 Oct 1;112(10):793-795. doi: 10.1093/qjmed/hcz161. PMID: 31243454; PMCID: PMC6783609.*

10. *Taylor SA, Assis DN, Mack CL. The Contribution of B Cells in Autoimmune Liver Diseases. Semin Liver Dis. 2019 Nov;39(4):422-431. doi: 10.1055/s-0039-1688751. Epub 2019 Jun 21. PMID: 31226726; PMCID: PMC6800599*

11. *Cargill T, Culver EL. The Role of B Cells and B Cell Therapies in Immune-Mediated Liver Diseases. Front Immunol. 2021 Apr 14;12:661196. doi: 10.3389/fimmu.2021.661196. PMID: 33936097; PMCID: PMC8079753.*

12. *Delage L, Manzoni D, Quinquenet C, Fontaine J, Maarek A, Chabane K, Mosnier I, Hayette S, Callet-Bauchu E, Grange B, Plesa A, Sujobert P. Molecular analysis of a CD19-negative diffuse large B-cell lymphoma. Haematologica. 2019 Mar;104(3):e114-e116. doi: 10.3324/haematol.2018.203521. Epub 2018 Dec 13. PMID: 30545922; PMCID: PMC6395315.*

13. *Trouvin AP, Jacquot S, Grigioni S, Curis E, Dedreux I, Roucheux A, Boulard H, Vittecoq O, Le Loët X, Boyer O, Goëb V. Usefulness of monitoring of B cell depletion in rituximab-treated rheumatoid arthritis patients in order to predict clinical relapse: a prospective observational study. Clin Exp Immunol. 2015 Apr;180(1):11-8. doi: 10.1111/cei.12481. PMID: 25370437; PMCID: PMC4367089.*

HERPES SIMPLEX ESOPHAGITIS IN IMMUNOCOMPETENT PATIENTS: A RARE ENTITY TO CONSIDER.

León Sanjuan GF, Aguilar Martínez JC, Molina Jiménez L
JEREZ HOSPITAL. CÁDIZ.

Abstract

We present the case of a 42-year-old man with no relevant medical history who presented with dysphagia, odynophagia, and fever of several weeks' duration. Upper gastrointestinal endoscopy revealed, from the cervical oesophagus to the oesophagogastric junction, multiple small, superficial, fibrin-covered ulcers, mostly millimetric and round in shape, interspersed with linear and larger lesions (up to approximately 20 mm). In the lower third, the ulcers were confluent and slightly deeper, involving almost the entire circumference of the oesophagus. Biopsy samples were obtained for microbiological and histopathological analysis, which confirmed the diagnosis of herpes simplex infection.

Keywords: oesophagitis. herpes simplex. immunocompetent.

Introduction

Herpes simplex virus (HSV) esophagitis causes dysphagia and odynophagia, usually associated with immunosuppression. However, it can also occur in immunocompetent individuals, so it should be considered in the differential diagnosis when esophageal ulcerative lesions are found.

Clinical case

We present the case of a 42-year-old man with no relevant medical history who consulted for dysphagia, odynophagia, and fever lasting several weeks. A gastroscopy was performed, revealing multiple superficial fibrinous ulcers, mostly millimetric in size and rounded in shape, alternating with larger linear ulcers (up to about 20 mm) from the cervical esophagus to the esophagogastric junction. In the lower third, the ulcers were confluent and slightly more excavated,

Gloria Francisca León Sanjuán
Jerez Hospital. Cádiz.
glorialeon36@gmail.com

León Sanjuan GF, Aguilar Martínez JC, Molina Jiménez L. Herpes simplex esophagitis in immunocompetent patients: a rare entity to consider. RAPD 2026;49(1):33-34. DOI: 10.37352/2026491.3

covering practically the entire circumference. Biopsies were taken for microbiological and pathological examination, which confirmed the diagnosis of herpes simplex infection.

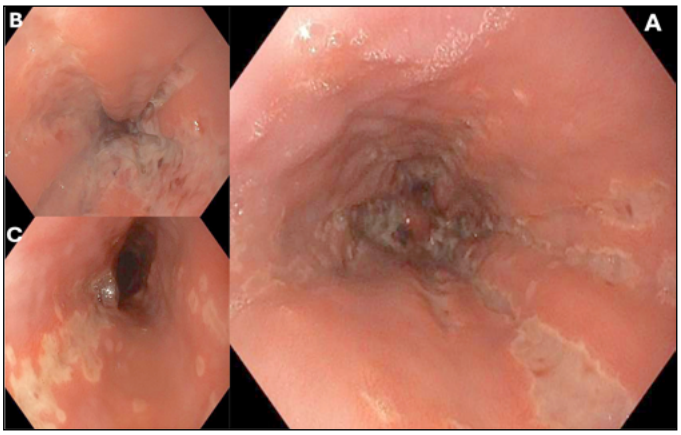


Figure 1. ***Different stages of herpes simplex lesion in the esophageal mucosa A. Superficial longitudinal ulcers with normal surrounding mucosa, with a "volcano" appearance. B. Confluent, excavated ulcers covering practically the entire esophageal circumference. C Fibrinous ulcers, some rounded and others linear, well defined with normal surrounding mucosa.***

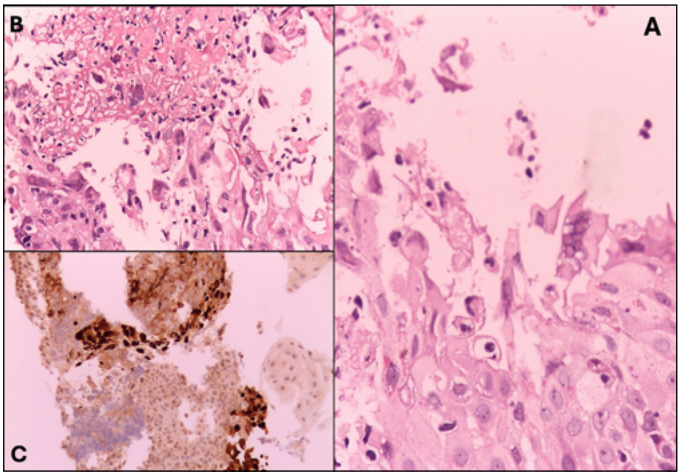


Figure 2. ***Histological images of esophageal biopsies corresponding to the case of herpes simplex virus (HSV) esophagitis. A. H&E 40x: esophageal squamous epithelium with the presence of multinucleated cells with molded and frosted nuclei, consistent with herpes virus infection. B. H&E 20x: fibrinous-necrotic material with inflammatory cellularity and the presence of frosted nuclear inclusions, indicative of viral infection. C. IHC HSV: intense nuclear immunostaining with antibody for herpes virus, confirming the diagnosis of herpetic esophagitis.***

Discussion

Herpes simplex esophagitis in immunocompetent individuals is a rare condition that should be considered in the differential diagnosis of dysphagia in young people[1-3]. Endoscopic findings may be suggestive, but the definitive diagnosis will be made by immunohistochemical analysis of biopsies from the edges of the ulcers[1,2]. Although it usually resolves within several weeks, antivirals can accelerate the resolution of lesions and symptoms[1-3].

However, there is little evidence of the benefits of antiviral therapy in this patient profile[2]. Perforation and bleeding are complications, although rare[3]. Once the diagnosis is confirmed, immunosuppression should be ruled out in these patients (including HIV)[1-3].

Bibliograpy

1. *Warshaw AL. Distal pancreatectomy with preservation of the spleen. J Hepatobiliary Pancreat Sci. 2010;17(6):808-12.*

2. *Kotsifa E, Festen S, Busch OR, Besselink MG, Daams F; HPB-Amsterdam. Robotic spleen-preserving distal pancreatectomy: the Warshaw and Kimura techniques. J Vis Exp. 2024;(209).*

3. *Ebrahim E, Chae H, Kim HS, Yoon SJ, Shin SH, Han IW, et al. Natural history and risk factors of splenic infarction after spleen-preserving distal pancreatectomy using the Warshaw technique. J Hepatobiliary Pancreat Sci. 2025. Epub 2025 Sep 17.*

4. *Sugimachi K, Shimagaki T, Tomino T, Onishi E, Mano Y, Iguchi T, et al. Patterns of venous collateral development after splenic vein occlusion associated with surgical and oncological outcomes after distal pancreatectomy. Ann Gastroenterol Surg. 2024;8(6):1118-25.*

5. *Kawanaka H, Akahoshi T, Kinjo N, Iguchi T, Ninomiya M, Yamashita YI, et al. Effect of laparoscopic splenectomy on portal haemodynamics in patients with liver cirrhosis and portal hypertension. Br J Surg. 2014;101(12):1585-93.*

DOI: 10.37352/2026491.6