

**Title:**  
**Hepatic veno-occlusive disease induced by  
Chinese medicinal herbs**

**Authors:**  
María de los Ángeles Mejías Manzano,  
Álvaro Giráldez Gallego, María Serrano  
Jiménez

DOI: 10.17235/reed.2017.4969/2017

Link: [PubMed \(Epub ahead of print\)](#)

Please cite this article as:  
Mejías Manzano María de los Ángeles,  
Giráldez Gallego Álvaro, Serrano Jiménez  
María. Hepatic veno-occlusive disease  
induced by Chinese medicinal herbs . Rev  
Esp Enferm Dig 2017. doi:  
10.17235/reed.2017.4969/2017.

Enero 2017 • Volumen 109 • Número 1 • Páginas 1-86

CODE: REED09N ISSN: 1000-0188

Revista Española de Enfermedades Digestivas  
THE SPANISH JOURNAL OF GASTROENTEROLOGY

Acceso al texto completo en: [www.reed.es](http://www.reed.es) y [www.sped.es](http://www.sped.es)

Factor de impacto 100 (ISI) ICIJ: 1.455 (2016)  
SCR: 0.34 (2016)

ORGANO OFICIAL DE:  
SOCIEDAD ESPAÑOLA DE PATOLOGÍA DIGESTIVA, SOCIEDAD ESPAÑOLA  
DE ENDOSCOPIA DIGESTIVA Y ASOCIACIÓN ESPAÑOLA DE ECOGRAFÍA DIGESTIVA

SEPO

<b>Editorial</b> Colitis diverticular bleeding. Have we identified the risk factors for massive bleeding yet? J. W. Berman Valencia	<b>Lesión de Bowdler: diagnóstico por gastroscopia</b> R. Barrio Guea, N. N. Barco Irujo, M. Paz Nova y J. E. Domínguez Muñoz	65
<b>Trabajos Originales</b> Risk factors for severity and recurrence of colonic diverticular bleeding N. Aragón, P. Cabero, A. Arduas, M. Escobar and M. Guzmán	<b>Notas Clínicas</b> Cefas crisis in adults: a case report and review of the literature focusing in the prevention of relapsing syndrome M. de Alaveda-Nemón, V. L. Echea-Caball and S. Latorre	67
Microsporidian and inflammatory bowel disease: the other flagellate? J. Bermejo, A. Rojas, S. López-Castejón, J. Cuervo, M. Acuña-Barca, M. Hernández-Serna, C. García, M. de la Cruz, D. Barrio and A. López-García	Herangopercutaneous peritonitis. Ultra localización infraperitoneal de bacterias aerobias I. Alvaró Abad, J. M. García-Cerbal, L. Aguirre-Duñabe, A. M. Quintana Berro y A. Colla-Morero	69
Influence of sustained 48h response on the regression of fibrosis and portal hypertension in cirrhotic HCV patients treated with antiviral therapy A. Barrio, J. Cabero, M. J. López-Alcalá, I. López, M. T. Arán, A. Galván, F. Castiella, E. Fabrega and J. Crespo	Hemólisis por eritropoiesis suprarrenal C. Pizarro-Carras, A. Escobedo-Sánchez, M. A. Paredes-Capó, J. Arangul-Arribas y C. García-Delgado	70
Malnutrition risk questionnaire combined with body composition measurement in malnutrition screening in inflammatory bowel disease A. A. Denton, A. Muñoz, Z. Pili, I. Pall and P. Sahel	Endoscopia: removal of intubated large nasogastric tubes: a case report M. Oquendo and S. Sainza-Munizaga	73
A survey-based analysis on endoscopic quality indicators compliance among Spanish endoscopists I. Fernández-Cruz, F. Argüelles, P. Alonso, J. Salas and S. Soriano	Mezenterio: schwannoma en mesoenterio: un caso de abdomen agudo A. Tapia-Palacio, M. R. Ramos-Vázquez, J. C. Cordero-Ramos, J. Cordero-Lafont and L. Carballo-Pérez	76
<b>Revisión</b> Endoscopic resection of colorectal polyps in patients on antiplatelet therapy: an evidence-based guideline for clinicians G. Piana, M. Sostano-Sabin, C. Salinas, F. Day and M. J. Cooke	<b>Cartas al Editor</b> Neoplasia neuroendocrina intestinal, un tumor poco habitual M. de Barrio, M. J. Santos-Fernández y M. N. Ramos-Rodríguez	79
<b>Indicadores en Patología Digestiva</b> Trastorno de la arteria mesentérica superior: una causa infrecuente de obstrucción intestinal J. Sempere-Jaguar, P. Albaladejo-Serna y J. C. García-Pérez	Prevalencia intestinal de tuberculosis por endoscopia: ¿qué tan asociada a consumo de Bismuto, patología infecciosa y genes asociados? Y. Pineda-Vargas, D. M. Acosta y L. A. Alvarez	80
Neumatosis cística intestinal A. F. Romero-Muñoz y R. Barrio-Zalaga	Perforación múltiple de divertículos de intestino delgado en paciente con síndrome de Ulceras Duodenales R. Fernández-Cruz, A. Burgos-Castro y E. Palencia-López	83
Síndrome de Miller a cinco años de diagnóstico C. Ochoa-Sandoval, C. L. Hernández-Segura, J. Pineda-Rodríguez y A. N. González-Fernández	Altoprecia analítica como manifestación paraneoplásica de un adenoma actínico gástrico J. L. Serrano-Hernández, M. E. Torres-Castro and M. Torres-Rodríguez	83
Endoscopia: retiro de los dispositivos en un schwannoma: ¿paciente o dispositivo? J. L. Serrano-Hernández, M. E. Torres-Castro and M. Torres-Rodríguez	All that glitters is not gold. A different cause for an "obscure colitis" A. Pineda, M. Sainza, I. Villaverde and S. Navas	85
	<b>Revisores 2016</b>	85

ARAN

[www.revistaaran.com](http://www.revistaaran.com)

*This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.*

**CE 4969 inglés**

**Hepatic veno-occlusive disease induced by Chinese medicinal herbs**

María de los Ángeles Mejías-Manzano<sup>1</sup>, Álvaro Giráldez-Gallego<sup>1</sup> and María Serrano-Jiménez<sup>2</sup>

<sup>1</sup>Digestive Tract Management Unit. Hospital Universitario Virgen del Rocío. Seville, Spain. <sup>2</sup>

Pathology Department. Hospital Universitario Virgen del Rocío. Seville, Spain

**Correspondence:** María de los Ángeles Mejías Manzano

e-mail: marianmejiasmanzano@gmail.com

**Key words:** Pyrrolizidine alkaloids. Medicinal herbs. Hepatic veno-occlusive disease.

*Dear Editor,*

The potential hepatotoxic effects of medicinal herbs is well known and these products are frequently used without an adequate control by the health authorities. We report a case of toxic hepatic veno-occlusive disease (HVOD) which was presumably associated with the use of these herbal remedies. In Asia, pyrrolizidine alkaloids found in herbal medicines are a common cause of HVOD (1,2).

**Case report**

A 62-year-old Asian man was admitted to hospital due to hepatomegaly and jaundice (bilirubin, 23.6 mg/dl) with SGPT/SGOT at 1,301/506 IU/l and GGT at 527 IU/l. Vascular, obstructive, infectious and autoimmune conditions were ruled out. The liver biopsy was consistent with HVOD (Fig. 1). The patient reported the habitual use (until admission) of over-the-counter, unlabeled “laxative” capsules that he had purchased in China. An analysis performed at the Medicament Inspection and Control Department revealed that the capsules contained proline, anthraquinones and other unidentifiable compounds. He was discharged with no symptoms and only persistent mild cholestasis (GGT, 170 IU/l; Bb, 1.9 mg/dl).

## Conclusion

Preparations containing Chinese medicinal herbs that are frequently obtained for the management of minor symptoms usually have a mixed, nonspecific formulation that lack precise information with regard to content. Given their widespread use, the highly variable hepatotoxicity induced by these products (3) is rather uncommon (4). Selected alkaloids produce a toxic destruction of sinusoidal endothelial cells which results in the obstruction of terminal venules (5). Diagnosing the toxic origin of HVOD requires histological confirmation, the exclusion of other causes and a clear temporal relationship. In mild/moderate cases, exposure discontinuation usually leads to a favorable outcome but high mortality rates have been reported on occasions (3). Language and culture barriers contribute to an even more challenging diagnosis.

## Acknowledgements

We are grateful to doctors Miren García-Cortés and Jaime Torelló-Iserte for their expert advice.

## References

1. Wang X, Qi X, Guo X. Tusanqi-related sinusoidal obstruction syndrome in China: A systematic review of the literatures. *Medicine (Baltimore)* 2015;94:942. DOI: 10.1097/MD.0000000000000942
2. Kan X, Ye J, Rong X, et al. Diagnostic performance of contrast-enhanced CT in pyrrolizidine alkaloids-induced hepatic sinusoidal obstructive syndrome. *Sci Rep* 2016;6:37998. DOI: 10.1038/srep37998
3. García-Cortés M, Robles-Díaz M, Ortega-Alonso A, et al. Hepatotoxicity by dietary supplements: A tabular listing and clinical characteristics. *Int J Mol Sci* 2016;17:537. DOI: 10.3390/ijms17040537
4. Navarro, VJ, Lucena MI. Hepatotoxicity induced by herbal and dietary supplements. *Semin Liver Dis* 2014;34:172-93. DOI: 10.1055/s-0034-1375958

5. Fan CQ, Crawford JM. Sinusoidal obstruction syndrome (hepatic veno-occlusive disease). *J Clin Exp Hepatol* 2014;4:332-46. DOI: 10.1016/j.jceh.2014.10.002

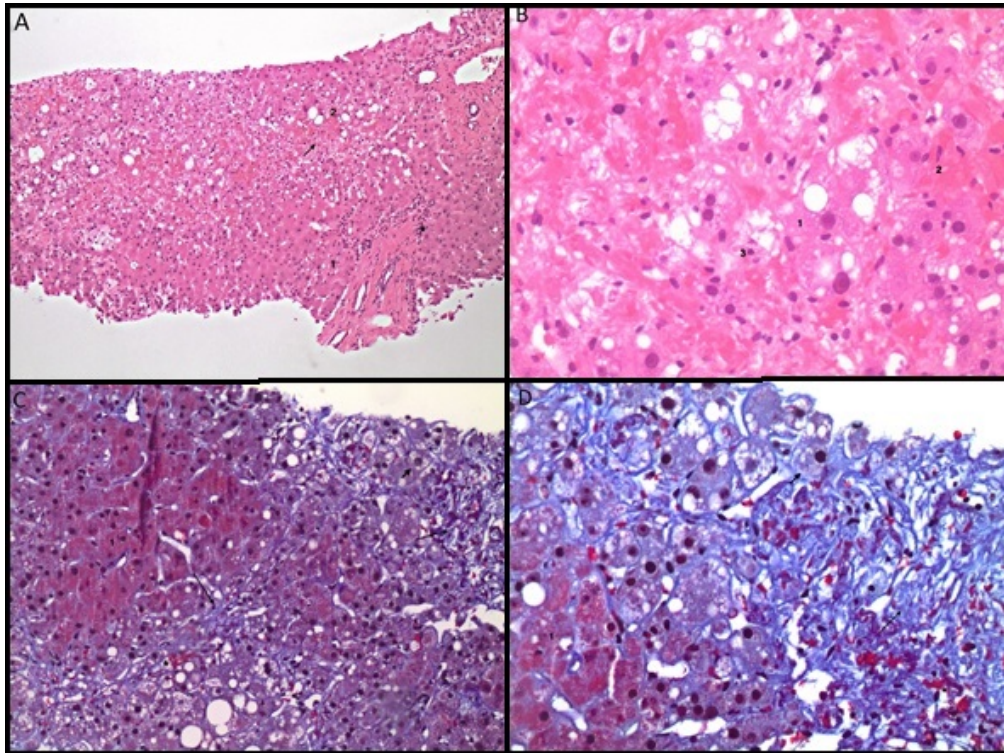


Fig. 1. A. Mild periportal lymphocytic infiltration (\*) with a preserved zone-1 structure (1) which is in contrast to the sinusoidal dilation and congestion that results in hepatocyte collapse/degeneration (2). The central vein is not recognizable due to obliteration (arrow) (hematoxylin-eosin [HE], x4). B. Focal macrovesicular steatosis (1), detachment of damaged endothelial cells (2) and isolated lymphocytes within the central zone (3) (HE, x20). C and D. Severe sinusoidal fibrosis (long arrows) inducing venous flow obstruction with patchy dilation and congestion around degenerated (short arrows) and atrophic liver cells (\*). The centrilobular parenchyma is preserved (1) (Masson's trichrome stain, x10 and x20, respectively).