

**Name of Journal:** *World Journal of Gastroenterology*

**Manuscript NO:** 47537

**Manuscript Type:** MINIREVIEWS

**Pyrrolizidine alkaloids-induced hepatic sinusoidal obstruction syndrome:**

**Pathogenesis, clinical manifestations, diagnosis, treatment and outcomes**

Yang XQ *et al.* PAs-induced HSOS

Xiao-Qian Yang, Jin Ye, Xin Li, Qian Li, Yu-Hu Song

## Abstract

Hepatic sinusoidal obstruction syndrome (HSOS) can be caused by the intake

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## Sinusoidal Obstruction Syndrome (Hepatic Veno-Occlusive ...

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Oct 30, 2014 · **Sinusoidal Obstruction Syndrome (Hepatic Veno-Occlusive Disease)** ... **Hepatic sinusoidal obstruction syndrome (SOS)** is an obliterative venulitis of the terminal **hepatic** venules, which in its more severe forms imparts a high risk of mortality. ... **Clinical Pathogenesis of Sinusoidal Obstruction Syndrome.**

Cited by: 85

Author: Cathy Q. Fan, James M. Crawford

Publish Year: 2014

## Definitive diagnosis of hepatic sinusoidal obstruction ...

<https://onlinelibrary.wiley.com/doi/full/10.1111/j.1751-2980.2011...>

Hepatic sinusoidal obstruction syndrome (HSOS), which was formerly called hepatic veno-occlusive disease (HVOD), is a rare clinical syndrome characterized by hepatomegaly, ascites and hyperbilirubinemia due to sinusoidal congestion caused by pyrrolizidine alkaloids (PAs) ingestion, the use of high-dose chemotherapy before hematopoietic stem cell transplantation, and so on.

Cited by: 66

Author: Hong Gao, Na Li, Ji Yao Wang, Shun Cai...

Publish Year: 2012

## Hepatic Sinusoidal Obstruction Syndrome Caused by Herbal ...

[www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov) › ... › Korean J Radiol › v.15(2); Mar-Apr 2014

Mar 07, 2014 · INTRODUCTION. **Hepatic sinusoidal obstruction syndrome (HSOS)**, formerly called **hepatic** veno-occlusive disease, is a rare yet life-threatening **clinical syndrome** characterized by painful hepatomegaly, ascites and hyperbilirubinemia (). This disease was first described in 1920 in association with the ingestion of Senecio tea containing natural toxin **pyrrolizidine** alkaloids (PAs) ().

## Definitive diagnosis of hepatic sinusoidal obstruction ...

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Definitive diagnosis of **hepatic sinusoidal obstruction syndrome** induced by **pyrrolizidine** alkaloids



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## Sinusoidal Obstruction Syndrome (Hepatic Veno-Occlusive ...

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Oct 30, 2014 · **Clinical Pathogenesis of Sinusoidal Obstruction Syndrome** Experimental models of SOS in animals permitted **examination** of fundamental **causes of sinusoidal destruction** and vascular compromise. However, **clinical** investigation of human patients affected by SOS are still required, particularly since the **induction pathways** vary.

Cited by: 103

Author: Cathy Q. Fan, James M. Crawford

Publish Year: 2014

## Expert consensus on the clinical management of ...

<https://www.onlinelibrary.wiley.com/doi/10.1111/jgh.14612>

Jan 22, 2019 · **Hepatic sinusoidal obstruction syndrome (HSOS)** is a **hepatic vascular disease** presenting with **abdominal distension**, **pain** in the **hepatic** region, ascites, jaundice, and hepatomegaly. In China, this **disease** is often associated with the oral intake of plants that contain **pyrrolizidine alkaloids**.

Author: Yuzheng Zhuge, Yulan Liu, Weifen Xie...

Publish Year: 2019

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[https://www.cghjournal.org/article/S1542-3565\(17\)30058-7/fulltext](https://www.cghjournal.org/article/S1542-3565(17)30058-7/fulltext)

One of the major causes of **hepatic sinusoidal obstruction syndrome (HSOS)** is the intake of **pyrrolizidine** alkaloid (PA)-containing herbals.<sup>1</sup> *Gynura segetum* is one of the most common herbal medicines containing PAs. The diagnosis of PA-induced HSOS is based on a history of taking PA-containing herbs and a classical triad of weight gain, painful hepatomegaly, and jaundice.<sup>2,3</sup> However, **clinical** ...

Cited by: 9

Author: Xin Li, Xiaoqian Yang, Dong Xu, Qian Li, X...

Publish Year: 2017

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Definitive diagnosis of **hepatic sinusoidal obstruction syndrome** induced by **pyrrolizidine** alkaloids  
Article in Journal of Digestive Diseases 13(1):33-9 · January 2012 with 97 Reads

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## Definitive diagnosis of hepatic sinusoidal obstruction ...

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INTRODUCTION. **Hepatic sinusoidal obstruction syndrome** (HSOS), which was formerly called **hepatic** veno-occlusive disease (HVOD), is a rare **clinical syndrome** characterized by hepatomegaly, ascites and hyperbilirubinemia due to **sinusoidal** congestion caused by **pyrrolizidine** alkaloids (PAs) ingestion, the use of high-dose chemotherapy before hematopoietic stem cell transplantation, and so on.

**Cited by:** 73      **Author:** Hong Gao, Na Li, Ji Yao Wang, Shun Cai...

**Publish Year:** 2012

## Expert consensus on the clinical management of ...

<https://www.onlinelibrary.wiley.com/doi/10.1111/jgh.14612>

Jan 22, 2019 · **Hepatic sinusoidal obstruction syndrome** (HSOS) is a **hepatic vascular disease** presenting with **abdominal distension**, **pain** in the **hepatic** region, ascites, jaundice, and hepatomegaly. In China, this **disease** is often associated with the oral intake of plants that contain **pyrrolizidine alkaloids**.

**Author:** Yuzheng Zhuge, Yulan Liu, Weifen Xi...      **Publish Year:** 2019

## Sinusoidal Obstruction Syndrome - Clinics in Liver Disease

[https://www.liver.theclinics.com/article/S1089-3261\(10\)00073-5/fulltext](https://www.liver.theclinics.com/article/S1089-3261(10)00073-5/fulltext)

**Sinusoidal obstruction syndrome** (SOS), formerly named **venoocclusive disease**, is a well-known complication of **hematopoietic stem cell transplantation** and **ingestion** of food or drinks contaminated by **pyrrolizidine alkaloids**. Many other drugs and toxins have been associated with SOS, including several chemotherapeutic agents and immunosuppressors.

**Cited by:** 76      **Author:** Laura Rubbia-Brandt

**Publish Year:** 2010

## Diagnosis of hepatic sinusoidal obstruction syndrome (veno ...

<https://www.uptodate.com/contents/diagnosis-of-hepatic-sinusoidal-obstruction-syndrome...>

**Hepatic sinusoidal obstruction syndrome** (SOS), previously termed **hepatic** veno-occlusive disease (VOD), is characterized by hepatomegaly, right upper quadrant pain, jaundice, and ascites, most often

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