

University of Groningen

## Revival of the remnant round ligament of the liver

Zorgdrager, M; de Haas, R J; van den Boom, A L

*Published in:*  
Gastroenterology

*DOI:*  
[10.1053/j.gastro.2021.03.061](https://doi.org/10.1053/j.gastro.2021.03.061)

**IMPORTANT NOTE:** You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

*Document Version*  
Publisher's PDF, also known as Version of record

*Publication date:*  
2021

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*

Zorgdrager, M., de Haas, R. J., & van den Boom, A. L. (2021). Revival of the remnant round ligament of the liver. *Gastroenterology*, 161(1), 40-41. <https://doi.org/10.1053/j.gastro.2021.03.061>

### Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

### Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

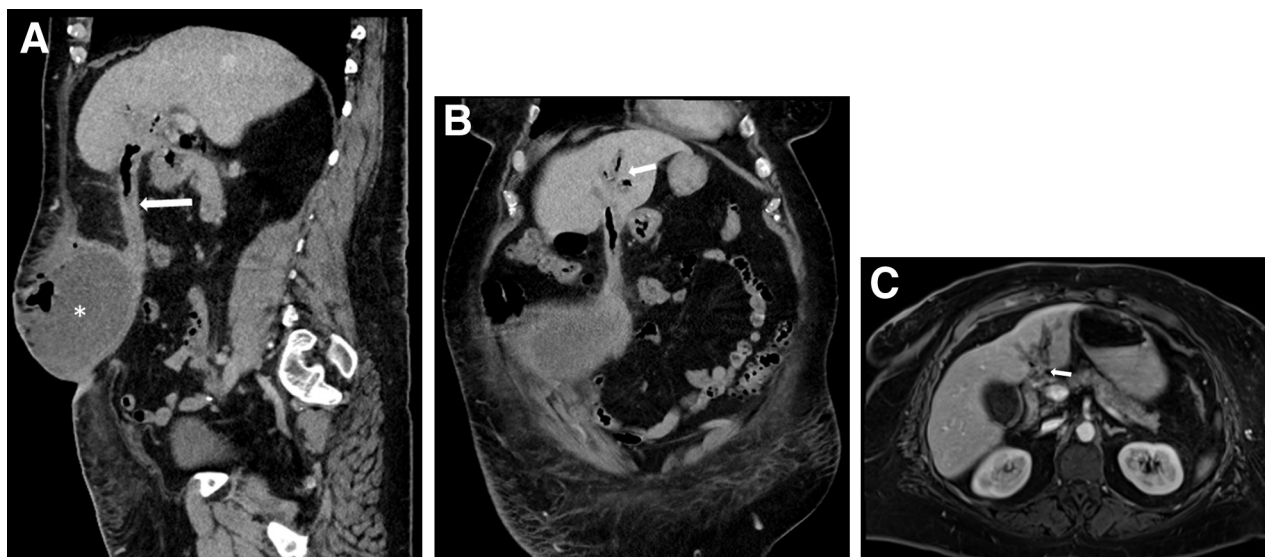
*Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.*

## Revival of the Remnant Round Ligament of the Liver

Marcel Zorgdrager,<sup>1</sup> Robbert J. de Haas,<sup>1</sup> and Anne Loes van den Boom<sup>2</sup>



<sup>1</sup>Department of Radiology, University Medical Centre Groningen, University of Groningen, Groningen, the Netherlands; and  
<sup>2</sup>Department of Surgery, Division of Hepatobiliary Surgery, University Medical Centre Groningen, University of Groningen, Groningen, the Netherlands



**Question:** A 66-year-old woman presented to the general practitioner (GP) with a periumbilical localized painful swelling and loss of appetite. The GP performed ultrasonography, which showed a cystic lesion in the periumbilical region. Because of a fever, the periumbilical lesion was considered to be infected, and empiric antibiotic therapy was started. However, the patient deteriorated, with increasing pain and persisting fever, and was subsequently referred to the surgical department. Physical examination showed a fluctuating mass of 10 × 20 cm, located in the midline above the umbilicus. There were no signs of diffuse peritonitis or severe sepsis. The patient's medical history included diabetes mellitus, hypertension, and open appendectomy long ago. Laboratory results showed an elevated C-reactive protein level (164 mg/L) and leukocytosis (white blood cell count,  $23.4 \times 10^9/L$ ). Liver function test results, IgG4 level, and tumor markers ( $\alpha$ -fetoprotein, carbohydrate antigen 19-9, and carcinoembryonic antigen) were normal. Computed tomography, which was performed 1 month after the onset of complaints, showed complex fluid collection within the round ligament (Figure A, arrow) and a large abscess in the anterior abdominal wall (Figure A, asterisk). Furthermore, partial thrombosis of the left portal vein and pneumobilia were present (Figure B, arrow). Additional magnetic resonance imaging (MRI) showed atrophy of the left liver lobe and a possible fistula between the duodenal bulb and left hepatic duct (Figure C, arrow).

What was the underlying cause of the periumbilical abscess?

Look on page 41 for the answer and see the *Gastroenterology* website ([www.gastrojournal.org](http://www.gastrojournal.org)) for more information on submitting your favorite image to Clinical Challenges and images in GI.

### Correspondence

Address correspondence to: Anne Loes van den Boom, MD, Department of Surgery, Division of Hepatobiliary Surgery, University Medical Centre Groningen, Hanzeplein 1, 9713 GZ, Groningen, the Netherlands. e-mail: [a.l.van.den.boom@umcg.nl](mailto:a.l.van.den.boom@umcg.nl).

### Conflicts of interest

The authors disclose no conflicts.

© 2021 by the AGA Institute

0016-5085/\$36.00

<https://doi.org/10.1053/j.gastro.2021.03.061>

## Answer to Image (Page 40): Pylephlebitis of the Left Portal Vein With Abscess Formation Through the Connecting Round Ligament Into the Periumbilical Abdominal Wall

The underlying cause was most likely an infection of the biliary tree, possibly secondary to a duodenal ulcer, with suspicion of an enterobiliary fistula on MRI. There were no signs of other abdominal organ infections. An additional gastro-duodenoscopy was performed 2 weeks after drainage of the abscess and did not show a clear underlying cause, such as a malignancy or ulcer. The amount of liver atrophy on MRI suggested a longstanding inflammation, and peptic ulcers are known to heal on short notice, which could explain the normal gastro-duodenoscopy findings. Of note, the patient had been treated with proton pump inhibitors for years before the onset of the current complaints. On the other hand, patients with diabetes are at risk of developing spontaneous ascending suppurative cholangitis, which could be an alternative explanation of the pathogenesis. Although our patient had no elevated liver function test results, cultures of the abscess were in line with pathogens that are often seen in cholangitis (*Enterobacter aerogenes*, *Enterobacter cloacae*, and *Streptococcus milleri*). There was no history of foreign body ingestion, making intestinal perforation unlikely. After incision and drainage of the periumbilical abscess and anticoagulation therapy, the patient recovered completely.

Pylephlebitis is defined as a septic thrombophlebitis of the portal vein and is considered a rare entity that can evolve because of an infection in any abdominal viscera with drainage to the portal vein, most often secondary to pancreatitis, diverticulitis, appendicitis, and, less frequently, cholangitis.<sup>1</sup> Patients with pylephlebitis show high morbidity and mortality rates of up to 20%, but early diagnosis and treatment with antibiotics and anticoagulants together with source control may have a favorable outcome.<sup>2,3</sup> The round ligament, also known as the ligamentum teres hepatis, represents a remnant of the left fetal umbilical vein that used to drain into the left portal vein and degenerates shortly after birth. This remnant structure is known to regain its patency in the case of portal hypertension, but this case clearly shows that it can also serve as a natural drainage pathway, which may have prevented the patient from experiencing severe abdominal sepsis. To our knowledge, this is one of the very few cases with drainage of pylephlebitis through the round ligament resulting in a large abdominal wall abscess.<sup>3</sup>

**Keywords:** Pylephlebitis; Biliary Infection; Round Ligament; Computed Tomography.

### References

1. Hartpence J, Woolf A. Pylephlebitis. In: *StatPearls*. Treasure Island, Florida: StatPearls Publishing, 2020.
2. Kanellopoulou T, Alexopoulou A, Theodossiades G, et al. Pylephlebitis: an overview of non-cirrhotic cases and factors related to outcome. *Scand J Infect Dis* 2010;42:804–811.
3. Arakura N, Ozaki Y, Yamazaki S, et al. Abscess of the round ligament of the liver associated with acute obstructive cholangitis and septic thrombosis. *Intern Med* 2009;48:1885–1888.

---

For submission instructions, please see the *Gastroenterology* web site ([www.gastrojournal.org](http://www.gastrojournal.org)).