

# Pyogenic Liver Abscesses due to Iatrogenic Vascular Injury

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## Introduction

- Pyogenic liver abscesses (PLA) have an estimated mortality of 10-40%.
- One case series (>500 patients) reported PLA as the most common type of visceral abscess.<sup>1</sup>
- The most frequently reported pathogens are gram-negative bacilli.

### Classic presentation

- Right upper quadrant (RUQ) pain, fever, anorexia, and malaise.

## Case Description

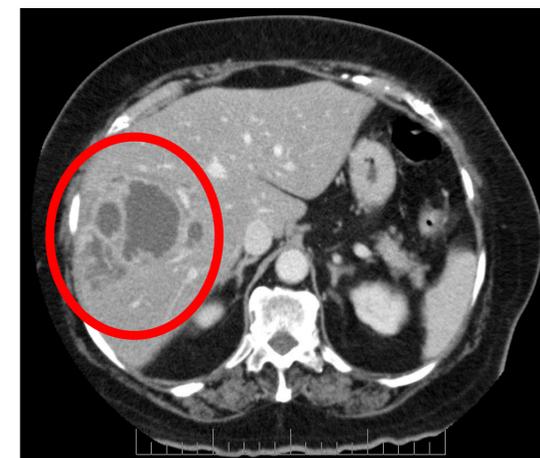
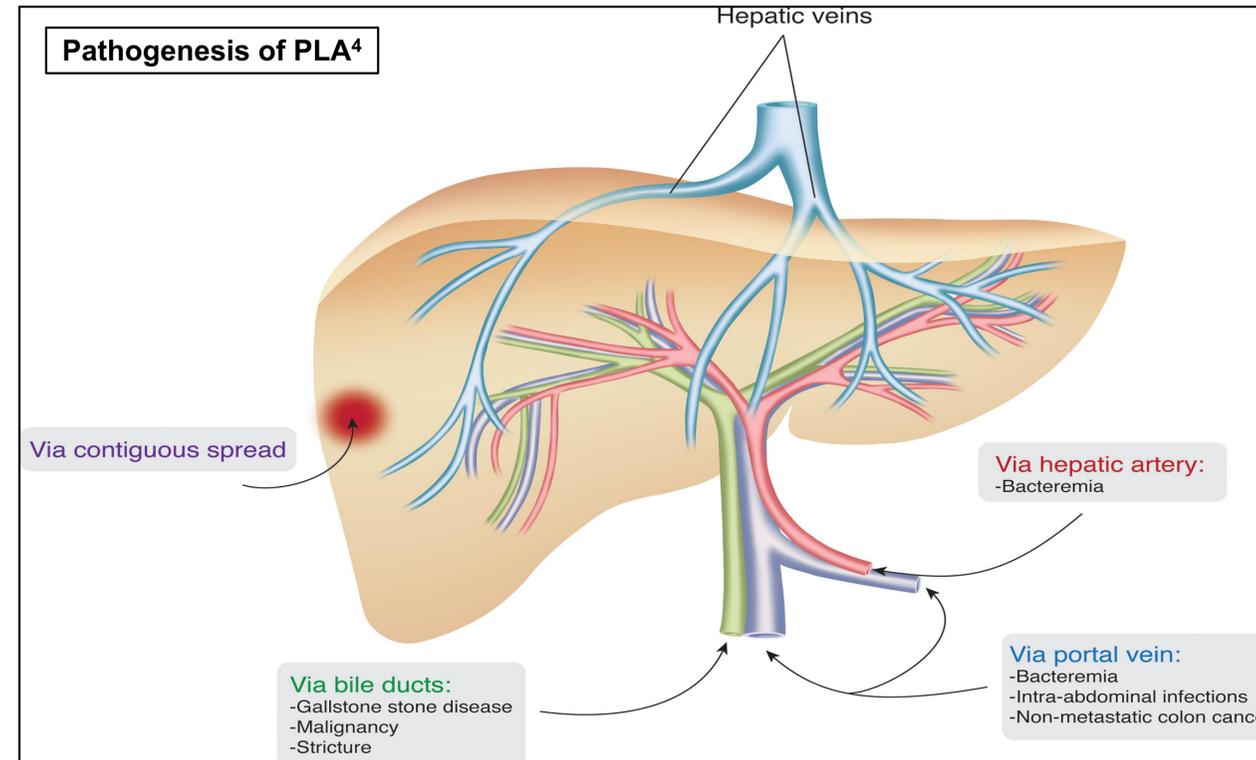
A 59-year-old man with history of recent perforated peptic ulcer status post partial gastrectomy presented with RUQ pain for two days.

### Physical exam and diagnostic workup

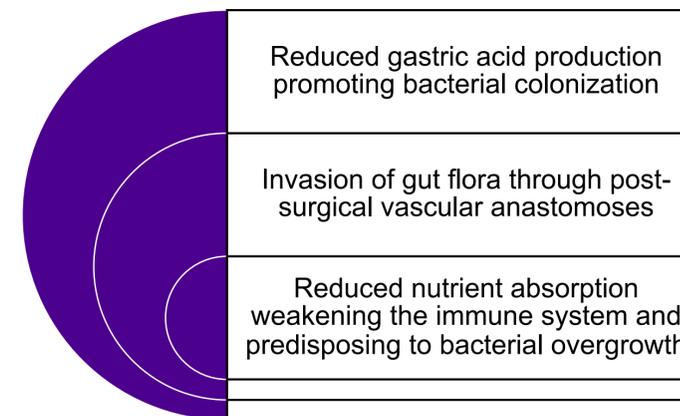
- He was afebrile, hemodynamically stable, and exam showed mild RUQ tenderness without peritoneal signs.
- Labs were unremarkable. Abdominal CT with contrast showed small (<3 cm) PLA in multiple hepatic lobes, hepatic dome ischemia, and disruption of the common hepatic artery suggestive of ligation.
- The partial gastrectomy operative report described how the surgical team had difficulty obtaining intra-operative hemostasis and applied clips to multiple vessels, including the common hepatic artery.

### Hospital course

- General surgery and interventional radiology recommended against drainage. He was treated empirically with piperacillin-tazobactam.
- The RUQ pain improved and he was discharged four days later with a 6-week course of oral ciprofloxacin.



PLA on abdominal CT with classic "double target" sign appearance<sup>5</sup>



Factors promoting PLA development in patients with gastrectomies

## Discussion

- The patient lacked risk factors for PLA thus we concluded that the PLA were significantly, if not exclusively, caused by injury to the common hepatic artery.
- One case series of right hepatic artery injuries during laparoscopic cholecystectomy showed no significant increase in length of hospital stay or postoperative complications, including PLA.<sup>2</sup>

### Insidious onset of PLA

- Hemodynamic stability during the hospital stay; he became symptomatic months after undergoing partial gastrectomy.
- The liver's dual arterial supply facilitates a more indolent course of hepatic ischemia. Eventually reduced blood flow through the common hepatic artery predisposed to PLA development.

### Reported association between gastrectomies and the development of PLA with multiple underlying mechanisms<sup>3</sup>

## Conclusion

- Injury to hepatic vasculature must be considered in patients with PLA who have a history of intra-abdominal surgery and no known risk factors for PLA.

## References

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