Acute Pylephlebitis With Liver Abscess and Portal Vein Thrombosis in an Elderly Male: A Case Report

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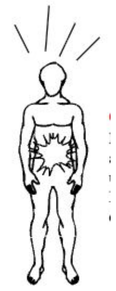
INTRODUCTION

Pylephlebitis: An infection of the portal vein and its branches, often caused by intra-abdominal or pelvic infections.

Pathogenesis: It starts with thrombophlebitis in small veins and can spread to the portal vein and mesenteric veins.



Infection eg appendicitis or diverticulitis

Clinical Manifestation:

- Generalized abdominal pain and fever and associated features of underlying pathology.
- Usually acute but can present chronically.

Common causes:

- Appendicitis and diverticulitis

Complications

- Liver abscess, bowel ischemia, and portal hypertension.

Laboratory findings:

- Bacteremia in 88% (Bacteroides fragilis and Escherichia coli). Raised or normal WCC. Usually normal/ mild increased bilirubin depending on aetiology

Diagnosis

- Imaging studies like CT scan and ultrasound are used to look for portal vein thrombosis, echogenic material, and other signs.

Treatment:

- Antibiotics, anticoagulation therapy, and in some cases, percutaneous techniques or surgery.

Outcome

- Overall 20% mortality rate

CASE SUMMARY

Patient: 81-year-old male, PMHx: HTN, HLD, DM2, CKD III, diverticulitis s/p hemicolectomy.

Presentation: 5 days fever, nausea, vomiting, diarrhea, diffuse musculoskeletal pain, mild RUQ discomfort.

Exam: Fever (101.5°F), mild RUQ discomfort, digital trampling

Labs:

- Leukocytosis: WBC 13.2 x10³/μL
- Anemia: Hemoglobin 11 g/dL
- Acute Kidney Injury: Creatinine 1.55 mg/dL (baseline 1.3)
- Inflammation markers: CRP 8.5 mg/dL; ESR 42 mm/hr

Blood cultures: *Streptococcus intermedius*.

CT Imaging:

- Thrombus in the posterior branch of the right portal vein
- A 4.2 × 3.8 cm rim-enhancing abscess in segment VI of the right hepatic lobe
- No evidence of active colitis, diverticulitis, or other intra-abdominal infection

CT contrast of Abdomen

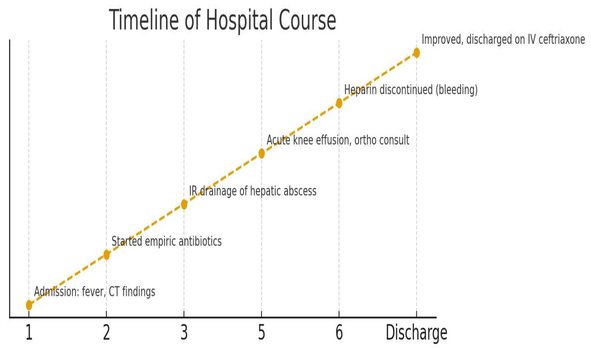
MANAGEMENT & OUTCOME

Management:

- Empiric piperacillin-tazobactam + vancomycin → narrowed to ceftriaxone.
- IR-guided hepatic abscess drainage; culture grew *S. intermedius*.
- IV heparin started for portal vein thrombosis → stopped due to subconjunctival hemorrhage.
- Acute knee effusion: inflammatory, non-infectious, resolved conservatively.

Outcome:

- Clinical improvement with antibiotics + drainage.
- Discharged with PICC for 4 weeks IV ceftriaxone.
- Follow-up with ID, hematology, ortho, oncology.
- Anticoagulation withheld pending hematology reassessment.



DISCUSSION

Hypothesized relationship between pyogenic liver abscess (PLAs), portal vein thrombosis, and pylephlebitis.

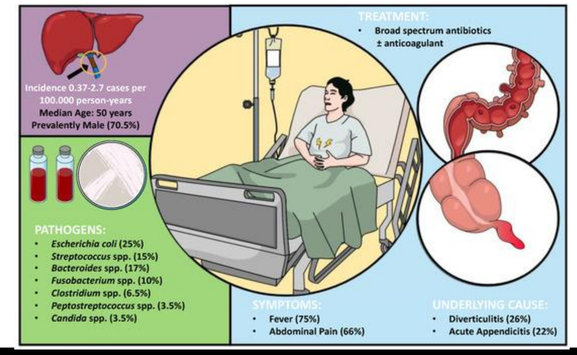
- Pylephlebitis is a rare condition with an incidence of 0.37–2.7 cases per 100,000 person-years, which can virtually complicate any intra-abdominal or pelvic infections that develop within areas drained by the portal venous circulation.
- Can cause pathology remote from the site if primary infections

Bacterial associated with PLAs

- Escherichia coli
- Klebsiella spp
- Streptococcus intermedius, a member of Streptococcus anginosus, frequently causes abscess formation due to its virulence factors, including extracellular enzymes that promote tissue invasion.

Therapeutic options:

- Treatment involves antibiotic therapy guided by culture sensitivities, source control via percutaneous abscess drainage
- Anticoagulation for pylephlebitis remains controversial.



CONCLUSION

- ★ Acute pylephlebitis with portal vein thrombosis and liver abscess is a rare but severe condition requiring prompt recognition and intervention.
- ★ Key management components include early imaging, appropriate antimicrobial therapy, source control through drainage, and case-specific anticoagulation decisions.
- ★ Clinicians should maintain a high level of suspicion, especially in elderly or immunocompromised patients presenting with fever and nonspecific abdominal symptoms.
- ★ This case highlights the need for an individualized, multidisciplinary management plan. Coordination among infectious disease, radiology, hematology, and surgical teams led to a favorable outcome despite the patient's advanced age and comorbidities.

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