Physical Education, Health and Social Sciences

https://journal-of-social-education.org

E-ISSN: 2958-5996
P-ISSN: 2958-5988

Recurrent Diarrhea as a Rare Presentation of Budd-Chiari Syndrome: A Case-Based Insight into Hepatic Venous Outflow Obstruction (Case report)

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DOI: https://doi.org/10.63163/jpehss.v3i2.310

Abstract
Budd-Chiari syndrome (BCS) is a hepatic disease of rare occurrence characterized by hepatic venous outflow obstruction, traditionally presenting with hepatomegaly, ascites, and liver dysfunction. Gastrointestinal manifestations like diarrhea are underdiagnosed and rare. Here we report a case of a 21-year-old male patient with the presenting complaints of abdominal pain, ascites, jaundice, and chronic diarrhea. Imaging showed hepatic venous outflow obstruction and laboratory findings showed a hypercoagulable state with positive lupus anticoagulant and factor V Leiden mutation. The patient was treated by having a Transjugular Intrahepatic Portosystemic Shunt (TIPS) procedure, with resolution of the diarrhea. Recurrence of the symptoms after shunt blockage and resolution after TIPS had been reevaluated only further established the association between hepatic congestion and symptoms. This situation does point to a possible pathophysiologic connection between hepatic congestion and abnormal gut motility and it does emphasize the necessity of heightened surveillance and investigation for gastrointestinal symptoms in BCS.

Keywords: Budd-Chiari Syndrome, Transjugular Intrahepatic Portosystemic Shunt (TIPS), Diarrhea, Hepatic Venous Outflow Obstruction, Hypercoagulability, Factor V Leiden, Lupus Anticoagulant

Introduction

Budd-Chiari syndrome (BCS) is an uncommon hepatic condition whose estimated incidence is 0.4–0.8 per million people per year. It presents with hepatic venous outflow obstruction, frequently owing to
hypercoagulable conditions like myeloproliferative
disorder, genetic thrombophilia. Ascites, hepatomegaly, and abdominal pain constitute the c lassic clinical triad. Gastrointestinal presentation in the form of diarrhea is rarely seen. This case demonstrates the clinical significance of diarrhea in the setting of hepatic venous congestion and its temporal correlation with shunt patency after TIPS.

Case Presentation

A 21-year-old male presented with a two-year history of intermittent watery diarrhea (4–5 episodes/day), recent worsening abdominal distension (2 weeks), jaundice, and right upper

quadrant pain. The pain was dull, progressive, and movement-aggravated (severity 5/10). There was no prior medical, surgical, allergic, or family history of similar complaints.

Clinical Examination

- Protuberant abdomen with stretched yellowish skin
- Hyperactive bowel sounds
- Liver span >12 cm at midclavicular line (suggesting hepatomegaly)
- Positive shifting dullness and fluid wave test (ascites)
- Palpable liver edge

Laboratory Investigations

- LFTs: Total bilirubin 0.4 mg/dL, ALT 14 U/L, AST 26 U/L, ALP 80 U/L, Albumin 4.2 g/dL
- RFTs: BUN 10 mg/dL, Creatinine 0.9 mg/dL, Electrolytes normal
- CBC: WBC 5.73 $\times 10^9$/L, Hb 13.9 g/dL, PLT 224 $\times 10^9$/L
- Coagulation: PT 11.9 sec, INR 1.13
- Serology: HBsAg and HCV negative
- Stool DR: Negative; Pus cells 2/HPF
- Ascitic fluid: LDH 84, Protein 2.4, Albumin 3.2, SAAG 2

Imaging

- Doppler Ultrasound: Loss of flow in hepatic veins
- Triphasic Abdominal CT: Narrowing of hepatic veins confirming Budd-Chiari Syndrome

Thrombophilia Workup

- Lupus anticoagulant: Positive
- Factor V Leiden mutation: Positive

Intervention & Outcome

Initial conservative management with heparin, spironolactone, and fluid/electrolyte correction was attempted. Unsuccessful venoplasty led to a TIPS procedure. Post-procedure, the patient's diarrhea completely resolved along with other BCS symptoms.

At 4-month follow-up, the patient experienced recurrence of abdominal distension and diarrhea. Imaging confirmed TIPS shunt blockage. Following a redo of the TIPS procedure, symptoms again resolved. The patient has remained asymptomatic with a patent shunt for 6 months.

Discussion

This case draws attention to a rare yet reproducible association between diarrhea and Budd-Chiari syndrome. While hepatomegaly, ascites, and abdominal pain are well-recognized features of BCS, gastrointestinal symptoms—particularly diarrhea—are seldom emphasized.

The resolution of diarrhea following restoration of hepatic venous outflow via TIPS and its recurrence upon shunt blockage suggests a plausible physiological link. Portal hypertension, secondary to hepatic vein obstruction, can alter intestinal perfusion, lymphatic drainage, and gut motility. Chronic hepatic congestion may lead to intestinal mucosal edema and increased motility, manifesting as diarrhea.

In this patient, the positive lupus anticoagulant and factor V Leiden mutation confirmed a hypercoagulable state as the underlying etiology. The dual episodes of symptom recurrence and resolution following TIPS further strengthen the association between hepatic venous patency and diarrhea.

Though rare, clinicians should consider Budd-Chiari syndrome in patients with unexplained chronic diarrhea when accompanied by liver-related symptoms.

Conclusion

Diarrhea may be an underrecognized symptom in Budd-Chiari syndrome. Restoration of hepatic flow through TIPS not only resolves hepatic complications but also gastrointestinal symptoms. Understanding this relationship can facilitate earlier diagnosis and improved management. Further studies are warranted to explore the pathophysiology of gastrointestinal symptoms in BCS and their potential inclusion in diagnostic criteria.

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