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Case Report Open Access

Sinistral Portal Hypertension: Presentation, Radiological Findings, and Treatment Options: A Case Report

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Abstract

Introduction: Sinistral Portal Hypertension (SPH), also referred to as left-sided portal hypertension, is a relatively uncommon medical condition characterized by an isolated blockage in the splenic vein. This obstruction leads to elevated venous pressure within the splenic bed and the development of gastric varices. SPH primarily manifests as a consequence of underlying pancreatic disorders, and its clinical presentation commonly includes hypersplenism and gastrointestinal variceal hemorrhage. Patients often initially present with symptoms resembling pancreatitis, which prompts the performance of diagnostic imaging, such as a CT scan, revealing the presence of SPH.

Case presentation: In this case report, we present the clinical scenario of a 42-year-old female who has a documented history of diabetes mellitus. She sought medical attention in the emergency room due to the complaint of severe epigastric pain radiating to her back. Initial clinical assessment raised suspicions of pancreatitis, prompting the utilization of a CT scan of the abdomen to further investigate her condition. The imaging findings in this case notably confirmed the presence of Sinistral Portal Hypertension (SPH).

Conclusion: Distinguishing SPH from generalized portal hypertension is of paramount importance due to the distinct treatment approaches associated with each condition. This study primarily aims to elucidate the characteristic CT imaging features of SPH and explore its clinical aspects, highlighting the need for accurate diagnosis and tailored management strategies in cases of this relatively rare yet clinically significant condition.

Keywords: Sinistral hypertension; Portal hypertension; Gastric varices; CT scan; Left sided; Splenic vien occlusion

Introduction

Sinistral portal hypertension, also known as "left-sided portal hypertension," is a rare medical condition characterized by increased pressure in the splenic vein and the veins of the stomach and intestines, specifically on the left side of the portal venous system [1]. This condition can result from various underlying causes, such as splenic vein thrombosis, pancreatitis, or the compression of nearby blood vessels [1,2]. Sinistral portal hypertension can be caused by conditions such as splenic vein thrombosis chronic pancreatitis (which can lead to splenic vein compression), or other factors that affect the left-sided portal venous system [2]. The clinical presentation of sinistral portal hypertension may include symptoms like splenomegaly, varices in the stomach and intestines, and gastrointestinal bleeding [2]. Treatment options depend on the underlying cause and severity of the condition and may involve medical management or surgical intervention [3]. It's essential for individuals with suspected sinistral portal hypertension to consult with a healthcare professional for a proper diagnosis and treatment plan tailored to their specific situation.

Case Report

In this case, we present a 42-year-old female with a known medical history of diabetes mellitus who sought medical attention in the emergency room, complaining of severe epigastric pain that radiated to her back. Given her clinical presentation, the initial suspicion was pancreatitis, necessitating the performance of a computed tomography (CT) scan of the abdomen for further evaluation.

The CT imaging findings in this case were remarkable and strongly indicative of specific pathology. Notably, there was evidence of mild splenic vein narrowing in the vicinity of the portosplenic confluence (Figures 1 and 2). Additionally, collateral vessels were prominently visible, extending into the peripancreatic, perisplenic regions, and the retroperitoneum. Furthermore, dilation of the inferior mesenteric vein (Figure 3) and mild splenic vein dilation were observed, collectively pointing towards a diagnosis of left-sided or sinistral portal hypertension. This condition is frequently associated with splenic vein thrombosis. Importantly, there was no radiological evidence of thrombosis in major vessels, which is a critical distinction.

Following the diagnostic CT scan findings indicative of sinistral portal hypertension, the patient was managed conservatively by careful monitoring, addressing any underlying conditions if present (such as pancreatic disorders), and adopting a watchful waiting strategy. This conservative management approach proved effective, and the patient responded well to the treatment.

This case serves as a pertinent reminder of the significance of considering sinistral portal hypertension as a potential diagnosis in individuals presenting with epigastric pain, especially in the context of associated clinical factors such as a history of diabetes mellitus. Timely recognition and accurate diagnosis are imperative for ensuring appropriate patient management and optimal outcomes.

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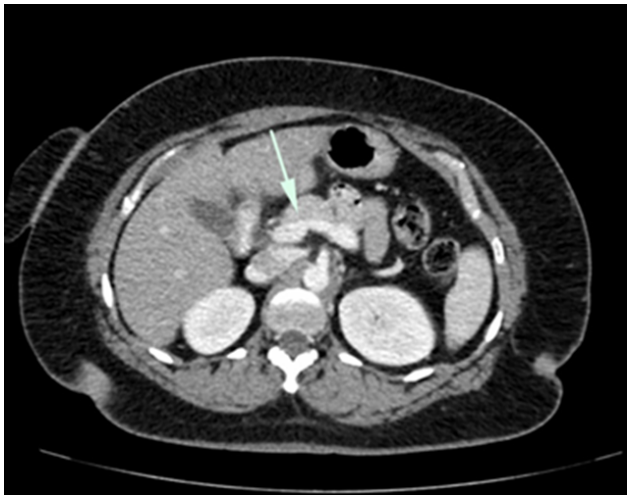

Figure 1: CT scan axial image shows mild narrowing of splenic vein near portosplenic confluence

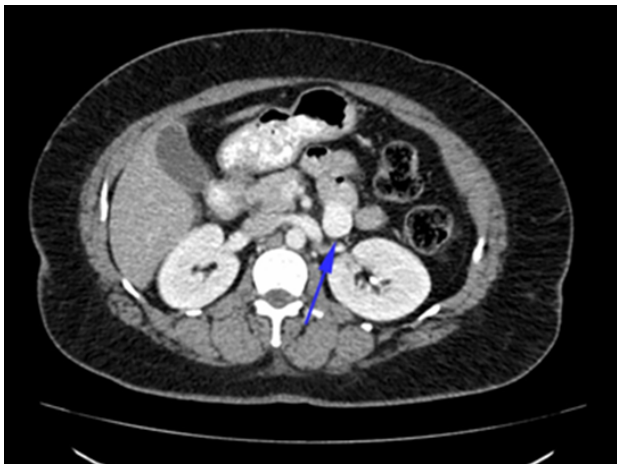

Figure 2: CT scan axial image shows collaterals vessel and normal liver parenchyma

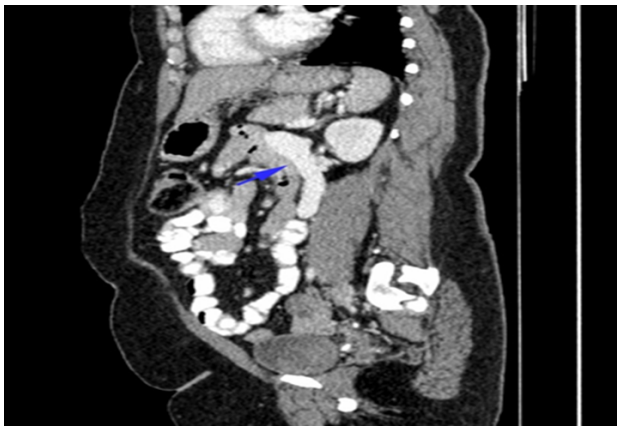

Figure 3: CT scan axial image shows collaterals vessel and normal liver parenchyma

Discussion

Sinistral Portal Hypertension (SPH) is an uncommon medical disorder marked by elevated pressure in the splenic vein and adjacent veins on the portal venous system's left side [1]. This syndrome frequently results in the production of gastric varices and is caused by a variety of reasons, the most common of which is splenic vein blockage owing to thrombosis. Extrinsic factors such as neoplasms, pancreatitis, pseudocysts, and splenic artery aneurysms can also contribute in some cases [1,2].

SPH is primarily diagnosed clinically and includes ruling out systemic portal hypertension. Diagnostic imaging is critical in verifying the diagnosis and determining the underlying disease (2 Trans-abdominal ultrasonography (US) is frequently the favoured imaging modality at first; nevertheless, its major usefulness rests in rejecting the existence of systemic portal hypertension and its underlying causes, such as liver cirrhosis. Notably, compared to portal vein thromboses, trans-abdominal US shows a lower sensitivity in identifying smaller and more mild splenic vein thromboses [3]. Endoscopic Ultrasound (EUS), high-resolution multi-detector contrast CT scans, and Magnetic Resonance Angiography (MRA) are emerging as viable imaging techniques. Nonetheless, angiography of the splenic vein remains the gold standard for determining the accurate diagnosis of sinistral portal hypertension [4].

SPH often exhibits collateral routes, notably those involving short gastric gastroepiploic veins and left because of the major variations in therapy, it is critical to differentiate SPH from systemic portal hypertension. Treatment options for SPH include splenectomy or endovascular techniques, as well as treating the underlying pathophysiology. Endoscopic clipping or Transjugular Intrahepatic Portosystemic Shunt (TIPS) are suggested in systemic portal hypertension [5].

Gastric varices are a defining feature of SPH, and their presence is frequently accompanied with gastroepiploic vein hypertrophy. While gastric varices bleed less frequently than esophageal varices, when bleeding does occur, it is linked with a greater death rate. In SPH, the expansion of gastroepiploic veins performs a decompressive function, presumably reducing bleeding from stomach varices [6].

Splenomegaly is a frequent complication of SPH, caused by splenic artery inflow and venous congestion. This is possible. Hypersplenism is a disease that has been linked to thrombocytopenia or leukopenia [7,8].

Notably, SPH can occasionally present clinically silently, and symptoms such abdominal discomfort may not be disease-specific [9]. Therefore, to identify it, clinical awareness and diagnostic imaging are crucial. SPH is a complicated illness overall with several aetiologies, clinical manifestations, and treatment options [10].

Conclusion

In conclusion, it is crucial to emphasize the importance of thoroughly examining the splenic vein when gastroepiploic collaterals are present, particularly in cases where a pancreatic disease exists. This careful evaluation helps prevent the oversight of splenic vein thrombosis, which can be a significant concern. Furthermore, it's essential to recognize that despite the formation of multiple collaterals in Sinistral Portal Hypertension (SPH), this condition may not manifest with specific symptoms. In some instances, the only indicator of SPH may be the findings on CT imaging. Therefore, maintaining a high level of clinical awareness and considering the elevated risk of bleeding associated with

SPH is vital for early diagnosis and appropriate management.

Acknowledgement

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Conflict of Interest

The author has no potential conflicts of interest.

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