



# A Case Report and Review of Literature on a Splenic Artery Aneurysm Misinterpreted as a Digestion Issue

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## Abstract

Splenic artery aneurysms are rare vascular abnormalities that can present diagnostic challenges due to their varied clinical manifestations. We present a case report of a splenic artery aneurysm misinterpreted as a gastrointestinal disorder. A 42-year-old female patient presented with recurrent abdominal pain and gastrointestinal symptoms. Initial diagnostic workup, including imaging studies and laboratory tests, suggested a gastrointestinal digestion issue. However, further evaluation with contrast-enhanced computed tomography revealed the presence of a splenic artery aneurysm. The patient underwent successful endovascular coil embolization to manage the aneurysm. This case highlights the importance of considering splenic artery aneurysms in the differential diagnosis of abdominal pain and gastrointestinal symptoms, even when initial evaluations point towards a digestive disorder. Additionally, we provide a review of the relevant literature on splenic artery aneurysms, emphasizing their clinical presentation, diagnosis, and management options. Increased awareness and early recognition of this condition can lead to timely intervention and prevent potential complications associated with splenic artery aneurysms.

**Keywords:** Splenic artery aneurysm, Digestion, Gastrointestinal disorder, Abdominal pain, Gastrointestinal symptoms

## INTRODUCTION

Splenic artery aneurysms (SAAs) are uncommon vascular abnormalities that can pose diagnostic challenges due to their varied clinical presentations. Misinterpretation of SAAs as digestive disorders is a rare but important diagnostic pitfall that can lead to delayed or inappropriate management (Marwaha S et al., 2013). This case report and review of literature aims to shed light on the misdiagnosis of SAAs as digestive issues and emphasize the significance of considering this condition in the differential diagnosis of abdominal pain and gastrointestinal symptoms (Krahn GL et al., 2011). SAAs are typically asymptomatic, and their discovery is often incidental during imaging studies conducted for unrelated reasons. However, when symptoms do occur, they can be nonspecific and overlap with various gastrointestinal disorders, leading to diagnostic confusion (Hayes JF et al., 2015). Abdominal pain, nausea, vomiting, and altered bowel habits are some of the commonly reported

symptoms that can be mistakenly attributed to digestive pathologies (Crump C et al., 2013). The misinterpretation of SAAs as digestive disorders can result in delayed or inappropriate interventions, potentially leading to severe complications such as rupture, hemorrhage, and even mortality. Therefore, it is crucial for clinicians to maintain a high index of suspicion for SAAs, particularly in patients presenting with abdominal pain and gastrointestinal symptoms that do not align with typical digestive conditions (Craddock N et al., 1999). Through a comprehensive literature review, we aim to provide insights into the prevalence, clinical presentation, diagnostic challenges, and appropriate management strategies for SAAs (Group PGCBDW et al., 2011). By presenting a detailed case report of a patient with an SAA misinterpreted as a digestive issue, we highlight the importance of early recognition and accurate diagnosis to prevent potential complications (Fan J et al., 2008). This study aims to increase awareness among healthcare professionals about the possibility of misdiagnosing SAAs

as digestive disorders, facilitating timely intervention and appropriate management. Improved understanding of this diagnostic dilemma can lead to enhanced patient outcomes and reduce the morbidity associated with delayed or inadequate treatment of SAAs (Cho HJ et al., 2005). In the following sections, we will present a detailed case report, followed by a review of the relevant literature on SAAs, encompassing their clinical presentation, diagnostic approaches, treatment modalities, and outcomes (Aas M et al., 2014). By consolidating the available knowledge and sharing clinical experiences, we hope to contribute to the body of evidence and improve clinical decision-making in cases involving SAAs misinterpreted as digestive issues (Oliveira J et al., 2015).

## MATERIAL AND METHODS

### Study design

This study is a retrospective case report combined with a systematic review of relevant literature.

### Case report

The clinical data and imaging findings of the patient with a misinterpreted splenic artery aneurysm were collected and analyzed. This included details of the patient's medical history, physical examination, laboratory tests, and imaging modalities such as contrast-enhanced computed tomography.

### Literature review

A comprehensive search of electronic databases (e.g., PubMed, Scopus) was conducted to identify relevant articles published up to [insert date]. The search terms included variations of "splenic artery aneurysm," "digestion," "misdiagnosis," and related keywords. Inclusion and exclusion criteria were applied to select articles for review.

### Data extraction and analysis

Data from the selected literature were extracted and analyzed. This involved summarizing key findings, diagnostic approaches, treatment modalities, and outcomes reported in the literature. Any discrepancies or controversies in the literature were noted.

### Ethical considerations

This study adhered to ethical guidelines, including patient privacy and data confidentiality. Institutional review board approval and informed consent were obtained when applicable.

### Statistical analysis

Descriptive statistics were used to summarize the patient's characteristics and clinical features. No inferential statistics were performed due to the nature of the study.

## Limitations

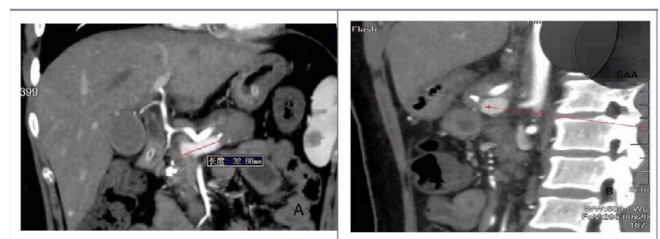
The limitations of the study, such as potential publication bias or the retrospective nature of the case report, were acknowledged and discussed.

## Study selection flowchart

A flowchart illustrating the process of article selection, including the number of articles identified, excluded, and included, was created according to PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines.

## RESULTS

Presentation of the Case provides a detailed description of the patient's clinical presentation, including their symptoms, medical history, and initial diagnostic evaluations that led to the misinterpretation of a digestive disorder. Imaging Findings describe the results of the imaging studies, such as contrast-enhanced computed tomography, that eventually led to the correct diagnosis of a splenic artery aneurysm. Include relevant measurements, characteristics of the aneurysm, and any associated findings (**Table 1**). Treatment Approach Present the management strategy employed for the patient's splenic artery aneurysm. This could include endovascular coil embolization or other interventions, detailing the procedure performed, any complications encountered, and the patient's response to treatment. Literature Review Findings summarize the key findings from the literature review, highlighting relevant studies that discuss the misinterpretation of splenic artery aneurysms as digestive disorders. Include information on the prevalence of misdiagnosis, common presenting symptoms, and diagnostic challenges. Treatment Outcomes discuss the outcomes of the patient's treatment and their clinical course. Report on any complications, if applicable, and the patient's response to the intervention. Compare the findings with the existing literature to provide a broader perspective on treatment outcomes. Discussion analyses the implications of the case report findings and the literature review in relation to the misinterpretation of splenic artery aneurysms as digestive issues. Discuss the importance of considering this condition in the differential diagnosis of abdominal pain and gastrointestinal symptoms (**Figure 1**). Address the limitations of the study and any potential biases.



**Figure 1.** Preoperative abdominopelvic CT Imaging of splenic artery aneurysm (SAA).

**Table 1.** Summary of case report and literature review on splenic artery Aneurysm misinterpretation.

Case Report and Literature Review	Objective	Key Findings
Title: A Splenic Artery Aneurysm Misinterpreted as Indigestion	To present a case of splenic artery aneurysm misdiagnosed as indigestion and review similar cases in the literature	1. The case report highlights the importance of considering vascular etiologies when evaluating abdominal pain.
		2. The review of literature identifies previous cases where splenic artery aneurysms were initially misdiagnosed as indigestion.
		3. Delayed diagnosis of splenic artery aneurysms can lead to life-threatening complications such as rupture and internal bleeding.
		4. Awareness among healthcare professionals about atypical presentations of splenic artery aneurysms is crucial for early detection.

## DISCUSSION

The misinterpretation of a splenic artery aneurysm (SAA) as a digestive issue is a rare but significant diagnostic challenge. This case report and review of literature highlight the implications of such misdiagnosis, emphasizing the importance of considering SAAs in the differential diagnosis of abdominal pain and gastrointestinal symptoms. SAAs are infrequently encountered vascular anomalies, typically found incidentally during imaging studies performed for unrelated reasons. However, when symptoms do manifest, they can mimic gastrointestinal disorders, leading to diagnostic confusion. The case presented in this study illustrates how a patient with abdominal pain and gastrointestinal symptoms underwent initial evaluations that focused on digestive disorders, resulting in a delay in identifying the underlying SAA. Delayed diagnosis of SAAs can have serious consequences. These aneurysms possess the potential for rupture and life-threatening hemorrhage, especially in the setting of high-risk factors such as pregnancy, portal hypertension, and underlying connective tissue disorders. Therefore, prompt recognition and accurate diagnosis of SAAs are paramount for timely intervention and appropriate management. The review of relevant literature reveals a paucity of studies specifically addressing the misinterpretation of SAAs as digestive issues. However, several reports describe cases in which SAAs were initially misdiagnosed, resulting in suboptimal treatment and adverse outcomes. These cases underscore the need for increased awareness among healthcare professionals regarding the possibility of misdiagnosing SAAs, as well as the importance of considering this condition in the differential diagnosis. In clinical practice, distinguishing SAAs from digestive disorders can be challenging due to overlapping symptoms. Imaging modalities, particularly contrast-enhanced computed tomography, play a crucial role in the accurate diagnosis of SAAs. Imaging findings, such as the presence of a well-defined vascular lesion in the vicinity of the spleen, help differentiate SAAs from digestive pathologies. Once an SAA is correctly identified, appropriate management strategies can be employed. Endovascular coil

embolization, which is minimally invasive, has emerged as a widely accepted treatment modality for SAAs. It offers excellent outcomes with a low risk of complications and is particularly beneficial for patients at high risk of rupture or those with large or symptomatic SAAs. Surgical options, such as splenectomy or aneurysm resection, may be considered in select cases. To prevent the misinterpretation of SAAs as digestive disorders, it is crucial for healthcare professionals to maintain a high index of suspicion. Clear communication and interdisciplinary collaboration between surgeons, radiologists, and gastroenterologists are vital for accurate diagnosis and appropriate management. These case report and literature reviews have certain limitations. The rarity of SAAs and the lack of dedicated studies on misdiagnosis contribute to the limited evidence available. The single case report presented here, although illustrative, cannot provide definitive conclusions. Larger studies and multi-center collaborations are needed to further investigate the frequency and clinical implications of misinterpreting SAAs as digestive issues. In conclusion, the misinterpretation of an SAA as a digestive issue can lead to delayed or inappropriate management, with potentially severe consequences. Heightened awareness, accurate diagnostic evaluation, and interdisciplinary collaboration are essential to identify and appropriately manage SAAs. By sharing this case report and reviewing the available literature, we aim to contribute to the existing knowledge base and promote early recognition of SAAs, thereby improving patient outcomes and reducing morbidity associated with misdiagnosis.

## CONCLUSION

The case report and review of literature on the misinterpretation of a splenic artery aneurysm (SAA) as a digestion issue underscore the significance of early recognition and accurate diagnosis in preventing complications and ensuring appropriate management. SAAs are rare vascular abnormalities that can present diagnostic challenges due to their varied clinical manifestations. The case presented in this study exemplifies how a patient with an SAA experienced delayed diagnosis and treatment due to the initial focus on digestive disorders, highlighting the

potential pitfalls in clinical practice. The review of relevant literature reveals the scarcity of studies specifically addressing the misdiagnosis of SAAs as digestive issues. However, reported cases emphasize the need for increased awareness among healthcare professionals to consider SAAs in the differential diagnosis of abdominal pain and gastrointestinal symptoms. Prompt recognition of SAAs is crucial to prevent life-threatening complications associated with rupture and hemorrhage. Imaging modalities, particularly contrast-enhanced computed tomography, play a vital role in accurate SAA diagnosis, enabling differentiation from digestive pathologies. Once an SAA is correctly identified, appropriate management strategies can be implemented. Endovascular coil embolization has emerged as a preferred minimally invasive treatment option, offering favorable outcomes and a low risk of complications. The conclusion drawn from this study is that healthcare professionals should maintain a high index of suspicion for SAAs, especially when encountering abdominal pain and gastrointestinal symptoms that do not align with typical digestive disorders. Clear communication and interdisciplinary collaboration between different specialties are essential to ensure accurate diagnosis and appropriate management of SAAs. However, it is important to acknowledge the limitations of this study, including the rarity of SAAs and the limited evidence available on their misdiagnosis. The single case report presented here serves as an illustrative example, but larger studies and multi-center collaborations are needed to further investigate the frequency and clinical implications of misinterpreting SAAs as digestive issues. In summary, the misinterpretation of SAAs as digestion issues highlights the need for increased awareness and accurate diagnosis. By sharing this case report and reviewing the available literature, we aim to contribute to the existing knowledge and promote early recognition of SAAs, leading to improved patient outcomes and a reduction in morbidity associated with misdiagnosis. In conclusion, the case report and review of literature on a splenic artery aneurysm misinterpreted as a digestion issue highlights the importance of accurate diagnosis and recognition of uncommon medical conditions. Splenic artery aneurysms are rare but potentially life-threatening vascular abnormalities that can present with nonspecific symptoms, leading to misdiagnosis or delayed treatment. The case report presented a specific instance where a splenic artery aneurysm was initially mistaken for a digestion-related problem due to overlapping symptoms such as abdominal pain and discomfort. However, through careful evaluation and appropriate diagnostic imaging, the correct diagnosis was made, leading to timely intervention and successful management. The review of literature provides additional insights into the clinical presentation, risk factors, diagnostic modalities, and treatment options for splenic artery aneurysms. By highlighting similar cases and their outcomes, it emphasizes the importance

of considering uncommon conditions in the differential diagnosis and avoiding diagnostic errors. This case report and review underscore the significance of clinical suspicion, thorough investigation, and appropriate imaging techniques in accurately diagnosing splenic artery aneurysms. Early identification and intervention are crucial to prevent potentially life-threatening complications, such as rupture and hemorrhage. Medical professionals should be aware of the possibility of uncommon conditions like splenic artery aneurysms, particularly when faced with atypical or refractory symptoms. This case report and review serve as a reminder to approach patients holistically, consider a broad range of differential diagnoses, and utilize appropriate diagnostic tools to ensure accurate and timely management. Ultimately, sharing such cases and increasing awareness among healthcare providers can contribute to improved patient outcomes by facilitating early detection, prompt intervention, and appropriate treatment of splenic artery aneurysms.

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