Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Radiology

Acute Mesenteric Ischemia Associated with Chronic Aortoiliac Occlusion: An Unusual Presentation of Leriche Syndrome

A. Chaali[1]*, C. Sebti[1], B. Slioui[1], S. Ben Elhend[1], R. Roukhsi[1], S. Bellasri[1], A. Mouhssine[1], M. Atmane[1]

[1]Radiology Department, Avicenne Military Hospital, Marrakech

DOI: https://doi.org/10.36347/sjmcr.2026.v14i11.020 | **Received:** 19.08.2026 | **Accepted:** 09.10.2026 | **Published:** 05.11.2026

***Corresponding author:** A. Chaali
Radiology Department, Avicenne Military Hospital, Marrakech

Abstract **Case Report**

Background: Leriche syndrome is a form of chronic aortoiliac occlusive disease resulting from obstruction of the distal abdominal aorta and iliac arteries. Chronic arterial occlusion allows the development of extensive collateral pathways that may maintain distal perfusion. In advanced disease, involvement or dysfunction of the mesenteric arterial circulation may result in mesenteric ischemia. ***Case presentation:*** We report the case of a 60-year-old man presenting with acute abdominal pain. Contrast-enhanced computed tomography angiography demonstrated complete occlusion of the infrarenal abdominal aorta, extending to both common iliac arteries, associated with occlusion of the inferior mesenteric artery. The celiac trunk, superior mesenteric artery [SMA], and both renal arteries remained patent and showed adequate contrast opacification. In contrast, the inferior mesenteric artery [IMA] was not opacified, consistent with associated mesenteric arterial occlusion. The bowel showed circumferential mural thickening, submucosal edema, and mesenteric hyperemia, without significant mesenteric fat stranding or peritoneal effusion, findings suggestive of early intestinal hypoperfusion rather than established transmural ischemic injury. Extensive arterial collateralization was observed. ***Conclusion:*** Early intestinal hypoperfusion may occur in the setting of chronic aortoiliac occlusive disease and represents a diagnostic and therapeutic challenge. Computed tomography angiography is essential for simultaneously assessing the aortoiliac occlusion, mesenteric arterial circulation, collateral pathways, and early bowel-wall changes. Recognition of these findings, together with the absence or presence of signs of irreversible bowel injury, is crucial for appropriate management.

Keywords: Leriche Syndrome, Aorto Iliac occlusion, Atherosclerosis, intestinal hypoperfusion, conservative management, anticoagulation therapy.

Copyright © 2026 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution **4.0 International License (CC BY-NC 4.0)** which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Leriche syndrome, also referred to as chronic aortoiliac occlusive disease, is characterized by obstruction of the distal abdominal aorta and/or iliac arteries, most commonly in the setting of advanced atherosclerotic disease. Strictly speaking, the term Leriche syndrome classically refers to the combination of aortoiliac occlusion, diminished or absent femoral pulses, intermittent claudication, and in male patients, erectile dysfunction; however, it is frequently used in clinical and radiological practice to describe aortoiliac occlusive disease more broadly. [1]

The chronicity of the arterial obstruction allows the development of extensive collateral pathways. [2] These may involve the inferior mesenteric, rectal, lumbar, epigastric, internal thoracic, and iliac arterial networks and can maintain perfusion of the lower extremities despite complete aortoiliac occlusion. [3]

Mesenteric ischemia represents a potentially life-threatening condition resulting from inadequate intestinal blood supply. Computed tomography angiography[CTA] is the imaging modality of choice because it allows simultaneous assessment of the mesenteric arterial circulation and the bowel, and can identify findings suggestive of advanced ischemic injury. [4], [5].

We present a case of early mesenteric ischemic changes associated with chronic infrarenal aortic and bilateral common iliac artery occlusion with concomitant inferior mesenteric artery occlusion, highlighting the diagnostic contribution of CT angiography and the potential for conservative management when bowel viability appears preserved.

CASE PRESENTATION

A 60-year-old male patient was admitted to the emergency department with acute abdominal pain. The patient's medical history was notable for previous claudication.

On physical examination, the patient was hemodynamically stable. Abdominal examination revealed diffuse guarding. Peripheral examination was normal.

Laboratory investigations revealed renal function was normal.

Given the clinical suspicion of mesenteric ischemic involvement, contrast-enhanced CT angiography of the abdomen and pelvis was performed.

CT Angiography Findings

Abdominal CT angiography revealed complete occlusion of the infrarenal abdominal aorta, associated with extensive aortoiliac occlusive disease in the setting of severe atherosclerosis.

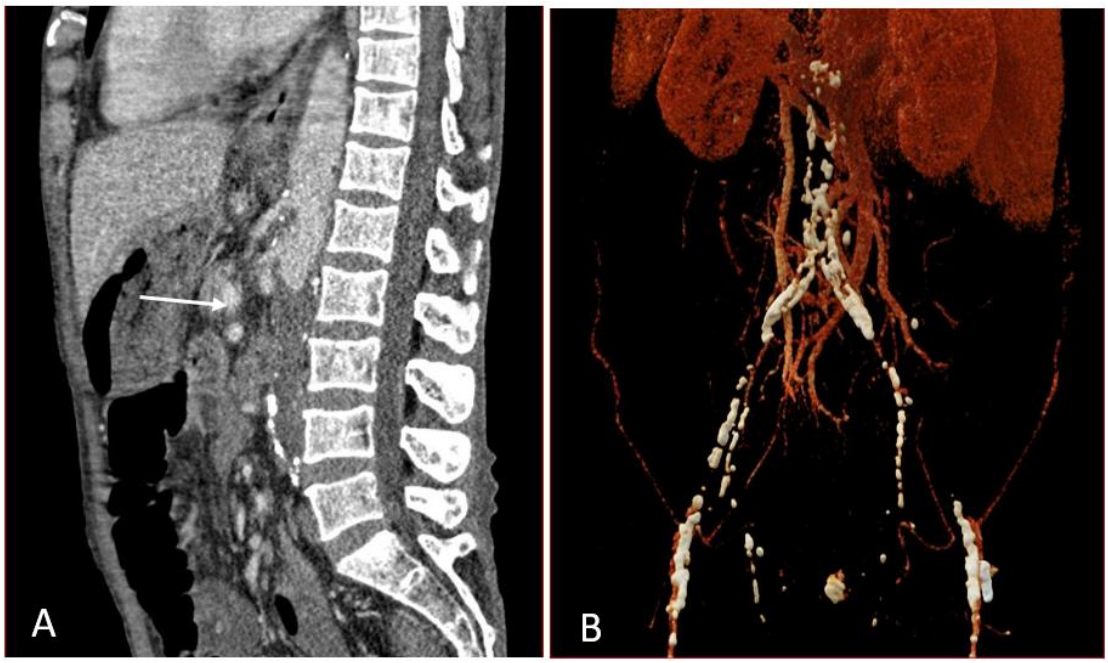


Figure 1: CT angiographic findings consistent with Leriche syndrome. [A] Sagittal contrast-enhanced CT image showing complete occlusion of the infrarenal abdominal aorta[arrow]. [B] Volume-rendered CT angiographic reconstruction demonstrating extensive atherosclerotic occlusion of the distal abdominal aorta and bilateral iliac arteries

The celiac trunk, superior mesenteric artery [SMA], and both renal arteries remained patent and showed adequate contrast opacification. In contrast, the inferior mesenteric artery [IMA] was not opacified, consistent with associated mesenteric arterial occlusion.

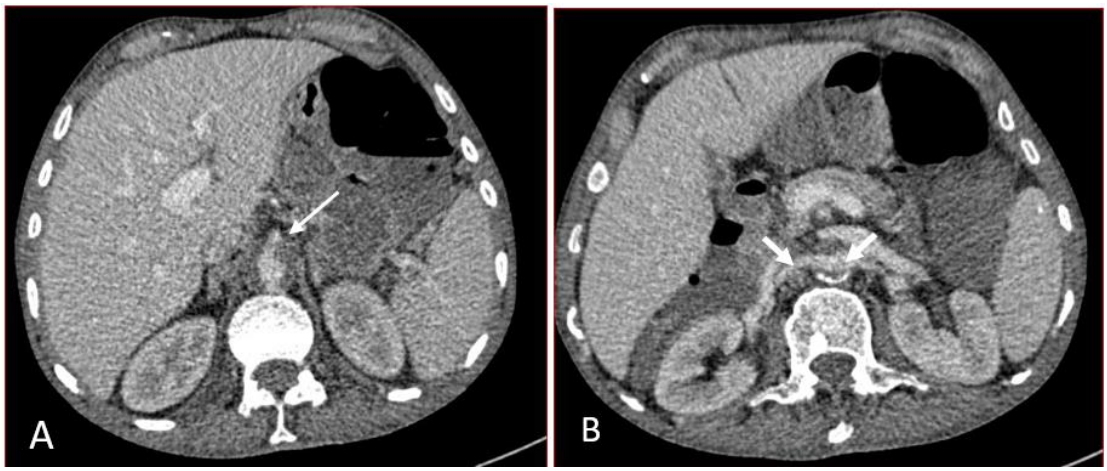


Figure 2 : Axial contrast-enhanced CT angiographic images of the abdomen showing patency of the celiac trunk[arrow][A] and both renal arteries [small arrows] [B]

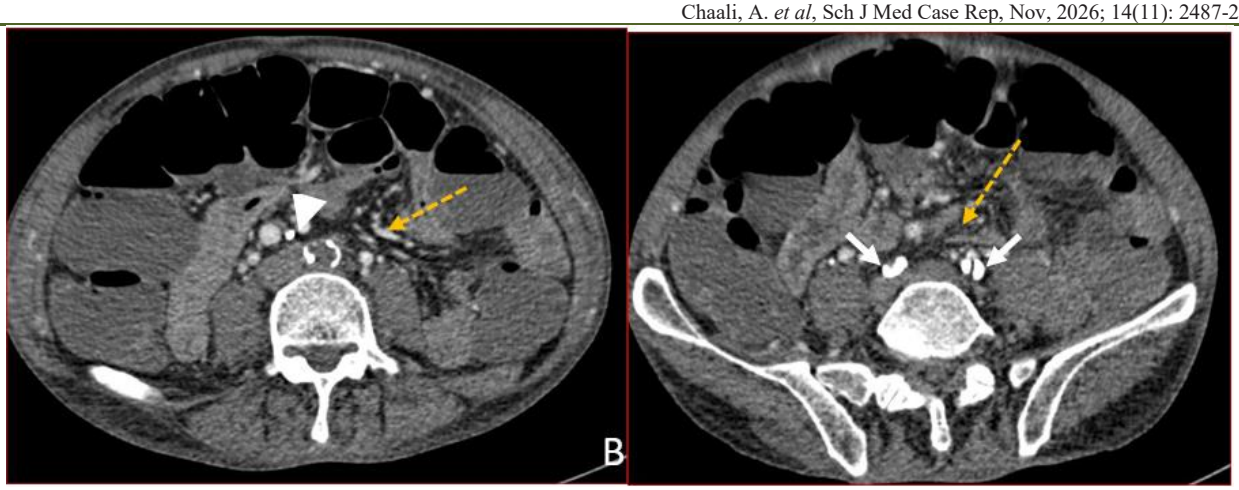


Figure 3: Axial abdominal CT images showing[A] and[B] prominent mesenteric collateral circulation [dashed arrow], non-opacification of the inferior mesenteric artery[arrowhead], and complete occlusion of both common iliac arteries[arrows]

Digestive findings included circumferential, regular, non-stenosing mural thickening of the rectosigmoid colon, measuring up to 7 mm in maximal thickness, associated with diffuse submucosal edema. Similar circumferential and regular non-stenosing mural thickening was observed in several ileal loops, measuring up to 4.4 mm, with diffuse submucosal edema[Fig 5]. These findings were associated with mesenteric hyperemia, [Fig 4] without significant mesenteric fat stranding or peritoneal effusion. The combination of mural thickening, submucosal edema, and mesenteric hyperemia was considered suggestive of early intestinal hypoperfusion.

The ascending and transverse colon were distended and contained air-fluid levels, without a definite transition point.



Figure 4: Axial contrast-enhanced abdominal CT images showing[A] regular, non-stenosing mural thickening of the rectosigmoid colon[arrow], and[B] colonic distension with air-fluid levels[arrowheads] associated with complete occlusion of the infrarenal abdominal aorta [dashed arrows]

These findings suggested chronicity of the aortoiliac occlusive process, with development of collateral circulation to maintain distal arterial perfusion.

Overall, the combination of severe aortoiliac occlusive disease with IMA occlusion and subtle bowel-wall abnormalities was suggestive of early intestinal hypoperfusion, predominantly involving the colonic territory, without CT evidence of established transmural bowel necrosis.

Clinical Course and Outcome

The patient was managed conservatively with anticoagulant therapy and close clinical surveillance. No surgical intervention was performed. During follow-up, progressive clinical improvement was observed, with marked reduction of both abdominal pain and lower-limb claudication. The favorable clinical evolution under conservative management, together with the absence of imaging findings suggesting established transmural bowel injury, supported the viability of the affected bowel and allowed continued non-operative management.

DISCUSSION

Leriche syndrome represents advanced aortoiliac occlusive disease, typically involving the distal abdominal aorta and iliac arteries. [6] The particularity of this case lies in the association of chronic aortoiliac occlusion with mesenteric arterial involvement and early intestinal hypoperfusion.

Chronic aortoiliac occlusive disease where there is progressive arterial obstruction, can be asymptomatic due to the development of rich systemic-to-systemic or mesenteric-to-systemic collateral arterial networks which may involve the mesenteric and pelvic circulation. [7]

Symptomatic patients often experience pain, paraesthesia, paralysis, pulselessness, pallor, weakness, or impotence. [8]

An important finding in our case was the association between severe aortoiliac occlusive disease and IMA occlusion, despite preserved opacification of the celiac trunk and SMA.

This finding is particularly relevant in light of the study by Ksouri et al., which evaluated 114 patients with acute mesenteric ischemia. Colonic involvement was identified on CT in 28% of patients, and IMA occlusion was the only statistically significant risk factor for colonic involvement. [9] These findings are particularly relevant to our observation, in which IMA occlusion coexisted with rectosigmoid and colonic abnormalities suggestive of early ischemic involvement. Although the SMA remained patent in our patient, the combination of extensive aortoiliac occlusion and IMA occlusion may have reduced the capacity of the collateral network to maintain adequate intestinal perfusion, resulting in an evolving state of intestinal hypoperfusion.

The inferior mesenteric artery can play a particularly important role in this collateral network. In a reported case of Leriche syndrome, the IMA remained patent and provided extensive collateral flow to the lower extremities through rectal and pelvic arterial anastomoses. [10]

The association between Leriche syndrome and mesenteric arterial occlusion has been previously described. Yoshimura et al. reported an 81-year-old man with acute abdominal pain in whom CT angiography demonstrated superior mesenteric artery occlusion associated with infrarenal aortic and inferior mesenteric artery occlusion. The intestinal ischemia improved with antithrombotic and vasodilator therapy. [11] This observation supports the possibility that mesenteric ischemic changes may remain reversible when intestinal viability is preserved and treatment is instituted before irreversible bowel injury develops.

More severe presentations have also been reported. One case of Leriche syndrome demonstrated occlusion of the infrarenal aorta, bilateral iliac arteries, superior and inferior mesenteric arteries, associated with extensive intestinal ischemia and multivisceral infarction. [6]

In patients with severe aortoiliac occlusive disease, the IMA may become an important source of collateral flow to the lower extremities. Redistribution of mesenteric blood flow toward the lower limbs may produce intestinal hypoperfusion, particularly during exertion. This mechanism has recently been described as inferior mesenteric artery steal syndrome. [12]

Therefore, in the present case, the CT angiographic findings should be interpreted not simply as multiple arterial occlusions but as a complex and evolving hemodynamic system involving the aortoiliac and mesenteric circulations. The preserved patency of the celiac trunk and SMA and the prominent collateral network may have maintained sufficient residual intestinal perfusion despite IMA occlusion, resulting in early and potentially reversible bowel-wall changes.

In our case, despite the extensive aortoiliac occlusive disease and associated early intestinal ischemic changes on CT, the patient showed a favorable clinical evolution with conservative management consisting of anticoagulant therapy and close surveillance. The improvement in both abdominal pain and lower-limb claudication suggests that collateral circulation provided sufficient residual perfusion to maintain bowel viability and allowed clinical compensation. The absence of imaging features strongly suggestive of transmural infarction, together with the favorable clinical course, supported the decision to continue non-operative management. This observation is consistent with the important role of collateral pathways in patients with Leriche syndrome, which may partially compensate for extensive arterial occlusion and explain the variability in clinical presentation.

CONCLUSION

Early mesenteric ischemic changes in the setting of chronic aortoiliac occlusive disease are uncommon and may represent a potentially reversible stage of intestinal hypoperfusion. CT angiography plays a pivotal role in diagnosis by simultaneously demonstrating the extent of aortoiliac occlusion, mesenteric arterial involvement, collateral pathways, and bowel-wall changes. Careful assessment of mesenteric arterial patency, collateral circulation, and signs of irreversible bowel injury is essential, as these findings may help distinguish potentially reversible intestinal hypoperfusion from advanced ischemic injury and guide the choice between conservative and surgical management.

REFERENCES

1. Coral- Rivera NS, Tascón-Barona AH. Leriche syndrome: Importance of diagnostic imaging for early detection and management. Radiol Case Rep. avr 2025;20[4]:2070-4. doi:10.1016/j.radcr.2025.01.042
2. Siham O, Chaimae J, Wafa K, Nabil MB, Nassar I, Kaoutar I. Leriche syndrome: A closer look at a rare and critical aortoiliac occlusion. Radiol Case Rep. déc 2025;20[12]:5851-4. doi:10.1016/j.radcr.2025.08.018
3. Murono K, Ishihara S, Kawai K, Nagata H, Kaneko M, Sasaki K, et al. Laparoscopic surgery for colorectal cancers complicated by Leriche syndrome: A report of three cases. Oncol Lett. août 2017;14[2]:1920-4. doi:10.3892/ol.2017.6391
4. Ronza FM, Di Gennaro TL, Buzzo G, Piccolo L, Della Noce M, Giordano G, et al. Diagnostic Role of Multi-Detector Computed Tomography in Acute Mesenteric Ischemia. Diagnostics. 7 juin 2024;14[12]:1214. doi:10.3390/diagnostics14121214
5. Ahmed S, Raman SP, Fishman EK. CT angiography and 3D imaging in aortoiliac occlusive disease: collateral pathways in Leriche syndrome. Abdom Radiol. sept 2017;42[9]:2346-57. doi:10.1007/s00261-017-1137-0
6. Marak JR, Narayan S, Lal NR, Raj G, Gara H. Leriche syndrome: Clinical and diagnostic approach of a rare infrarenal aortoiliac occlusive disease. Radiol Case Rep. févr 2024;19[2]:540-6. doi:10.1016/j.radcr.2023.10.077
7. Vowels TJ, Rojo MR, Chinnadurai P, Peden EK. Collateral Arterial Pathways in Aortoiliac Occlusive Disease. Methodist DeBakey Cardiovasc J. 1 avr 2020;16[2]:167. doi:10.14797/mdcj-16-2-167
8. Siham O, Chaimae J, Wafa K, Nabil MB, Nassar I, Kaoutar I. Leriche syndrome: A closer look at a rare and critical aortoiliac occlusion. Radiol Case Rep. déc 2025;20[12]:5851-4. doi:10.1016/j.radcr.2025.08.018
9. Ksouri A, Copin P, Bonvalet F, Bozi L, Cazals-Hatem D, Garzelli L, et al. Colonic involvement in acute mesenteric ischemia: prevalence, risk factors, and outcomes. Eur Radiol. avr 2022;32[4]:2813-23. doi:10.1007/s00330-021-08318-6
10. Assaad M, Tolia S, Zughaib M. Leriche syndrome: The inferior mesenteric artery saves the lower extremity. SAGE Open Med Case Rep. 1 janv 2017;5:2050313X17740513. doi:10.1177/2050313X17740513
11. 吉村幸祐, 坂部龍太郎, 桒田亜希. Leriche症候群に併発した上腸間膜動脈閉塞症の1救命例 [Internet]. 日本腹部救急医学会; 2019 [cité 12 sept 2026]. Disponible sur: https://doi.org/10.11231/jaem.39.945 doi:10.11231/jaem.39.945
12. Ahmed A, Abdelaty MH, Corfield L. An Unusual Presentation of Inferior Mesenteric Artery Steal Syndrome Induced by Walking. Cureus. 1 juill 2025. doi:10.7759/cureus.87127