

Challenges in Diagnosis and Management of Acute Limb Ischemia 30 Days Postpartum in Lithotomy Position: A Case Report from Somalia Leading to Bilateral Lower Limb Amputation

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Abstract: Acute limb ischemia in postpartum women is a rare and severe vascular emergency that can lead to significant complications if not promptly diagnosed and managed. A 31-year-old woman, 30 days postpartum following uncomplicated vaginal delivery in the lithotomy position, presented with bilateral lower limb paralysis and paresthesia. There was no history of trauma, falls, or use of assistive instruments during delivery. The patient weighed 65 kg and was 162 cm tall, while the infant had a birth weight of 2.8 kg. Initial suspicion of a neurological condition was later ruled out through imaging, including thoracolumbar MRI and CT angiography, which revealed bilateral arterial occlusions. Despite timely thromboembolectomy, the patient underwent bilateral below-knee amputation due to progressive ischemia. This case highlights the diagnostic challenges of acute limb ischemia in postpartum patients, stressing the crucial role of early imaging and prompt multidisciplinary intervention in preventing severe outcomes. Increased clinical vigilance and timely investigations are vital for improving prognosis and reducing the risk of limb loss.

Keywords: postpartum hypercoagulability, Postpartum Limb Ischemia, limb amputation, vascular emergency, lithotomy position, Somalia

Introduction

Acute limb ischemia (ALI) is a rare but potentially catastrophic vascular emergency, occurring in approximately 1.5 out of 1,000 cases annually worldwide. ALI involves a sudden decrease in blood supply to a limb, jeopardizing its survival and typically necessitating immediate restoration of blood flow.¹ The incidence and complexity of ALI become particularly significant during pregnancy and the postpartum period, with thromboembolic events affecting about two in every 1,000 deliveries.^{2,3} Notably, postpartum patients face a 20 times higher risk of venous thromboembolism (VTE) compared to the general population, highlighting the need for careful medical surveillance.⁴

Pregnancy induces a hypercoagulable state due to physiological changes, including enhanced coagulation, venous stasis, and hormonal shifts. Although venous thromboembolism (VTE) is well-documented, the mechanism linking pregnancy-induced hypercoagulability to rare arterial events such as acute limb ischemia (ALI), including arterial thrombus formation and paradoxical embolism under hypercoagulable conditions.⁵ Early identification of ALI symptoms, incorporating pain, pallor, pulselessness, paresthesia, and paralysis, is vital, as delayed diagnosis may result in permanent limb damage or amputation.⁶ Moreover, studies show that lower-extremity thrombosis occurs six times more frequently than upper-extremity thrombosis, adding complexity to early detection.⁷

This case presents a rare and severe instance of acute limb ischemia (ALI) in postpartum patients whose initial symptoms mimicked neurological disorders, ultimately leading to limb amputation despite immediate medical intervention.

The limited literature on bilateral ALI further highlights the novelty and clinical significance of this case. It also stressed the diagnostic and management challenges posed by ALI, specifically in settings with limited resources like Somalia, where access to advanced vascular care is often restricted.^{8,9} By examining this case, the report highlights the vital significance of increased clinical awareness, early diagnosis, and timely intervention in postpartum vascular emergencies.

Case Presentation

A 31-year-old postpartum woman, 30 days after delivery, presented to the emergency department with bilateral lower limb paralysis and paresthesia. Upon arrival, her condition was classified as Rutherford Class 3 due to severe ischemia. Her vital signs were within normal parameters except for a pulse of 127 bpm, consistent with tachycardia noted on electrocardiography. The patient had been experiencing these symptoms for approximately one week before admission. She had no history of chronic diseases. Obstetric history revealed that she was a multipara, gravida 10 para 9, indicating she had experienced one miscarriage during her third pregnancy. There was no history of ectopic pregnancy or twin gestation. She had an uncomplicated vaginal delivery in a lithotomy position, with no use of assistive instruments such as forceps or vacuum, and no history of trauma during delivery. The delivery was straightforward, and the infant was born with a birth weight of 2.8 kg. The patient weighed 65 kg and had a height of 162 cm, providing a body mass index (BMI) of 24.8.

Laboratory investigations on admission revealed anemia (hemoglobin 8 g/dL), significant leukocytosis ($24.45 \times 10^3/\text{mm}^3$), and elevated liver enzymes (AST at 632 U/L and ALT at 373 U/L). C-reactive protein (CRP) was markedly elevated to 205 mg/L. The patient presented neurological symptoms; a thoracolumbar magnetic resonance imaging (MRI) was performed, but showed no abnormalities. At this time, due to the initial misdiagnosis, the distal pulses were not tested. However, on the second day, the patient's legs changed color, prompting an examination of the distal pulses, which were found to be absent. The patient was admitted to the neurology department for further evaluation.

On the second day of admission, additional laboratory tests revealed elevated lactate dehydrogenase (1037 U/L), creatine kinase (20,947 U/L), and CK-MB (297 U/L). A CT angiography scan of the lower limbs identified a complete occlusion of the popliteal arteries bilaterally, extending to the posterior and anterior tibial arteries. These findings confirmed severe vascular ischemia (Figures 1 and 2). Immediate systemic anticoagulation therapy was initiated, and the cardiovascular surgery team was consulted.



Figure 1 Pre-occlusion area that appears normal with no evidence of luminal narrowing.



Figure 2 Lower-extremity CT angiography images showing diffuse steno-occlusive disease in the mid-part of the bilateral deep femoral artery.

The trends of CPK levels after revascularization showed a significant initial rise, peaking at 20,947 U/L on Day 2. Following this peak, the levels gradually declined over the following days, with a marked reduction to 450 U/L by Day 12, as shown (Figure 3).

The patient underwent bilateral popliteal artery thromboembolectomy (Figure 4). Under general anesthesia, a posterior approach was used to expose and clamp the popliteal arteries. Arteriotomies were performed, and thrombi were extracted proximally and distally. Adequate inflow was confirmed bilaterally, and the arteriotomies were closed with 7-0 Prolene sutures. Hemostasis was achieved, drains were placed, and the wounds were closed in layers. Postoperatively, the patient was admitted to the intensive care unit, and started on systemic heparin therapy.

The patient was clinically stable by the second postoperative day and transferred to the inpatient department. However, on the fourth day, hemoglobin had decreased to 7 g/dL, necessitating transfusion with two units of erythrocytes, likely due to a combination of surgical blood loss and ongoing ischemic processes.



Figure 3 CPK trends in Days following Revascularization.

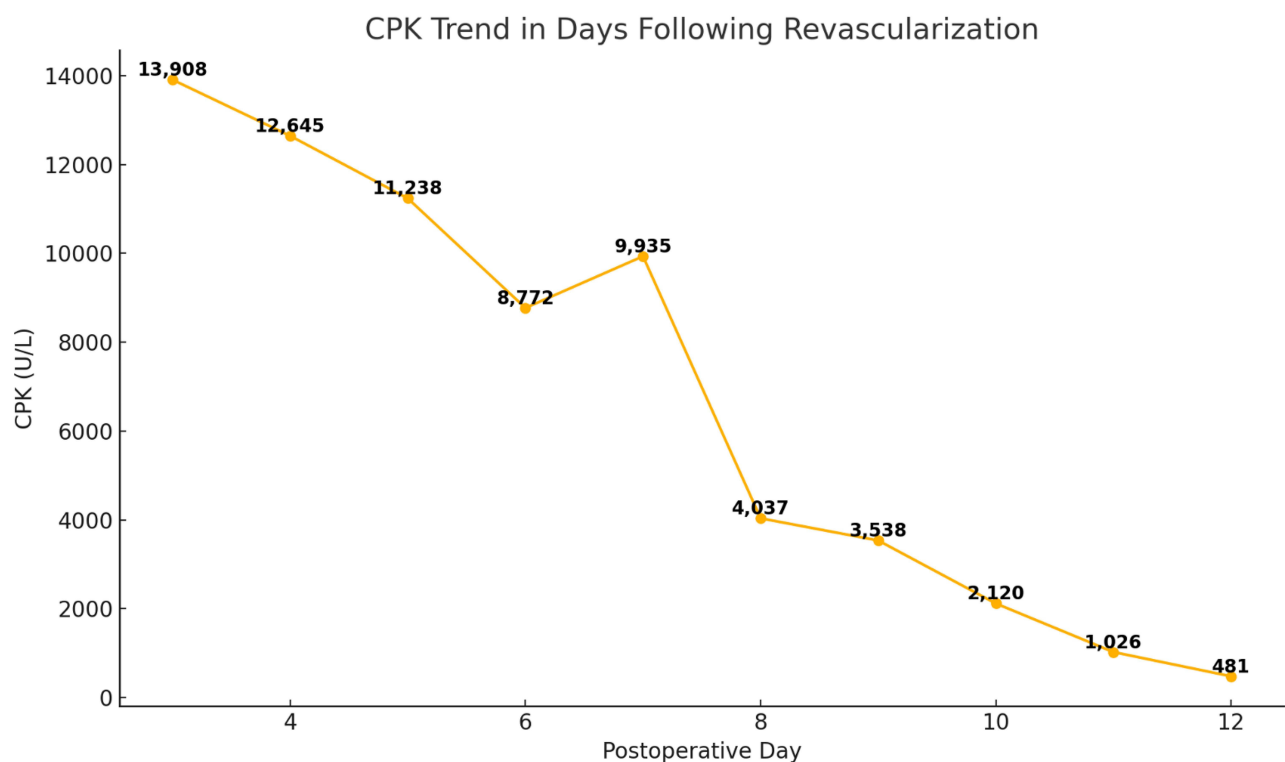


Figure 4 Bilateral popliteal artery thromboembolectomy.

On the sixth day, progressive bilateral leg edema and increased pain prompted a decision to perform a fasciotomy. Despite this intervention, both legs developed greyish discoloration by the tenth postoperative day, and the fasciotomy sites exhibited poor healing. Dressing changes were performed in the operating room; however, by the 14th postoperative day, both feet had become gangrenous and pulseless, necessitating bilateral below-knee amputations (Figure 5). The patient received three erythrocyte units and three fresh frozen plasma units during this period.

After one week of inpatient care, which included dressing changes and antibiotic therapy, the patient was discharged in stable condition. She was advised to follow up with the orthopedic outpatient clinic for further care and rehabilitation.



Figure 5 Postoperative Wound Closure Following Amputations.

Discussion

This report details an uncommon and severe instance of arterial thrombosis in both lower extremities of a 31-year-old lady post-childbirth, culminating in bilateral below-knee amputation. The case is notable for its unusual initial presentation, which resembles transverse myelitis, and its rapid progression despite immediate medical treatment. This situation highlights the significant diagnostic and therapeutic barriers in postpartum vascular management. While venous thromboembolism is a recognized issue during pregnancy and postpartum, occurring in 0.5–2.2 per 1000 deliveries, arterial thrombosis is substantially less frequent, with reported rates of 0.004–0.023 per 1,000 deliveries.¹⁰ The simultaneous occurrence of thrombosis in this case makes it highly unusual. Virchow's triad explains the mechanism of postpartum arterial thrombosis: increased blood coagulation, damage to the endothelium, and decreased blood flow.¹¹

Existing research has documented similar cases, though they typically involve a single limb. A study conducted a review of postpartum arterial thrombosis cases, yet none of which initially exhibited neurological symptoms resembling transverse myelitis.¹² Elevated inflammatory markers (CRP 205 mg/L) and dramatically elevated muscle enzyme levels (CK 20,947 U/L) observed in our patient indicate a considerable inflammatory process, which is in line with reports from other cases of arterial thrombosis occurring during pregnancy.¹³

This case presented considerable diagnostic challenges. The patient's initial neurological symptoms resulted in a delayed diagnosis, emphasizing the need for a comprehensive differential diagnosis when assessing postpartum patients with limb-related issues. The initial thoracolumbar magnetic resonance imaging yielded normal results, further complicating the diagnostic process, stressing that clinical assessment should guide imaging studies rather than relying solely on their outcomes.¹⁴ This case highlights the importance of considering a broad range of possibilities when diagnosing postpartum patients exhibiting unusual symptoms, even when preliminary tests appear normal.

The management approach adhered to established protocols for managing arterial thrombosis, including immediate anticoagulation and surgical procedures. However, despite thromboembolectomy, the patient's status deteriorated, requiring fasciotomy and ultimately resulting in the amputation of both extremities. This outcome aligns with studies showing that delayed identification of arterial thrombosis is associated with poorer prognoses.¹⁵

This study has several notable limitations that must be recognized. The primary limitation is the inability to determine the exact trigger for arterial thrombosis, which hampers the development of effective preventive measures. Additionally, the incomplete nature of the thrombophilia testing data limits our ability to identify potential underlying factors that may have contributed to the development of this condition.

Conclusion

This case of bilateral acute limb ischemia leading to amputation in a postpartum patient highlights the devastating potential of this rare vascular emergency. The primary clinical takeaway is the necessity for clinicians to maintain a high index of suspicion for ALI in postpartum patients presenting with lower limb symptoms, even when they resemble neurological disorders. A prompt, comprehensive diagnostic evaluation, including early vascular imaging and multidisciplinary consultation, is paramount to prevent catastrophic outcomes. Future research should focus on identifying specific risk factors for postpartum arterial thrombosis and improving risk-stratification protocols to enhance early detection and patient prognosis.

Ethical Considerations

This study was approved by the Institutional Review Board of Mogadishu Somali Turkey Hospital Training and Research Hospital.

Consent for Publication

Written informed consent was obtained from the patient to publish this case report and accompanying images.

Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or all these areas; took part in drafting, revising or critically

reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

Disclosure

The authors declare that they have no conflicts of interest regarding the publication of this case report.

References

1. Creager MA, Kaufman JA, Conte MS. Acute limb ischemia. *N Engl J Med*. 2012;366(23):2198–2206. doi:10.1056/NEJMcp1006054
2. Devis P, Knuttinen MG. Deep venous thrombosis in pregnancy: incidence, pathogenesis and endovascular management. *Cardiovasc Diagn Ther*. 2017;7(Suppl S3):S309. doi:10.21037/cdt.2017.10.08
3. Van Bunderen CC, Leentjens J, Middeldorp S. Transgender medicine and risk of venous thromboembolism. *Hamostaseologie*. 2022;42(05):301–307. doi:10.1055/a-1891-8158
4. Govsveyev N, Malgor RD, Hoffman C, et al. A systematic review of diagnosis and treatment of acute limb ischemia during pregnancy and postpartum period. *J Vasc Surg*. 2020;72(5):1793–1801.e1. doi:10.1016/j.jvs.2020.04.516
5. Marik PE, Plante LA. Venous thromboembolic disease and pregnancy. *N Engl J Med*. 2008;359(19):2025–2033. doi:10.1056/NEJMra0707993
6. Ferrer C, Cannizzaro GA, Borlizzi A, Caruso C, Giudice R. Acute ischemia of the upper and lower limbs: tailoring the treatment to the underlying etiology. *Semin Vasc Surg*. 2023;36(2):211–223. doi:10.1053/j.semvascsurg.2023.04.006
7. Chitte SA, Veltri K, Thoma A. Ischemia of the hand secondary to radial artery thrombosis: a report of three cases. *Can J Plast Surg*. 2003;11(3):145–148. doi:10.1177/229255030301100308
8. Osman UMA, Hassan YSA, Hirei HH. Spontaneous rupture of renal cell carcinoma: a case report from Mogadishu Somali Turkey hospital training and research hospital. *Int J Surg Case Rep*. 2025;130:111190. doi:10.1016/j.ijscr.2025.111190
9. Hassan HB, Hassan YB, Hassan YSA. Ovarian hyperstimulation secondary to clomiphene citrate resulting in ovarian torsion: a rare report. *Int J Surg Case Rep*. 2025;129:111111. doi:10.1016/j.ijscr.2025.111111
10. James AH, Jamison MG, Brancizio LR, Myers ER. Venous thromboembolism during pregnancy and the postpartum period: incidence, risk factors, and mortality. *Am J Obstet Gynecol*. 2006;194(5):1311–1315. doi:10.1016/j.ajog.2005.11.008
11. Bremme KA. Haemostatic changes in pregnancy. *Best Pract Res Clin Haematol*. 2003;16(2):153–168. doi:10.1016/S1521-6926(03)00021-5
12. Sultan AA, West J, Tata LJ, Fleming KM, Nelson-Piercy C, Grainge MJ. Risk of first venous thromboembolism in and around pregnancy: a population-based cohort study. *Br J Haematol*. 2012;156(3):366–373. doi:10.1111/j.1365-2141.2011.08956.x
13. Kamel H, Navi BB, Sriram N, Hovsepian DA, Devereux RB, Elkind MSV. Risk of a thrombotic event after the 6-week postpartum period. *N Engl J Med*. 2014;370(14):1307–1315. doi:10.1056/NEJMoa1311485
14. Sharma V, Dahiya R, Ansar MJ, Kumar R, Chintamani C. Acute upper limb ischemia and amputation post antecubital fossa cannulation: a report of two postpartum patients. *Cureus*. 2023. doi:10.7759/cureus.37575
15. Olinic D-M, Stanek A, Tătaru D-A, Homorodean C, Olinic M. Acute limb ischemia: an update on diagnosis and management. *J Clin Med*. 2019;8(8):1215. doi:10.3390/jcm8081215

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