CASE REPORT

31. Silent Splenic Crisis in an Immunocompetent Adolescent: A Case Report of Multifocal Splenic Abscess with Subcapsular Extension and Paradoxical Leukopenia Managed Conservatively

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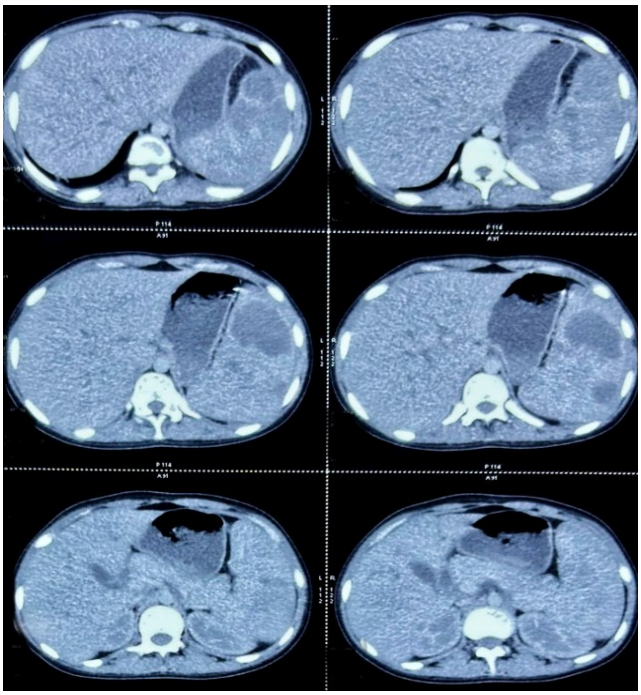
https://www.youtube.com/watch?v=hJIcIJ1w8oM&list=PLhqNq3xJClbafO0Y5bvBcgMmXpgzJxd44&index=5&t=5301s

Background: Primary splenic abscess is a rare clinical entity, with a reported incidence ranging from 0.05% to 0.70%, and is especially uncommon in immunocompetent individuals. The spleen's robust phagocytic and immunological functions generally confer protection against microbial invasion. Most splenic abscesses are secondary to hematogenous seeding, frequently in the setting of infective endocarditis, immunosuppression, diabetes, trauma, or intravenous drug use. The clinical presentation is often vague, with the classic triad of fever, left upper quadrant (LUQ) pain, and leukocytosis present in only a minority of cases. The diagnostic challenge is compounded by nonspecific symptoms and frequently sterile blood cultures. Imaging modalities, particularly computed tomography, play a central role in diagnosis. Surgery has long been the main treatment for splenic abscesses, but there's now a growing preference for less invasive options like targeted antibiotics and image-guided percutaneous drainage. However, the optimal treatment approach remains uncertain. Percutaneous drainage can be a useful option in selected cases, but studies have reported high failure rates, ranging from 14.3% to 75%. Moreover, even with advances in imaging and treatment, delayed diagnosis or inadequate treatment carries a high mortality risk. We report a rare case of primary multifocal splenic abscess in a previously healthy 15-year-old immunocompetent female.

The Case: A previously healthy 15-year-old female presented with a 10-day history of high-grade fever and abdominal pain, which localized to the LUQ and became sharp and positional in nature. She had no history of recent infection, immunosuppression, trauma, or chronic illness. Notably, she experienced transient arthralgias and displayed no gastrointestinal or respiratory symptoms. Clinical examination revealed LUQ tenderness and splenomegaly. Laboratory investigations showed profound leukopenia (WBC 2,100/mm^3) with neutropenia (ANC 800/mm^3) and normocytic anemia (Hb 9.2 g/dL). Procalcitonin was markedly elevated at 8.2 ng/mL, while blood cultures remained sterile. Abdominal ultrasonography and computed tomography revealed an enlarged spleen with multiple hypodense, peripherally enhancing lesions, the largest measuring 53 × 39 × 58 mm, with subcapsular extension and perisplenic fat stranding. Initial empirical therapy with ceftriaxone and metronidazole was ineffective. Ultrasound-guided aspiration yielded 50 mL of pus. Culture of the aspirate grew *Klebsiella pneumoniae*, prompting escalation of antimicrobial therapy to intravenous meropenem and teicoplanin. Over the next two weeks, the patient showed complete resolution of fever and significant symptomatic relief. She was discharged in stable condition with no complications. Follow-up ultrasonography at one month showed normal splenic architecture and complete resolution of abscesses.

Conclusion: This case emphasizes the importance of maintaining clinical vigilance and early imaging in febrile patients, even in the absence of typical risk factors for deep-seated infections. It demonstrates that conservative management, including image-guided aspiration and targeted antibiotic therapy can be a safe and effective alternative to surgery in selected cases. With timely diagnosis and an individualized treatment approach, it is possible to achieve complete resolution while preserving splenic function and minimizing procedural risks. This case supports the evolving paradigm toward less invasive strategies in managing splenic abscesses, particularly in stable, immunocompetent patients.

Figure 1. Abdominal CT Scan Showing Multiple Splenic Abscesses



Legend: CT imaging of the spleen shows splenomegaly with a craniocaudal dimension of approximately 123 mm. Multiple ill-defined, hypodense, fluid-attenuating space-occupying lesions with peripheral enhancement are present throughout the splenic parenchyma. The largest lesion measures approximately 53 × 39 × 58 mm. Adjacent parenchymal edema is noted, and several lesions extend to the subcapsular region.

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