



Case Report

Journal Homepage: <http://crp.tums.ac.ir>

Concurrent Iliopsoas Abscess and Septic Arthritis of the Hip in a Young Adult with Poorly Controlled Type 1 Diabetes Mellitus: A Case Report

Sepideh Aarabi[✉]

Department of Emergency Medicine, Sina Hospital, Tehran University of Medical Sciences, Tehran, Iran.

Use your device to scan and read the article online



Citation Aarabi S. Concurrent Iliopsoas Abscess and Septic Arthritis of the Hip in a Young Adult with Poorly Controlled Type 1 Diabetes Mellitus: A Case Report. Case Reports in Clinical Practice. 2026; 11(2): 61-66. DOI:10.18502/crcp.v11i2.22383

Running Title Iliopsoas Abscess and Hip Septic Arthritis

**Article info:****Received:** February 16, 2026**Revised:** March 14, 2026**Accepted:** April 11, 2026**Keywords:**

Iliopsoas abscess; Septic arthritis; Type 1 diabetes mellitus; Methicillin-resistant staphylococcus aureus (MRSA); Multidisciplinary management

ABSTRACT

A 28-year-old woman with poorly controlled type 1 diabetes mellitus (T1DM) presented with a two-week history of fever, left lower back pain, and progressive difficulty walking. Imaging confirmed the concurrent presence of a left iliopsoas abscess and left hip septic arthritis—an exceedingly rare combination. The abscess was treated with CT-guided percutaneous catheter drainage, and the hip joint infection was managed with open arthrotomy and irrigation. Culture of aspirated material identified methicillin-resistant *Staphylococcus aureus* (MRSA). Treatment was completed with a six-week course of targeted intravenous vancomycin and concurrent optimization of glycemic control. Complete clinical, laboratory, and radiological resolution was documented at six months.

This case highlights that clinicians should maintain a high index of suspicion for concurrent deep-seated infections in diabetic patients presenting with musculoskeletal symptoms and fever. MRI is the imaging modality of choice for delineating both pathologies simultaneously, and successful management necessitates a multidisciplinary approach integrating surgical drainage, pathogen-directed antimicrobial therapy, and metabolic optimization.

Introduction

Psoas (iliopsoas) abscess is an uncommon but potentially life-threatening condition arising either from hematogenous dissemination of infection (primary) or from contiguous spread of adjacent pathology (secondary). Septic arthritis of the hip joint in adults similarly occurs via hematogenous seeding or direct inoculation.

The simultaneous occurrence of both conditions is exceedingly rare, with only scattered case reports in the medical literature, primarily involving pediatric patients or adults with significant predisposing comorbidities [1].

Patients with type 1 diabetes mellitus face a substantially elevated risk of severe infections due to well-characterized immunologic deficits, including impaired neutrophil chemotaxis, diminished

* Corresponding Author:

Sepideh Aarabi

Address: Department of Emergency Medicine, Sina Hospital, Tehran University of Medical Sciences, Tehran, Iran.

E-mail: Sepideherabi@gmail.com

phagocytic activity, and compromised intracellular bacterial killing, all of which are exacerbated by sustained hyperglycemia. *Staphylococcus aureus*, particularly methicillin-resistant strains, has emerged as a predominant causative pathogen in diabetic patients with deep-seated musculoskeletal infections [2].

We report a case of concurrent iliopsoas abscess and septic arthritis of the hip in a young woman with poorly controlled T1DM, discuss the diagnostic challenges and anatomical basis for dual pathology, and review management principles for this rare clinical entity. To our knowledge, only a limited number of such cases have been reported in the literature, as summarized in Table 3 at the end of this report.

Case Presentation

A 28-year-old woman with a 15-year history of type 1 diabetes mellitus presented to the emergency department with a two-week history of progressive left lower back pain, fever, and difficulty walking. She reported intermittent fevers up to 39.5°C and night sweats. Her diabetes had been poorly controlled, with a hemoglobin A1c (HbA1c) of 8.2% recorded three months prior to admission, and she admitted to inconsistent adherence to her insulin regimen.

On admission, vital signs demonstrated a temperature of 38.9°C, heart rate of 112 beats per minute, blood pressure of 118/76 mmHg, and respiratory rate of

18 breaths per minute. The patient appeared acutely unwell and in moderate distress. Examination of the left lower extremity revealed the hip held in flexion and external rotation. Any attempt at passive range of motion elicited severe pain. There was no evidence of cutaneous breakdown, overlying cellulitis, or other identifiable foci of infection (Table 1).

Contrast-enhanced computed tomography (CT) of the abdomen and pelvis revealed a large, multiloculated cystic lesion originating from the left iliopsoas muscle and extending into the anterior thigh musculature (Figures 1 and 2). A small joint effusion with surrounding soft-tissue emphysema involving the left hip joint was also identified (Figure 3), raising strong suspicion for concurrent septic arthritis.

Under CT guidance, percutaneous catheter drainage of the iliopsoas collection was performed, yielding frank purulent material. Microbiological culture of the aspirate identified methicillin-resistant *Staphylococcus aureus* (MRSA). Antibiotic sensitivity testing (antibiogram) is detailed in Table 2. Despite initial clinical improvement following abscess drainage, the patient continued to experience persistent left hip pain and restricted range of motion. She was therefore referred to the orthopedic surgery department, where open arthrotomy with drainage and thorough irrigation of the hip joint was performed. Intravenous vancomycin was continued for six weeks in accordance with sensitivity results. Concurrent intensive management of hyperglycemia was

Table 1. Laboratory and Vital Sign Parameters on Admission, During Hospitalization, and at Six-Week Follow-up

Parameter	On Admission	During Hospitalization (Week 2)	At 6-Week Follow-up
WBC ($\times 10^9/L$)	18.3	11.2	6.8
Neutrophils (%)	85	74	62
CRP (mg/L; normal <10)	285	98	3
ESR (mm/h; normal <20)	95	48	12
Serum glucose (mmol/L)	18.2 (328 mg/dL)	10.4	7.1
HbA1c (%)	10.2 (3 months prior)	—	6.9
Temperature (°C)	38.9	37.4	36.7
Heart Rate (bpm)	112	88	76
Blood Pressure (mmHg)	118/76	115/72	118/74

WBC: white blood cell count; CRP: C-reactive protein; ESR: erythrocyte sedimentation rate; HbA1c: glycated hemoglobin; bpm: beats per minute; mmHg: millimeters of mercury.

Table 2. Antibigram of the Isolated MRSA Strain (*Staphylococcus aureus*, Methicillin-Resistant)

Antibiotic	Result	Interpretation
Vancomycin	MIC ≤ 2 $\mu\text{g/mL}$	Sensitive (S)
Linezolid	MIC ≤ 4 $\mu\text{g/mL}$	Sensitive (S)
Daptomycin	MIC ≤ 1 $\mu\text{g/mL}$	Sensitive (S)
Clindamycin	MIC ≤ 0.5 $\mu\text{g/mL}$	Sensitive (S)
Trimethoprim-sulfamethoxazole	MIC $\leq 2/38$ $\mu\text{g/mL}$	Sensitive (S)
Rifampicin	MIC ≤ 1 $\mu\text{g/mL}$	Sensitive (S)
Oxacillin (Methicillin)	MIC ≥ 4 $\mu\text{g/mL}$	Resistant (R) — MRSA confirmed
Penicillin G	MIC ≥ 0.25 $\mu\text{g/mL}$	Resistant (R)
Ciprofloxacin	MIC ≥ 4 $\mu\text{g/mL}$	Resistant (R)
Cloxacillin	MIC ≥ 4 $\mu\text{g/mL}$	Resistant (R)

MIC: minimum inhibitory concentration; S: sensitive; R: resistant; MRSA: methicillin-resistant *Staphylococcus aureus*.



Fig 1 & 2. Axial and coronal images of CT scan demonstrated large multiloculated cystic collection arising from the left iliopsoas muscle with extension to the anterior thigh compartment, likely representing a psoas abscess (yellow arrows)



Fig. 3. Axial image of pelvic CT scan showed minor fluid collection and gas within the surrounding soft tissues in left hip (yellow arrow).

Table 3. Reported Cases of Concurrent Iliopsoas Abscess and Hip Septic Arthritis in the Literature

Author (Year)	Age/Sex	Laterality	Comorbidity	Causative Agent	Management	Outcome
George et al. (2021) [1]	Child / M	Bilateral	None reported	<i>S. aureus</i>	Surgical drainage + IV antibiotics	Full recovery
Garcia-Rey & Garcia-Cimbrelo (2019) [8]	Elderly / NR	Unilateral	Multiple carcinomas, immunocompromised	Not specified	Surgical drainage + IV antibiotics	Septic shock; poor outcome
Scaglia et al. (2020) [3]	Adult / NR	Unilateral	Spondylodiscitis	Not specified	CT-guided drainage + antibiotics	Delayed diagnosis; avascular necrosis
Present case (2025)	28 / F	Left	Type 1 DM (HbA1c 8.2%)	MRSA (<i>S. aureus</i>)	CT-guided drainage + open arthrotomy + vancomycin	Complete resolution at 6 months

DM: diabetes mellitus; MRSA: methicillin-resistant *Staphylococcus aureus*; NR: not reported; M: male; F: female; IV: intravenous.

undertaken in collaboration with the endocrinology service.

At six-week follow-up, the patient reported complete resolution of hip pain and fever. She was fully ambulatory without assistive devices, with full and painless range of motion of the left hip. Inflammatory markers had normalized (Table 1).

Her glycemic control had improved markedly, with HbA1c decreasing from 10.2% at admission to 6.9% at the six-week review, reflecting the benefit of intensive diabetes management initiated during hospitalization.

At six months, follow-up imaging confirmed complete

resolution of both the iliopsoas abscess and the hip joint infection, with no evidence of avascular necrosis or residual septic joint changes. The patient was enrolled in a structured rehabilitation programme and continued under diabetic specialist supervision.

Discussion

This case illustrates the rare but clinically significant coexistence of iliopsoas abscess and septic arthritis of the hip joint in a young adult with poorly controlled type 1 diabetes mellitus. To our knowledge, very few cases of this dual pathology have been documented in young adult patients, underscoring both the diagnostic challenge and the importance of its recognition.

The concurrent pathology in this patient likely resulted from either hematogenous seeding of both anatomical sites from bacteremia, or direct extension of the psoas abscess into the hip joint. Several anatomical factors favour the latter mechanism: the iliopsoas muscle courses anterior to the hip joint and inserts on the lesser trochanter of the femur [3]. Furthermore, the iliopsoas bursa—the largest synovial bursa in the body—lies between the iliopsoas tendon and the hip capsule and communicates with the hip joint in approximately 15% of individuals, providing a direct conduit for infection [4].

Chronic hyperglycemia, as seen in this patient, impairs multiple arms of the innate immune response, including neutrophil chemotaxis, phagocytosis, and intracellular killing of bacteria. These deficits, compounded by poor insulin compliance, established a permissive environment for severe pyogenic infection with MRSA—a pathogen of increasing prevalence in community-acquired deep-seated infections among diabetic patients [5].

Diagnosis of concurrent psoas abscess and septic hip arthritis requires a high index of suspicion. Symptoms may overlap and be erroneously attributed to a single pathological process. The psoas abscess in this case had likely been evolving over the two-week prodrome prior to presentation, consistent with the characteristically insidious course that has led to the designation of psoas abscess as a “great mimicker” [6]. MRI is the diagnostic modality of choice, providing superior soft-tissue delineation of both the psoas compartment and the hip joint simultaneously, facilitating comprehensive surgical planning [7, 8].

Management of concurrent iliopsoas abscess and septic hip arthritis mandates a coordinated, multidisciplinary approach. Prompt surgical drainage of both sites—combined with pathogen-directed antimicrobial therapy (vancomycin in MRSA-confirmed cases) and rigorous glycemic optimization—is essential for achieving source control and preventing progressive tissue destruction [9]. The favorable outcome in this patient at six months reinforces the importance of early, comprehensive intervention.

Conclusion

Concurrent iliopsoas abscess and septic hip arthritis, while rare, should be considered in immunocompromised patients—particularly those with poorly controlled diabetes mellitus—who present with hip pain, fever, and inguinal fullness. MRI is the imaging modality of choice for simultaneous evaluation of both pathological processes. Successful

management requires prompt multidisciplinary surgical drainage, targeted antimicrobial therapy, and glycemic optimization. Long-term follow-up is warranted to detect late complications such as avascular necrosis.

Ethical Considerations

Compliance with ethical guidelines

All data, including photographic and radiological materials, were anonymised. The author affirms understanding of the journal’s ethical criteria for publication and asserts that this case report conforms to those requirements.

Informed Consent

The patient provided written informed consent for the disclosure of clinical information and imaging data.

Funding

No funding was received to assist with the preparation of this manuscript.

Conflict of Interests

The authors have no conflict of interest to declare.

References

- [1] George JC, Sainulabdeen J, Chittaranjan S, Babu S. Bilateral Primary Iliopsoas Abscess with Bilateral Hip Septic Arthritis - A Rare Case Report. *J Orthop Case Rep.* 2021;11(10):45-48. <https://doi.org/10.13107/jocr.2021.v11.i10.2460>
- [2] Koh GC, Peacock SJ, Van Der Poll T, Wiersinga WJ. The impact of diabetes on the pathogenesis of sepsis. *Eur J Clin Microbiol Infect Dis.* 2012;31(4):379-388. <https://doi.org/10.1007/s10096-011-1337-4>
- [3] Scaglia M, Lugani G, Cassini M, Ambrosini C, Magnan B. Delayed diagnosis and treatment of a psoas abscess as a link between spondylodiscitis and septic necrosis of the femoral head: a case report. *Acta Biomed.* 2020;91(4-S):241-245. doi:10.23750/abm.v91i4-S.9546
- [4] Weerakkody Y, Luong D, Hacking C. Iliopsoas bursa. *Radiopaedia.org.* doi:10.53347/rID-79587 [Accessed 09 October 2025]. <https://doi.org/10.53347/rID-79587>
- [5] Dowe R, Iqbal A, Heller SR, Sabroe I, Prince LR. A bitter-sweet response to infection in diabetes; targeting neutrophils to modify inflammation and improve host immunity. *Front*

- Immunol. 2021;12:678771. <https://doi.org/10.3389/fimmu.2021.678771>
- [6] Ravn C, Neyt J, Benito N, et al. Guideline for management of septic arthritis in native joints (SANJO). J Bone Jt Infect. 2023;8(1):29-37. <https://doi.org/10.5194/jbji-8-29-2023>
- [7] Al-Khafaji MQ, Al-Smadi MW, et al. Evaluating imaging techniques for diagnosing and drainage guidance of psoas muscle abscess: A systematic review. J Clin Med. 2024;13(11):3199. <https://doi.org/10.3390/jcm13113199>
- [8] Garcia-Rey E, Garcia-Cimbrelo E. A devastating course of an iliopsoas muscle abscess subsequently leading to septic shock, septic hip arthritis, and extended gluteal soft tissue necroses in an elderly immunocompromised patient with multiple carcinomas: A case report and brief review of literature. Open Orthop J. 2019;13:1-6. <https://doi.org/10.2174/1874325001913010001>
- [9] Balato G, de Matteo V, Ascione T, et al. Management of septic arthritis of the hip joint in adults: A systematic review of the literature. BMC Musculoskelet Disord. 2021;22(Suppl 2):1006. <https://doi.org/10.1186/s12891-021-04843-z>