

Case Report

Suppurative Inguinal Lymphadenitis Mimicking a Strangulated Inguinal Hernia: A Case Report

Authors:

Durr E Najaf¹ (<https://orcid.org/0009-0006-7518-212X>), Rana Hussain Abdul Rehman² (<https://orcid.org/0009-0006-6693-8212>), Fnu Attiqah¹ (<https://orcid.org/0009-0006-0032-3231>), Atif Salim Khatib² (<https://orcid.org/0009-0009-7821-9292>), Syed Mohammed Aiyman² (<https://orcid.org/0009-0005-9153-7720>)

Affiliations:

Karachi Medical and Dental College¹, Tbilisi State Medical University²
Academic mentor: Dr. Aisha Tasneem, Abbasi Shaheed Hospital, Karachi

Corresponding Author:

Rana Hussain Abdul Rehman

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ABSTRACT:

Introduction and Importance: Acute groin swellings are frequently attributed to incarcerated or strangulated inguinal hernias, often prompting urgent surgical exploration. Inguinal lymphadenitis is a less common but clinically important mimicker in emergency settings. This report presents a rare case of suppurative lymphadenitis overlying a reducible inguinal hernia, initially misdiagnosed as a strangulated hernia.

Presentation of Case:

An adult male in his 30s with a year-long history of a stable left inguinal mass presented with three days of worsening pain aggravated by lifting. Examination revealed a firm, tender, non-reducible swelling with no cough impulse. Due to the unavailability of immediate imaging, a clinical diagnosis of strangulated hernia was made, and emergency exploration was performed. Intraoperatively, blood-stained pus and suppurative inguinal lymphadenitis were encountered, with an underlying reducible hernia. Pus culture later confirmed methicillin-resistant *Staphylococcus aureus* (MRSA). Histopathology demonstrated acute and chronic inflammation without malignancy. The patient improved with appropriate wound care and antibiotics.

Clinical Discussion:

This case demonstrates the diagnostic challenge posed by inguinal lymphadenitis mimicking a strangulated hernia, particularly when imaging is unavailable in resource-limited emergency settings. The intraoperative findings emphasize the need for considering infectious etiologies when groin swellings are irreducible and painful.

Conclusion:

This case highlights the difficulty of preoperatively distinguishing suppurative lymphadenitis from a strangulated hernia. Preoperative imaging, when available, is critical to avoid unnecessary surgical intervention. Surgeons should maintain a broad differential diagnosis in any irreducible inguinal mass.

Keywords: *Inguinal lymphadenitis, Strangulated hernia, MRSA, Diagnostic pitfall, Emergency surgery, Case report.*

INTRODUCTION:

An obstructed inguinal hernia frequently causes acute groin swelling and accounts for a significant percentage of common surgical emergencies over 800,000 surgeries

worldwide per annum, according to a report(1,2). Abdominal pain, vomiting, and signs of bowel obstruction are frequently present together with a painful, irreducible mass in the inguinal area[3]. On the other

hand, lymphadenitis is the term for the inflammatory swelling of lymph nodes caused by bacterial infections such as community-acquired methicillin-resistant *Staphylococcus aureus* (CA-MRSA), *Staphylococcus argenteus* (differentiated from *S. aureus* in 2014), or viral infections(4,5).

The early clinical manifestations of these two disorders may be similar, despite their obvious etiological distinctions(6). Localized groin pain, edema, and erythema can cause diagnostic ambiguity, particularly in emergencies with limited resources or high patient volume, where imaging may be unavailable or delayed. This may cause the real underlying pathology to go untreated or lead to needless surgical exploration.

We report a rare case of acute inguinal lymphadenitis in an adult patient that was initially diagnosed as an obstructed inguinal hernia. This example emphasizes the need for a thorough clinical evaluation in avoiding misdiagnosis and the necessity of keeping a broad differential diagnosis while assessing acute groin swellings(1,7). Also highlighting the importance of preoperative imaging in such presentations(3,6).

Case Presentation:

An adult married man residing in a rural area and working in a manual job has a significant background of chronic smoking and habitual use of betel nut and hashish. Nearly a year earlier, he had first observed a swelling in his left inguinal region, measuring about 2 cm, which remained consistent in size throughout this period. The lump was firm, immobile on examination, tender to touch, and not adherent to deeper tissues. He presented to the outpatient department primarily complaining of pain in his left inguinal region. Three days prior to seeking medical care, he began experiencing gradually progressive pain in the left groin, which intensified when he lifted heavy objects and was partially relieved by lying down. Baseline blood work and other necessary laboratory investigations were conducted to support diagnostic evaluation. On clinical assessment, the left inguinal swelling was noted to be non-reducible, hard in consistency, and tender on palpation, with no cough impulse elicited. The swelling appeared localized, without overlying skin changes, fluctuation, or features suggestive of abscess formation during the initial visit, as shown in **Figure 1**. At a subsequent follow-up appointment, the patient reported pus discharge from the operative site; however, detailed discussion of the follow-up findings will be addressed separately.

A range of laboratory investigations and imaging studies were carried out to aid in establishing a diagnosis. The patient's blood tests included a complete blood count (CBC), urea, creatinine, and electrolytes (UCE), as well as screening for hepatitis B surface antigen (HBsAg) and

hepatitis C virus antibodies (anti-HCV) using immunochromatographic testing (ICT). Glycemic status was assessed with an HbA1c measurement, which was found to be 5.9%, indicating a prediabetic range. His hemoglobin level was recorded at 11.8 g/dl, and red cell morphology on the peripheral smear was described as normocytic and normochromic, as detailed further in the accompanying table. Urine microscopy demonstrated the presence of 1–2 pus cells per high-power field. Both ICT anti-HCV and ICT HBsAg tests were non-reactive. Additionally, the patient was advised to undergo ultrasonography of the whole abdomen and a focused ultrasound examination of the inguinoscrotal region to further evaluate the swelling and exclude any associated intra-abdominal pathology. The remaining laboratory findings are summarized comprehensively in the tables provided. Due to the pressing clinical situation and the lack of immediate access to ultrasound facilities, it was not possible to obtain imaging beforehand. As a result, the decision was made to proceed with surgical exploration without prior ultrasonographic assessment.

The initial working diagnosis was that of a strangulated hernia. A left inguinal incision was made during surgery, which revealed inguinal lymphadenitis rather than a strangulated hernia. Blood-stained pus was encountered at the operative site and was collected for pus culture and sensitivity testing as well as acid-fast bacilli (AFB) analysis. A biopsy specimen of the affected lymph node was also obtained and sent for histopathological examination. Intraoperatively, a reducible hernia was identified, for which elective repair was planned to be performed later under general anesthesia in the operating theater.

This fluid was aspirated and submitted for culture and sensitivity testing, as well as AFB staining to rule out tuberculosis. A lymph node biopsy was also performed for histopathological assessment. Initial cultures grew anaerobic organisms, while AFB tests were negative; however, later cultures confirmed the presence of *methicillin-resistant Staphylococcus aureus* (MRSA). Histology of the lymph node tissue revealed fibroadipose tissue displaying dense areas of acute and chronic inflammation, granulation tissue, and zones of fat necrosis, without any signs suggestive of malignancy. Upon discharge, the patient received dietary counseling regarding prediabetes management and was advised daily wound care using either oximetry (oxiferrin) or hydrogen peroxide, as shown in **Figure 2**. His prescribed medications included oral rehydration solution sachets, Augmentin 625 mg three times daily, Flagyl 400 mg tablets, Danzen DS, calcium C sugar-free tablets, Panadol, Novidate 500 mg, all to be taken as directed.

Two days after discharge, the patient returned to the outpatient department with the complaint of pus discharge from the surgical site that had persisted for the past two

days. He reported that the discharge was orange in color, measured approximately the volume of one spoonful, and did not have a foul odor. The drainage was accompanied by localized pain described as pinching in character, along with episodes of nausea. It was considered likely that

inadequate wound care may have contributed to this presentation. He was therefore advised to perform daily dressing changes at home and to reapply antiseptic dressing using povidone-iodine (pyodine) to promote wound healing and reduce the risk of further infection.

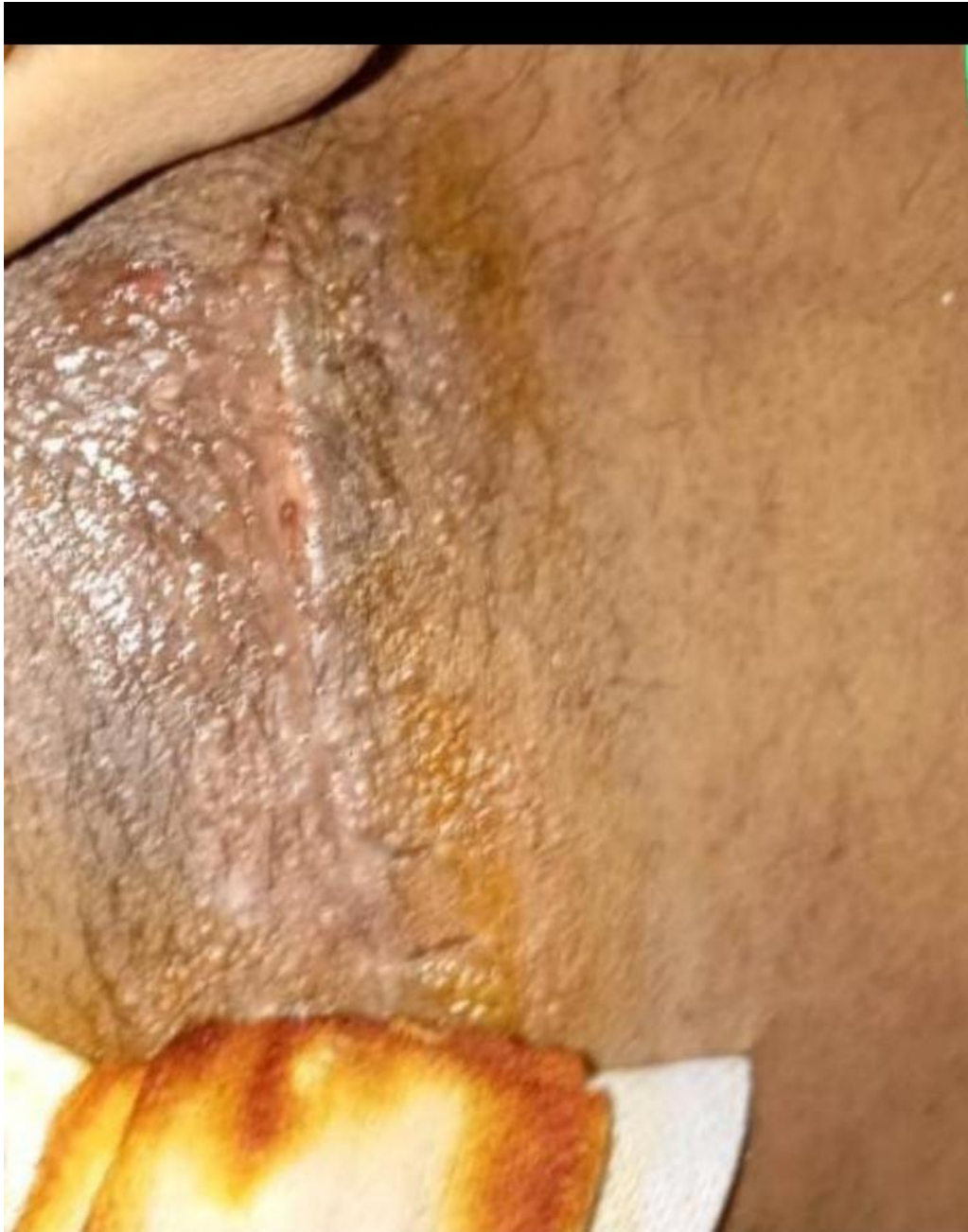
Figure 1:



Left Inguinal Lymph Node Mass:

Reproduced from Recurrent isolated tuberculous inguinal lymphadenopathy: A case report and review of literature, by M. E. Asuquo, T. Ugbem, & A. D. Marwa, 2017, International Journal of Medicine, 5(1), p. 98 (<https://doi.org/10.14419/ijm.v5i1.7261>). Copyright 2017 by Maurice E. Asuquo et al. Licensed under CC BY 3.0.

Figure 2:



Immediate Post-Surgical Site:

Intraoperative image taken immediately after closure and dressing of the left inguinal incision. The wound margins appear clean without evidence of active bleeding or purulent discharge.

Table 1. Hematology- Complete Blood Count Report.

g/dL – grams per deciliter; mil/ μ L – million cells per microliter; % – percent; fL – femtoliter; pg – picogram; $10^3/\mu$ L – thousand cells per microliter

PARAMETER	RESULT	UNIT	REFERENCE RANGE
Hemoglobin	11.8	g/dL	13.7–16.3
RBC	3.6	mil/ μ L	4.5-6.5
Hematocrit	33.0	pg/ml	41.9-48.7
MCV	92.7	fL	76-96
MCH	33.1	pg	26-32
MCHC	35.8	g/dL	32-36
RDW-CV	14.2	%	12.1-16.9
Total leukocyte count (TLC)	11.4	$10^3/\mu$ L	4.0-10.0
Platelets	135	$10^3/\mu$ L	150-400
Neutrophils	60	%	40-75
Lymphocytes	34	%	20-45
Eosinophils	02	%	1-6
Monocytes	04	%	2-10
Morphology	Normocytic, Normochromic	-	-

Table 2. Electrolytes and Blood Glucose Report.

(mmol/L – millimoles per liter; mg/dL – milligrams per deciliter)

TEST	RESULT	UNIT	REFERENCE RANGE
Serum sodium	137	mmol/L	136-145
Serum potassium	3.7	mmol/L	3.8-5.2
Serum chloride	96	mmol/L	98.0-108.0
Serum creatinine	0.9	mg/dL	0.6-1.1
Urea	10	mg/dL	10-50
Random blood sugar	75	mg/dL	70-139 (normal)

Table 3. Urine detailed report for 50 mL sample.

TEST	RESULT	NORMAL RANGE
pH (Reaction)	5.5	5.0-6.0
Specific gravity	1.010	1.010-1.025
Protein	NIL	NIL
Glucose	NIL	NIL
Ketone bodies	NIL	NIL
Urobilinogen	Normal	Normal
Bilirubin	NIL	NIL
RBCs	NIL (HPF)	NIL (HPF)
Pus cells	1-2 (HPF)	NIL (HPF)
Epithelial cells	Occasional (HPF)	NIL (HPF)
Casts	NIL (LPF)	NIL (LPF)

Table 4. Pus culture and sensitivity report (obtained growth from the culture after 24 hours of incubation at 37 degrees centigrade) (MIC = minimum inhibitory concentration (ug/mL)).

TEST	RESULT
Organism identified	Staphylococcus aureus
Gram-stained	Gram-positive cocci
Pus cells	Moderate/LPF
Penicillins	Resistant
Vancomycin	Sensitive (MIC: 1.0 ug/mL)
Erythromycin	Sensitive
Doxycycline	Sensitive
Ciprofloxacin	Resistant
Trimethoprim-sulfamethoxazole	Resistant
Clindamycin	Sensitive
Linezolid	Sensitive

DISCUSSION:

Inguinal lymphadenopathy can sometimes mimic other urgent surgical conditions, including strangulated hernias, which can lead to misdiagnosis and inappropriate surgical intervention. In this case, an adult male in his 30s presented with a chronic left inguinal swelling that had been stable for nearly a year but became acutely painful over three days. The swelling was firm, tender, and non-reducible, features that initially led to a working diagnosis of a strangulated hernia. However, intraoperative findings revealed infected and inflamed inguinal lymph nodes, highlighting the diagnostic challenge posed by atypical presentations of lymphadenitis. This case underscores the importance of a thorough differential diagnosis when evaluating an irreducible inguinal mass. When assessing a tender, an irreducible inguinal mass, differentials must extend beyond a strangulated hernia to include conditions such as lymphadenopathy, abscesses, and soft tissue tumors

Lymphadenopathy is defined as an enlargement or pathologic change in the character of a lymph node. The pathology usually arises as a symptom of infectious or noninfectious conditions and in some cases, malignant disease. Most presentations of lymphadenopathy are benign and resolve after a short period(8). The most commonly reported bacterial infections are *Staphylococcus aureus*, group A β -hemolytic *Streptococcus* (GAS) (*Streptococcus pyogenes*), and *Mycoplasma pneumoniae*, accounting for approximately 65% to 89% of cases, and malignancy represents 11% to 24% of all diagnoses(8,9). When attempting to diagnose a mass, clinicians must conduct a detailed history and physical examination to screen for lymphadenopathy. Generally, the size of a lymph node in the general population should be no more than 1 cm, with some exceptions to this rule(10).

Strangulated hernias are common surgical emergencies that require urgent intervention. Once diagnosed, urgent manual reduction is performed, as it is crucial to prevent ischemia and tissue necrosis(3,6). A regional mass can be a diagnostic challenge, as misdiagnosis can lead to detrimental outcomes for the patient if the surgical procedure is performed incorrectly. If the lymphadenopathy is already infected, the infection can spread from the surgical site and can lead to several dire complications.

Abdominal lymphadenopathy can result from infectious, neoplastic, or inflammatory pathogenesis. If these lymph nodes become inflamed or enlarged, these swellings can

be painful and mimic a hernia, leading to misdiagnosis. While imaging techniques like ultrasonography are usually effective at distinguishing hernias from lymphadenopathies, their diagnostic accuracy may be limited in diagnostically complex cases. In such scenarios, computed tomography (CT) offers greater anatomical resolution, enabling accurate differentiation between hernias, lymphadenopathy, and soft tissue masses(3). Point-of-care ultrasound (POCUS), an advanced diagnostic ultrasound technique, can be used by the attending physician as a bedside test (6,11). Acute inguinal lymphadenopathy is frequently caused by lower extremity infections and sexually transmitted diseases (STDs), like lymphogranuloma venereum, chancroid, genital herpes, or syphilis(12).

The diagnostic and treatment approach requires a careful understanding and physical examination of the lesion to optimally diagnose. The diagnostic approach for lymphadenopathy includes laboratory evaluation, which consists of a complete blood count (CBC), serologies, and laboratory evaluation for syphilis. Imaging tests like computed tomography (CT) followed by lymph node biopsy, and the excisional lymph node biopsy is the gold standard for diagnosis(10). The treatment options include a medical approach, a wait-and-see policy, and surgery(10). When it comes to assigning patients to surgical, antibiotic, or both types of treatment, there is no universal consensus. A macrolide (such as azithromycin or clarithromycin) and an antituberculosis medication (such as rifabutin or ethambutol) are typically included in antibiotic regimens. An empirical 5- to 10-day course of an oral β -lactamase-resistant antibiotic is typically the first step in appropriate treatment. If systemic symptoms are present, intravenous antibiotics should be initiated.

In summary, inguinal lymphadenopathy can closely resemble other urgent surgical conditions like strangulated hernias, making accurate diagnosis critical. Careful clinical evaluation supported by appropriate imaging and laboratory tests helps guide effective treatment. Tailoring management to the underlying cause—whether medical or surgical—can prevent complications and improve patient outcomes.

CONCLUSION:

This case serves as a reminder that not all groin lumps are hernias, and that a correct diagnosis requires a detailed history, rigorous physical examination, and suitable imaging. Inguinal lymphadenopathy, particularly when inflamed, can closely resemble the appearance of a

strangulated hernia, leading to unnecessary surgery if ignored. Prompt detection and differentiation are crucial because early, tailored care can reduce complications and improve patient outcomes. Clinicians should exercise caution in emergencies, where time constraints and overlapping clinical characteristics can blur diagnostic boundaries, and they should always maintain a broad differential diagnosis in mind.

Abbreviations:

ICT: Immunochromatographic Test

AFB: Acid-Fast Bacilli

MIC: Minimum Inhibitory Concentration

HPF: High Power Field

LPF: Low Power Field

POCUS: Point-of-Care Ultrasound CT Computed Tomography

STD: Sexually Transmitted Disease

MRSA: Methicillin-Resistant *Staphylococcus aureus*

CA-MRSA: Community-Acquired Methicillin-Resistant *Staphylococcus aureus*

GAS: Group A β -hemolytic *Streptococcus* (*Streptococcus pyogenes*)

Declaration:

Author Contribution:

DN: Data Curation, Investigation, Writing original draft, Writing review & editing, Resources. RHAR: Conceptualization, Methodology, Project administration, Writing original draft, Writing review & editing. A: Writing original draft, Data Curation, Resources. AT: Supervision, Formal Analysis. All authors read and approved the submitted version.

Conflicts of interest:

The authors declare that they have no conflicts of interest.

Ethical Approval:

Formal ethical approval was not required for this case report, as confirmed by our supervising physician, because the institution does not mandate ethics committee review for single patient case reports. Permission to use the anonymised clinical information was obtained from the treating consultant.

Patient Public Involvement:

Patient and Public Involvement (PPI): No patients or members of the public were involved in the design, conduct, reporting, or dissemination plans of this research.

Consent to publication:

Informed consent to publication was obtained from the participant.

Availability of data and materials:

All data are included in the manuscript. For further discussion regarding this report, please contact the corresponding author.

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