



Bilateral thigh abscess due to rectal fistula: A rare case report with silent clinical presentation

© Muhammed Koroglu^a, © Yasin Dalda^b, © Huseyin Utku Ozdes^{c,*}, © Zeynep Maras Ozdemir^d, © Okan Aslanturk^a

^aInonu University, Faculty of Medicine, Department of Orthopedics and Traumatology, Malatya, Türkiye

^bYesilyurt Hasan Çalık State Hospital, Clinic of General Surgery, Malatya, Türkiye

^cYesilyurt Hasan Çalık State Hospital, Clinic of Orthopedics and Traumatology, Malatya, Türkiye

^dInonu University, Faculty of Medicine, Department of Radiology, Malatya, Türkiye

ARTICLE INFO

Keywords:

Enterocutaneous fistula
Thigh abscess
Bilateral
Silent clinic

Received: Aug 01, 2023

Accepted: Aug 15, 2023

Available Online: 27.09.2023

DOI:

[10.5455/annalsmedres.2023.08.172](https://doi.org/10.5455/annalsmedres.2023.08.172)

Abstract

A 53-year-old male patient who underwent a rectal cancer operation nine years ago was evaluated with complaints of pain and swelling in the lateral thigh. Radiological imaging revealed abscess foci in the right thigh muscles. Surgical drainage and debridement were performed but developed recurrence. Contrast-enhanced abdominal tomography was performed due to a positive medical history and it was seen that an enterocutaneous fistula was formed from the anastomosis site of previous cancer surgery to both sides of the thigh. Bilateral thigh abscesses were drained and radical debridement was performed in the same session with surgery for the fistula. Pathological examination of the surgical specimens showed no evidence of cancer and the patient was discharged on the 14th postoperative day with complete resolution of the infection. Hip abscesses are rare, delays in the diagnosis and treatment of the underlying cause in cases of abscess secondary to abdominal or pelvic pathologies lead to an increase in mortality. Therefore, it should be kept in mind that thigh abscesses may be another side of the coin besides being seen as an isolated infection.



Copyright © 2023 The author(s) - Available online at www.annalsmedres.org. This is an Open Access article distributed under the terms of Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

Introduction

Thigh abscesses are relatively rare. Thigh abscesses, which usually arise from spontaneous infections in the surrounding soft tissues, may also occur secondary to retroperitoneal, intraperitoneal, and pelvic pathologic conditions [1-3]. In abscesses secondary to these conditions, mortality has been reported to be 34% when both intra-abdominal pathology and thigh abscess are treated together. However, in some cases, there may be delays in the diagnosis of the underlying cause and mortality increases. The mortality rate was reported to be 93% in cases treated only locally [3]. In this article, we aimed to present our patient who was treated for a thigh abscess and when there was no clinical improvement, it was found that the main source of the infection was a fistula formed due to previous rectal cancer surgery that opened into the thigh.

Case Report

A 53-year-old male patient who was operated on by neurosurgery for lumbar spinal stenosis was consulted to our clinic because of postoperative pain, tenderness, and swelling in the lateral region of the right thigh unrelated to the surgery that was performed.

The patient had an operation for rectal cancer nine years ago. Vital parameters revealed sub-febrile fever (37.6 °C), tachycardia (110/min), and normal blood pressure (105/65mmHg). Palpation of the right hip to the lateral thigh detected pain and fever. Neuromotor and vascular examinations were normal. Laboratory tests demonstrated increased serum leukocyte (15.8 10³/ML), C-reactive protein (28.5 mg/dL), and sedimentation (120 mm/h) levels. The hip radiograph demonstrated air lucencies in the deep soft tissues surrounding the hip and thigh on the lateral right side (Figure 1).

Magnetic resonance imaging (MRI) illustrated multiple abscess foci in the proximal muscles of the right hip and thigh, the largest of which was approximately 7.5x4.5 cm in size in the gluteus medius muscle, containing dense con-

*Corresponding author:

Email address: dr.utkuozdes@gmail.com © Huseyin Utku Ozdes

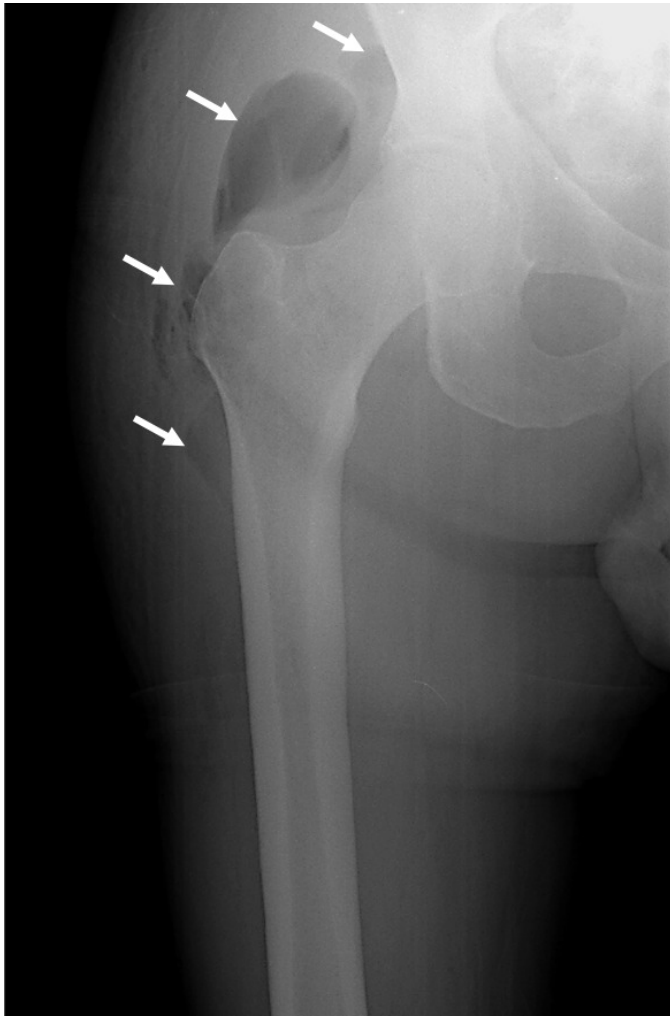


Figure 1. The anteroposterior radiograph of the right hip demonstrates extensive air lucencies (arrows) within the deep soft tissues around the hip.

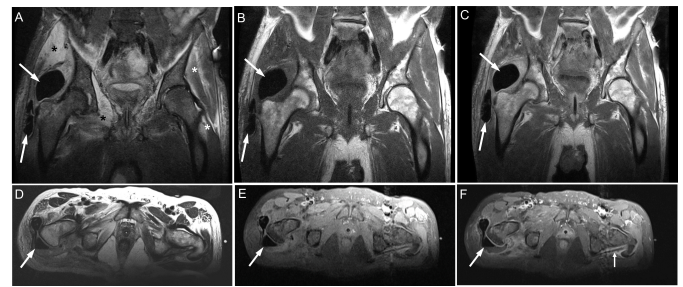


Figure 2. The magnetic resonance (MR) images reveal abscess formations (long arrows) with an intramuscular location in the peritrochanteric soft tissues of the right hip, which contain air-fluid levels. Additionally, there are edematous-inflammatory signal changes (small white and black stars, thin-short arrow) around both hips and proximal thigh regions, more prominent on the right side. These abscess formations are visualized on short-tau inversion recovery (STIR) (A), T1-weighted (B), and post-contrast T1-weighted (C) coronal images, T2-weighted (D), fat-suppressed T1-weighted (E), and post-contrast fat-suppressed T1-weighted (F) axial MR images.



Figure 3. The contrast-enhanced abdominal computed tomography (CT) images in axial (A, B) and coronal reformatted (C) planes demonstrate thin air lucencies (arrowheads) due to an anastomotic leak proximal to the rectal stapler line (thin dashed arrow) and extensive abscess formations (arrows) containing air-fluid levels within the muscle groups around both hips. Moreover, a pouch-like termination (thick dashed arrow) associated with these abscesses is visualized distal to the rectum.

tent with air-fluid density and tending to merge. There were diffuse oedematous-inflammatory signal abnormalities in the soft tissue (Figure 2). The first session treatment involved abscess drainage and radical debridement of necrotic tissues. On the fifth postoperative day, malodorous discharge was observed in the incision. A general surgery consultation concluded that his abdominal examination was normal and a colonoscopy for advanced examination disclosed a fistula originated laterally from the proximal part of the anastomotic line and this fistula drained into a pouch of approximately 10 cm at the Blinded Manuscript Click here to view linked distal end of the rectum. An abdominal computed tomography was performed when the patient's symptoms recurred to determine where the secondary infection was located. Anastomotic leakage was detected proximal to the rectal stapler line and diffuse abscess foci, which were located in the muscle groups around both hips and proximal right thigh, containing air-liquid densities similar in appearance to the colon contents, with a contrasted thick wall structure, associated with each other and the rectal lumen (Figure 3). General surgery resected the fistulizing segment and applied an ostomy. Radical debridement was again

performed on recurrent abscess in the right thigh. Postoperatively, there was no recurrence of infection or discharge, and CRP levels gradually decreased. The patient was discharged uneventfully on the 14th postoperative day. Pathologic examination of the surgical tissue specimens revealed no evidence of malignancy.

Discussion

In a patient complaining of hip pain, the clinical findings of erythema, fever, and collection accompanying the pain

may be due to abscesses formed hematogenous or by inoculation into the surrounding tissues. Thigh abscesses are relatively rare and the etiologic cause is usually local pathologies. These include pyomyositis, trauma or surgery in the hip region, infected hematoma, osteomyelitis, localized cellulitis, and thrombophlebitis [3]. We first questioned the history of previous trauma and orthopedic surgery in a patient with hip pain. Our patient had no history of previous orthopedic surgery or trauma. No osseous-articular disease was found on radiographic evaluations of the hip joint and pelvis.

After excluding local causes, the search for the focus of infection should be expanded. If clinical improvement does not occur after abscess drainage and recurrent episodes of infection are observed, this may lead us to think of antibiotic-unresponsive resistant bacteria. In addition to local causes, infection in a neighboring area, such as chronic osteomyelitis or gastrointestinal tract (GIS) focused fistulization, which reaches the infected area through drainage from infectious or malignant areas of another area, may create a clinical history of onset that may overshadow the original focus of infection. If the underlying etiology is not investigated and there is a delay in reaching the diagnosis, the progression of the infection may result in life-threatening sepsis and multiple organ failure [4]. After excluding local causes in thigh abscesses, gastrointestinal tract (GIS) and genitourinary tract (GUS) causes should be considered in determining the focus of infection. In these cases, the abscess-causing content may travel directly subcutaneously to the thigh, gluteal region, and groin via the femoral canal, pudendal canal, psoas sheath, sacrosclatic notch as well as the obturator foramen [3,5].

In the literature, thigh abscesses of gastrointestinal origin may originate from the right colon and left colon. In cases of right colon origin, thigh abscesses due to appendicitis, cecal cancer, and perforation due to appendix cancer have been reported. [6–9]. In the left colon, cases of diverticulitis perforations and tumor perforations have been reported [10–13]. These abdominal pathologies may present in different presentations such as purulent myositis, gluteal abscess, as well as thigh abscess. It may even present as necrotizing fasciitis involving the external genital organs and perianal region, known as Fournier gangrene [14]. In another study, a case of thigh necrotizing fasciitis caused by emphysematous pyelonephritis due to urinary calculi was shared [15].

The difference in our case from the cases presented in the literature is that the patient developed an enterocutaneous fistula at the anastomosis line at the site of rectal surgery performed without tumor recurrence, which opened to the thigh region nine years after cancer surgery. In addition, peritonitis occurred without any clinical signs of peritonitis, causing recurrent infection in bilateral thighs.

It is not difficult to diagnose an abscess in the hip and thigh, which presents with increased temperature, limitation of joint movements and pain, and swelling that fluctuates on palpation. However, the treatment process becomes difficult unless the underlying etiologic cause is identified. At this stage, anamnesis, physical examination, and inspection of the abscess content are very important. However, as in our case, sometimes physical ex-

amination may be completely silent except for the area of infection (normal abdominal examination) and clinical improvement may not occur despite abscess drainage.

The main purpose of presenting this case is that GIS fistulization should always be kept in mind when approaching the diagnosis of hip and thigh abscesses. Early diagnosis will prevent permanent destruction of the surrounding tissues (joints, bones, and muscle groups) and most importantly protect the patient from life-threatening complications such as sepsis and multiple organ failure. The management of these rare cases should be suspicious and fast, and imaging studies to clarify the etiology should be performed meticulously.

Conclusion

Abscesses in the thigh, gluteal, or inguinal region due to abdominal or pelvic diseases have a significant increase in mortality in the absence of prompt intervention to the primary pathology. Such cases usually present with abdominal and pelvic symptoms. Rarely, they may present with isolated symptoms such as pain, swelling, erythema, and dysfunction only in the gluteal or thigh region. Therefore, patients should be managed with a multidisciplinary approach. It should be considered that correct diagnosis and urgent treatment have a significant contribution to mortality in these cases and the underlying causes should be investigated.

References

1. N. S. Saldua, T. A. Fellars, and D. C. Covey, "Case report: Bowel perforation presenting as subcutaneous emphysema of the thigh," *Clin. Orthop. Relat. Res.*, vol. 468, no. 2, pp. 619–623, 2010, doi: 10.1007/S11999-009-1015-3.
2. Linscheid RI, Kelly Pj, Symmonds Re. Emphysematous Cellulitis Of The Hip And Thigh Resulting From Enteric Fistula. *J Bone Joint Surg Am.* 1963;45:1691-1697.
3. O. D. Rotstein, T. L. Pruett, and R. L. Simmons, "Thigh abscess. An uncommon presentation of intraabdominal sepsis," *Am. J. Surg.*, vol. 151, no. 3, pp. 414–418, 1986, doi: 10.1016/0002-9610(86)90481-2.
4. P. K. D. Rao, H. Sharpe, R. Sherlock, and V. Muralikrishnan, "Uncommon presentation of a common condition: an easily missed cause of hip pain," *BMJ Case Rep.*, vol. 2013, 2013, doi: 10.1136/BCR-2013-008619.
5. W. H. Hsu, L. J. Lai, K. T. Peng, and C. Y. Lee, "Acute pyogenic inguinal abscess from complex soft-tissue infection or intra-abdominal pathology," *Surg. Infect. (Larchmt).*, vol. 15, no. 5, pp. 467–473, Oct. 2014, doi: 10.1089/SUR.2012.008.
6. J. Bryan, J. Ashcroft, V. E. Hudson, and K. Y. Wong, "Unusual presentation of appendicitis as soft tissue infection of the thigh," *J. Surg. case reports*, vol. 2021, no. 1, Jan. 2021, doi: 10.1093/JSCR/RJAA505.
7. I. Petrovic et al., "Thigh abscess as an extension of psoas abscess: the first manifestation of perforated appendiceal adenocarcinoma: case report," *Wien. Klin. Wochenschr.*, vol. 127, no. 15–16, pp. 645–648, Aug. 2015, doi: 10.1007/S00508-014-0651-0.
8. S. Iemura et al., "Treatment of thigh abscess caused by retroperitoneal perforation of cecal cancer: A case report," *Ann. Med. Surg.*, vol. 79, Jul. 2022, doi: 10.1016/j.amsu.2022.103882.
9. P. Osácar, D. Ramallo, and L. Elizalde, "Thigh and iliopsoas abscess as a rare presentation of perforated mucinous appendix carcinoma. A case report," *Int. J. Surg. Case Rep.*, vol. 96, Jul. 2022, doi: 10.1016/J.IJSCR.2022.107293.
10. V. Jenkins, J. Steinke, N. Rajendran, and D. Kumar, "Purulent myositis of the thigh as a presentation of perforated low rectal cancer," *Ann. R. Coll. Surg. Engl.*, vol. 100, no. 3, pp. e44–e45, Mar. 2018, doi: 10.1308/RCSANN.2017.0210.

11. L. Highton, J. Clover, and P. Critchley, "Necrotising fasciitis of the thigh secondary to a perforated rectal cancer," *J. Plast. Reconstr. Aesthet. Surg.*, vol. 62, no. 2, Feb. 2009, doi: 10.1016/J.BJPS.2007.08.031.
12. J. Y. Yang, J. K. Lee, S. M. Cha, and Y. B. Joo, "Psoas abscess caused by spontaneous rupture of colon cancer," *Clin. Orthop. Surg.*, vol. 3, no. 4, pp. 342–344, 2011, doi: 10.4055/cios.2011.3.4.342.
13. A. Wadood, A. Odeh, K. Rana, and S. Zaman, "A Rare Case Of Sigmoid Colon Perforation With Subsequent Psoas Abscess Collection With Extensive Involvement Of The Sartorius Muscle," *BMJ Case Rep.*, vol. 2017, 2017, doi: 10.1136/BCR-2016-218715.
14. Ucaner B, Kesikli SA, Buldanli MZ, Ciftci MS, Hancerliogullari O. Fournier's Gangrene: Evaluation of Patient Outcomes Using Clinical Data and Prognostic Biomarkers. *J Coll Physicians Surg Pak.* 2023;33(3):275-280. doi:10.29271/jcpsp.2023.03.275
15. T. Maehana and R. Kato, "[Necrotizing Fasciitis of the Right Thigh Caused by Emphysematous Pyelonephritis Due to a Staghorn Stone: A Case Report]," *Hinyokika Kyo.*, vol. 67, no. 4, pp. 147–152, Apr. 2021, doi: 10.14989/ACTAUROL-JAP_67_4_147.