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Refractory Buttock Pain: A Possible Sign of Severe Soft Tissue Infection

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Abstract The patient was a 72-year-old woman who had started to feel left buttock pain 10 days prior to admission to our hospital. She visited a local clinic, where a pain killer was prescribed. However, her pain deteriorated, expanding to her back and left leg, and she became unable to walk. Thus, she was transported to our hospital. She had diabetes mellitus, dyslipidemia, chronic heart failure, and lumbar spinal canal stenosis. She was initially diagnosed with sciatic neuralgia due to lumbar spondylosis and treated with acetaminophen and returned home. The next day, however, she developed bilateral leg paralysis and difficulty speaking. When the emergency medical technicians checked her, she was in cardiac arrest. On arrival at our hospital, she obtained spontaneous circulation but ultimately died. Whole-body computed tomography revealed gas deep in the left buttock, the bilateral psoas muscles and spinal canal. A blood culture later revealed *Escherichia coli* infection. Physicians should pay attention when patients with a high pain threshold, including those who are elderly, female or who have diabetes mellitus, complain of refractory buttock pain.

Keywords: *buttock pain, severe soft tissue infection, computed tomography*

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1. Introduction

Buttock or hip pain is a common and disabling condition that affects patients of all ages. [1,2,3] The differential diagnosis of buttock pain is broad and thus presents a diagnostic challenge. The differential diagnosis includes both intra-articular and extra-articular pathological conditions, such as osteoarthritis, femoroacetabular impingement, buttock labral tears, iliopsoas bursitis, occult or stress fracture of the buttock, transient synovitis, septic arthritis, osteonecrosis of the femoral head, piriformis syndrome, ischiofemoral impingement, sacroiliac joint dysfunction, lumbar radiculopathy, and vascular claudication. [1,2,3] However, most of these entities are not lethal diseases.

We herein report a rare case involving a lethal soft tissue infection in which the initial complaint was buttock pain.

2. Case Presentation

The patient was a 72-year-old woman who started to feel left buttock pain 10 days prior to her admission to our hospital. She visited a local clinic, where a pain killer was prescribed. However, her pain deteriorated, expanding to her back and left leg, and she became unable to walk. She was therefore transported to our hospital by ambulance (transportation time: approximately 90 minutes). She had diabetes mellitus, dyslipidemia, chronic heart failure, and lumbar spinal canal stenosis due to spondylosis requiring pitavastatin, spironolactone, furosemide, brotizolam, duloxetine, losartan, carvedilol, and insulin. On arrival, her vital signs were stable and afebrile. An orthopedician checked her and found no skin lesions; however, a Bragard test was positive. Lumbar roentgenography only showed spondylosis. She did not undergo magnetic resonance imaging. She was diagnosed with sciatic neuralgia due to lumbar spondylosis and treated with acetaminophen.

Her pain showed slight improvement, so she was transported home by car. The following day, she showed bilateral leg paralysis and exhibited difficulty speaking. Her family called an ambulance. When emergency medical technicians checked her, she was in cardiac arrest, and they called a physician-staffed helicopter. When the physician checked her, she remained in cardiac arrest. She received advanced cardiac life support, including an infusion of adrenaline (2 mg). Spontaneous circulation was obtained on arrival.

Her vital signs were as follows: Glasgow Coma Scale, E1VTM1 with fixed dilated pupils; blood pressure, 140/60 mmHg; heart rate, 79 beats per minute; percutaneous oxygen saturation, 94% under mechanical ventilation; and temperature, 36.9°C. Weak respiratory sounds were heard in the left lung field on auscultation. A venous blood gas analysis revealed the following: pH, 7.094; PCO_2, 56.2 mmHg; HCO_3^-, 16.4 mmol/L; base excess, -12.8 mmol/L and lactate, 7.9 mmol/L.

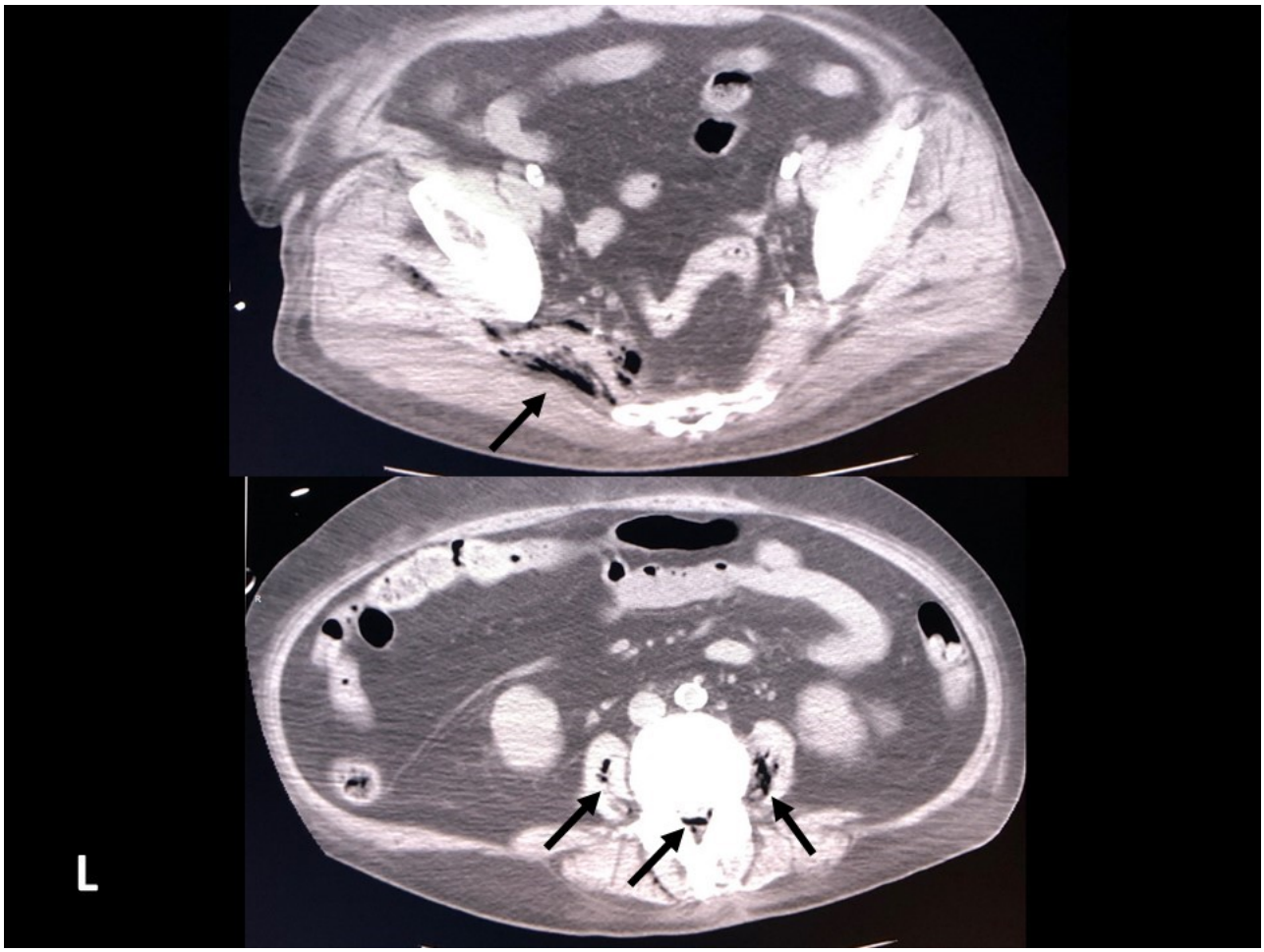

Figure 1. Truncal computed tomography on arrival. CT showed gas in the left deep buttock, spinal canal, and bilateral psoas muscle (arrow)

Whole-body computed tomography (CT) depicted gas deep in the left buttock, bilateral psoas muscles and spinal canal (Figure 1). The main results of a blood analysis were as follows: white blood cell count, 11,500/mm^3; hemoglobin, 9.4 g/dL; platelet count, 3.8×10^4 /mm^3; total protein, 5.1 g/dL; albumin, 1.7 g/dL; total bilirubin, 0.4 mg/dL; aspartate aminotransferase, 44 IU/L; alanine aminotransferase, 7 U/L, cholinesterase 136 IU/L; γ-glutamyl transpeptidase, 69 IU/L; alkaline phosphatase, 697 IU/L; creatine phosphokinase, 191 IU/L; amylase, 14 IU/L; lactate dehydrogenase, 384 IU/L, blood urea nitrogen, 45 mg/dL; creatinine, 1.7 mg/dL; glucose, 365 mg/dL; HbA_1C, 8.2%; sodium, 136 mEq/L; potassium, 4.9 mEq/L; chloride, 103 mEq/L; C-reactive protein, 29.8 mg/dL; activated partial thromboplastin time, 34.0 (27.8) seconds; prothrombin time, 15.0 (11.8) seconds; fibrinogen, 556 mg/dL; and fibrinogen degradation products, 150 μg/mL.

She ultimately died two hours after her second admission. Unfortunately, her family did not give their permission for an autopsy to be performed. A blood culture later revealed *Escherichia coli* infection.

3. Discussion

In some patients with severe soft tissue infection, the condition manifests as severe pain without any significant skin lesions. A precise, prompt diagnosis and appropriate treatment are key to the patient's survival in cases of severe tissue soft infection. [4] As the present patient had been prescribed duloxetine before her symptoms started, which had controlled her pain, this drug might have increased her pain threshold, potentially resulting in a delayed diagnosis. In order to correctly diagnose the condition, it is important for physicians to be aware of its possibility when patients present with severe pain-irrespective of whether or not the skin looks like intact, the patient has unstable vital signs, or an abrupt deterioration of a skin lesion is noted-and perform appropriate examinations, including blood culture, a biochemical analysis, computed tomography or magnetic resonance imaging, and surgical exploration of the affected lesion. [5,6,7] Prompt amputation with the administration of appropriate antibiotics should be performed as necessary. Patients who are elderly, female, or who have diabetes mellitus tend to have an increased pain threshold; thus, physicians should pay close attention when encountering such patients, even if they only complain of isolated pain. [8]

4. Conclusion

We presented a case of lethal soft tissue infection in which pain first occurred in the buttock. Physicians should pay attention when patients who are elderly, female, or who have diabetes mellitus complain of refractory buttock pain, as such patients may have a high pain threshold.

Source

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Conflict of Interest

The authors declare no conflicts of interest in association with the present study.

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Disclosures

The authors declare no conflicts of interest in association with the present study.

List of Abbreviations

CT: computed tomography

References

[1] Reggars, J.W. "Differential diagnosis of buttock pain: using a flow chart". *COMSIG Rev*, 2(2). 32-7. Jul 1993.

[2] Schiering, R. "What are the most common causes of buttock pain?" *Destroy chronic pain*, April 20, 2013. [Online]. Available: https://www.doctorschierling.com/blog/what-are-the-causes-of-butt-pain. [Accessed Apr. 30, 2019].

[3] Wilson, J.J., Furukawa, M. "Evaluation of the patient with hip pain". *Am Fam Physicia*, 89(1). 27-34. Jan 2014.

[4] Lee, A., May, A., Obremskey, W.T. "Necrotizing Soft-tissue Infections: An Orthopaedic Emergency". *J Am Acad Orthop Surg*, 27(5). e199-e206. Mar 2019 Mar.

[5] Fritzsche, S.D. "Soft-tissue infection: necrotizing fasciitis". *Plast Surg Nurs*, 23(4). 155-9. 2003.

[6] Ricketts, D., Teale, G., Roberts, J., O'Malley, R. "Streptococcal gangrene presenting as hip pain: two case reports and review of the literature". *Injury*, 23(2). 134-5. 1992.

[7] Fernando, S.M., Tran, A., Cheng, W., Rochwerg, B., Kyeremanteng, K., Seely, A.J.E., Inaba, K., Perry, J.J. "Necrotizing Soft Tissue Infection: Diagnostic Accuracy of Physical Examination, Imaging, and LRINEC Score: A Systematic Review and Meta-Analysis". *Ann Surg*,; 269(1). 58-65. Jan 2019.

[8] Pek, P.P., Loy, E.Y., Wah, W., Ho, A.F.W., Zheng, H., Fook-Chong, S.M.C., Chua, T.S.J., Koh, T.H., Chow, K.Y., Liu, N., Ong, M.E.H. "Reperfusion treatment delays amongst patients with painless ST segment elevation myocardial infarction". *CJEM*, 19(5). 355-363. Sep 2017.

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