Incidental Finding of *Trichinella* in a Patient with Gluteal Abscess: A Case Report

Gluteal Apsesi Olan Bir Hastada
Rastlantısal Olarak Saptanan *Trichinella*:
Bir Olgu Sunumu

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ABSTRACT

Trichinosis is caused most commonly by the nematode *Trichinella spiralis*. In this paper we report a case of gluteal abscess that developed after a man ingested undercooked wild boar meat. The biopsy revealed a small calcified cyst encircling a coiled threadlike worm. The diagnosis was trichinosis superimposed by pyogenic bacterial infection. As gram-positive cocci were seen, empirical treatment with amoxicillin and clavulanic acid was given for two weeks. The man was given albendazole at 400 mg twice daily for 14 days to eliminate infection from the intestine. The gluteal abscess healed uneventfully after two weeks. To the best of our knowledge, trichinosis superimposed with pyogenic bacterial infection is rarely reported in the literature.

Key words: Trichinosis, gluteal abscess, pyogenic bacterial infection, trichinellosis

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ÖZET

Trişineloz hastalığının en sık sebebi bir nematod olan *Trichinella spiralis*'dir. Bu yazıda pişirilmemiş yabani domuz eti yeme sonrasında gelişen bir gluteal apse olgusu sunulmaktadır. Olguya yapılan biyopsi sonucunda sarmal yapmış ipliksi bir solucanı çevreleyen küçük kalsifiye kist saptandı. Olguya piyojenik bakteriyel enfeksiyon eklenmiş trişineloz tanısı konuldu. Yaymada gram-pozitif kok görölmesi üzerine ampirik olarak iki hafta süre ile amoksisilin ve klavulanik asit verildi. Trişineloz eliminasyonu-na yönelik 14 gün süre ile 12 saatte bir 400 mg albendazol aldı. Gluteal apse iki hafta sonra komplikasyonsuz olarak iyileşti. Bildiğimiz kadarıyla piyojenik bakteriyel enfeksiyon eklenmiş trişinoz hastalığı literatürde nadir olarak bildirilmiştir.

Anahtar kelimeler: Trişinoz, gluteal apse, piyojenik bakteriyel enfeksiyon, trişineloz

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INTRODUCTION

Trichinosis is a preventable disease. The single most important causative factor is the consumption of inadequately cooked meat. The disease-causing nematode is most commonly *Trichinella spiralis*. Several other species are implicated as causing the disease, such as *T. britovi*, *T. murrelli*, and *T. nativa*, etc., depending on the region of the world^[1]. Pigs are the most commonly consumed reservoir hosts throughout the world, while humans are incidental hosts. Males measure approximately 1-1.5 mm in length and females 2-4 mm. Six days after ingestion, the female worms release large numbers of newborn larvae that penetrate the gut wall, enter the systemic circulation, and migrate to various tissues, especially active striated skeletal muscle groups like the diaphragm, tongue, and the masticatory, intercostal, and pectoral muscles. The larvae burrow into individual muscle fibers, which are transformed into nurse cells in the next three weeks^[2,3]. Hallmarks of the acute stage are fever (in $\approx$ 90% of patients), myalgias (in $\approx$ 90% of patients), and periorbital edema (in $\approx$ 80% of patients). Myalgias are common in the masseters, diaphragm and intercostal muscles. Pain is usually during exertion; pain at rest usually occurs only in patients with severe disease. Less frequent symptoms during the tissue invasion phase include headache (in $\approx$ 50% of patients) and skin rash (in $\approx$ 20% of patients). The late stage usually begins 5-7 weeks after the disease is acquired, and is characterized by the disappearance of most of the early signs and symptoms. Myalgia and fatigue frequently persist^[4]. We report here in a male patient with gluteal abscess, which developed after he ingested undercooked wild boar meat.

CASE REPORT

A 37-year-old male from the Sub-Himalayan region of Uttarakhand presented with fever and pain around his left hip of two weeks' duration. After two days of mild fever, he developed pain around the hip joint. There was restriction in hip movement due to pain in the joint. A careful anamnesis revealed that he had complaints of generalized malaise, myalgia, periorbital edema, headache, and abdominal discomfort. He also reported a history of wild boar meat consumption four weeks earlier, after which he had an episode of self-limiting diarrhea. The patient was examined in the outpatient department of orthopedics. Localized tenderness, local rise in temperature and restricted movements of the left hip joint were determined.

Radiograph of the hip joint was inconclusive. The total leukocyte count was increased ($17.800/\text{mm}^3$) with eosinophilia of 12%. The muscle enzymes lactate dehydrogenase (LDH) and creatine kinase (CK) were also high. Needle aspiration was done under sterile conditions. The thick blood mixed with serous discharge was sent for microbiological examination. The Gram stain showed gram-positive cocci suggestive of staphylococcus. During incision and drainage of the swelling, several miniscule chalky spots were evident, giving the muscle an abnormal appearance, so the abnormal muscle mass was sent for biopsy. Histological sections of infected muscle stained with hematoxylin and eosin showed abundant eosinophils, neutrophils, plasma cells, and macrophages surrounding the muscle tissue. The biopsy revealed a small calcified cyst encircling a coiled threadlike worm. Some of the muscle fibers contained several hypertrophic nuclei and some revealed edematous and necrotic changes. *Trichinella* spp. larvae were found traversing the muscle fibers. The diagnosis was trichinosis superimposed by pyogenic bacterial infection (Figures 1,2).

As gram-positive cocci were seen, empirical treatment with amoxicillin and clavulanic acid was given for two weeks. The patient was given albendazole at 400 mg twice daily for 14 days to eliminate infection from the intestine. The gluteal abscess healed uneventfully after two weeks.

DISCUSSION

The presence and severity of clinical symptoms are related to the number of larvae ingested as well as host characteristics, such as age, size and underlying conditions. The incubation period is shorter with larger ingestions. Unfortunately, there is no definitive positive laboratory test with easy availability to the physician. Myalgia (75%) is classically reported as most common in the masseter, diaphragm and intercostal muscles. The first case in India was in a 31-year-old female from Garhwal Hills with proximal muscle weakness who presented with a diagnosis of inflammatory muscle disease, and a muscle biopsy revealed numerous larvae of *Trichinella* spp.^[5]. While *T. spiralis* infestation in animals has been reported in India, *Trichinella* myositis in humans has been reported less. A muscular abscess, which the author claimed to represent the first case in India, was discovered incidentally during drainage of a psoas abscess^[6]. Cases of trichinosis in humans have been reported from most regions of the world. However,

Figure 1

Photomicrograph showing infective first stage larva of *Trichinella spiralis* in its nurse cell in muscle tissue and inflammation [5x].

Figure 2

Photomicrograph showing larva of *Trichinella spiralis* [40x].

a review of the literature revealed only two reported cases of human trichinosis in India. A case report of superimposed pyomyositis in trichinellosis with secondary osteomyelitis had been reported in a 12-year-old child. Early magnetic resonance imaging (MRI) to diagnose the condition and an early treatment helped prevent long-term morbidity in this patient^[7]. In Turkey, trichinosis is rare, but a similar outbreak was reported in 2003, in a 35-year-old male who had consumed undercooked wild boar meat^[8]. Our case was from the

region where a recent outbreak of trichinosis occurred, and he gave a history of consuming wild boar meat, so we considered parasitic abscess in our differential diagnosis. Prevention from trichinellosis is by cooking meat to at least 60°C for ≥ 4 minutes or freezing to -15°C for 20 days. To the best of our knowledge, gluteal abscess with associated trichinosis is reported rarely in the literature. Public education regarding the consumption of wild boar meat and non-commercial pork is advised for further reduction in such cases.

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