

CASE REPORTS



Acute Lymphangitis Mimicking Mechanical Neck Pain

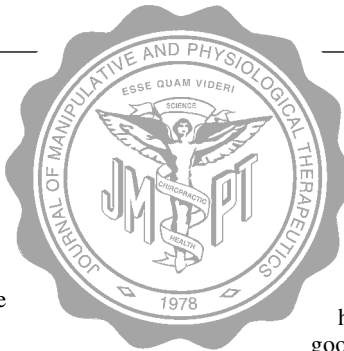
L. A. Boudreau, DC,^a and A. Pinto, MD^b

ABSTRACT

Objective: To discuss acute lymphangitis as a potentially serious infection that can mimic mechanical musculoskeletal pain.

Clinical Features: A 27-year-old male plant worker had right-sided neck pain. Numerous lesions on the patient's scalp were observed, but were not considered to be related to the chief complaint.

Intervention and Outcome: Conservative therapy was initiated to address what was thought to be mechanical neck pain. Shortly after the initial visit, it became evident that the source of the neck pain was infection because lymphangitis developed. Antibiotic therapy was initiated and complete reso-



lution of the complaint occurred within 1 week.

Conclusion: Primary contact practitioners should consider all aspects of the patient history and physical findings when formulating a diagnosis. This is especially important in the case of patients presenting with lymphangitis because mismanagement could have serious consequences. The importance of a good patient history and team approach to care is demonstrated by this case. (*J Manipulative Physiol Ther* 2001;24:474-6)

Key Indexing Terms: Lymphangitis; Infection; Neck Pain; Chiropractic

INTRODUCTION

Acute lymphangitis is an infection leading to inflammation of the subcutaneous lymphatic channels.^{1,2} It is recognizable as linear erythematous streaks that extend from the primary lesion toward the regional lymph nodes.³ Acute lymphangitis has many causes, the most common being Group A streptococci.¹ Other causes include *Staphylococcus aureus* and, rarely, soft tissue infections from other organisms such as *Pasteurella multocida* (especially after human bites).^{1,2} A distinctive form of lymphangitis, termed *nodular lymphangitis* or *lymphocutaneous syndrome*,^{3,4} occurs as nodular subcutaneous swellings that are observed along the involved lymphatic tract. Fungal agents are largely responsible for this condition, although there has been documentation of bacterial,⁵ parasitic, mycobacterial, and viral causes.⁴

The infection leading to lymphangitis is usually caused by exogenous factors such as puncture wounds, infected blisters, interdigital web-space infection, and paronychia. The characteristic presentation is that of an acute-onset, erythe-

matous linear streak, which points to the involved draining lymph node.⁶ Pain is variable but present to some degree in most cases. As primary contact practitioners, chiropractors may come into contact with patients presenting with pain caused by lymphangitis. Clinicians should familiarize themselves with this infection to ensure proper diagnosis and treatment.

CASE REPORT

A 27-year-old man had a 4-day history of right-sided neck pain and stiffness. On evaluation, the occupational health nurse noted numerous lesions on his scalp that appeared to be in the initial stage of infection. The patient was unaware of these lesions, but when informed of them he explained that his head had recently been shaved by a hair stylist. The nurse then advised the patient to seek consultation with the on-site medical doctor to evaluate the lesions and referred him to a chiropractor in the clinic to address the current neck complaints, which were thought to be unrelated.

During the chiropractor's initial examination, the patient explained that the complaint was insidious in onset and was getting progressively worse. Rotation of the patient's head aggravated the symptoms, and there were no relieving factors noted. There was no history of neck pain, and the patient's systems review was unremarkable.

There was moderate restriction in active range of motion globally, with left rotation worse than right. Joint restriction and pain were noted at the right C2-C3 segment upon motion palpation. Kemp's test and axial compression were pos-

^aClinical Sciences Resident, Department of Graduate Studies and Research, Canadian Memorial Chiropractic College, Toronto, Ontario, Canada.

^bMedical Director, Husky Wellness Centre, Bolton, Ontario, Canada.

Submit reprint requests to: Luke Boudreau, DC, 48 Mogarth Ave, Toronto, Ontario, Canada M4K 1K1.

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itive at the C2-C3 segments bilaterally. Thoracic outlet tests were negative. Deep tendon reflexes, light touch sensory, and strength testing were done for the upper limb as a basic neurologic exam. All 3 tests were unremarkable. Muscular spasm was noted bilaterally in the cervical region. The chiropractor then initiated a treatment plan of spinal manipulation (diversified technique) to address the neck stiffness and pain.

The next day, the patient presented to the clinic with no change in symptoms but indicated that he had obtained some relief with over-the-counter pain medication. A second chiropractor evaluated the patient and determined that the complaint was muscular in origin because orthopedic joint tests were no longer positive in the area of complaint. Spinal manipulation was not continued; instead, soft tissue therapy along with neck stretching and mobilization was initiated. Each chiropractor noted the lesions on the scalp but did not consider these to be related to the current complaint because of the location of pain and stiffness in the neck.

Two days later, the patient returned to the clinic for consultation with the medical doctor. Pain and stiffness had increased and was now reported as severe. Swelling and crusting of the lesions of the right occipital region was now evident, along with right-sided lymphadenopathy. Marked paraspinal tenderness was noted bilaterally (right > left), and the right posterior cervical nodes were enlarged and palpable. The patient was diagnosed with acute lymphangitis based on physical presentation and was given a course of antibiotic therapy. Response to the drug therapy was favorable, and the patient had an uneventful recovery.

DISCUSSION

If left untreated, acute lymphangitis can have serious consequences such as bacteremia with metastatic infection of various organs.² Severe systemic complaints are uncommon with most forms of nodular lymphangitis but are a definite consideration in streptococcal and staphylococcal infections.³ Information from the patient history and observation during the physical examination are important in arriving at the correct diagnosis.

The clinical approach should begin with an inquiry about recent travel, animal contact, insect contact, and occupational/recreational activities. An estimation of the incubation period is also important in predicting the causative agent. Short incubation periods (<1 week) are indicative of bacterial causes, whereas incubation periods exceeding 2 weeks most commonly occur in mycobacterial, fungal, and *Leishmania* causes.⁴

The clinical picture is that of red linear streaks, millimeters to centimeters in width, extending from the local lesion to the regional lymph nodes.^{1,2,6} Any part of the body may be affected, but the upper and lower extremities are most commonly involved.⁴ Lymphatic streaks are characteristically irregular and tender. Occasionally, in the case of bacterial lymphangitis, overlying skin breakdown and ulceration will result if the infection is left untreated.² The specific structures involved are the lymphatic tracts and the dermis (Fig 1).

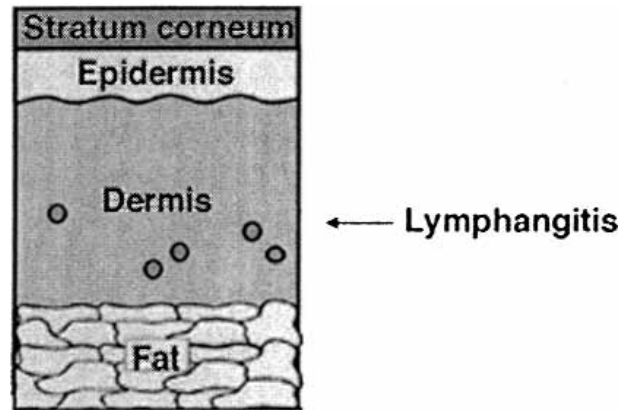


Fig 1. Site affected by lymphangitis.

Laboratory findings include elevated peripheral white blood cell count with a marked increase in polymorphonuclear cells. The offending organism cannot be cultured from the skin because the infection is restricted to lymph channels. However, if overt infection is present at the primary portal of entry or at a suppurative lymph node, the etiologic agent may be discovered.² Although laboratory testing is important for confirming the causative agent and ensuring appropriate therapy, common infections of the skin and soft tissues are often diagnosed on the basis of clinical presentation and morphologic appearance. Treatment is usually aimed at the pathogens most likely involved.⁷

The red linear streaks leading to regional lymph nodes are considered to be diagnostic of lymphangitis; however, when they appear in the lower extremity, one must consider thrombophlebitis because it can produce a similar pattern of linear areas of tender erythema.² In some cases, when linear or arcuate plaques are present, thrombophlebitis or sinus tracts of carbuncles should also be considered.⁸

There are 3 important aspects with regard to treatment of lymphangitis. Appropriate antibiotic therapy is paramount, along with warm or tepid soaks every 2 to 4 hours, and immobilization and elevation of the affected region.¹

In this case, the likely cause of infection was the multiple scalp lacerations resulting from the recent head shaving the patient received. Bacteria on the head-shaving instruments, human hands, or other contacts likely entered the open wounds, resulting in acute lymphangitis. Given the rapid onset and progressive nature of lymphangitis, no laboratory tests were carried out to identify the infectious agent; the results would have taken too much time to obtain and most likely would not have affected the treatment method. Instead, the patient was instructed to limit neck and right shoulder motion and was prescribed broad spectrum antibiotics to address the infection.

Clinicians should consider public health issues when dealing with infection and disease. Acute lymphangitis stemming from bacterial infection is not considered a reportable disease; however, the *mechanism* of infection may fall within the scope of investigation by the local public

health unit. In our case, the public health unit decided not to investigate the hair styling establishment, because this was likely an isolated incident.

CONCLUSION

Primary contact practitioners should be aware that pathologic conditions such as infection can mimic musculoskeletal complaints. In this case, the location of the neck pain misled the practitioners until lymphangitis was evident. The communication between the occupational health nurse, medical doctor, and chiropractors involved enabled the patient's complaint to be addressed quickly. Without this communication, this case could have been confusing and resulted in improper management or delayed treatment. This case report also demonstrates the benefits of a "team approach" to healthcare. Working with other practitioners with different skill sets can only add to the knowledge of individual practitioners. This should translate into high-quality care and efficient management of patients.

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