

	ORIGINAL RESEARCH PAPER		Dermatology
	TRACING THE LINES OF INFECTION: A CASE OF LYMPHANGITIS IN A CHILD AFTER SUPERFICIAL INJURY		KEY WORDS:
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ABSTRACT	Lymphangitis is an acute inflammation of the lymphatic vessels, most often seen in children following minor skin trauma. The condition is typically caused by bacterial entry through superficial abrasions, leading to characteristic linear erythematous streaks that progress proximally from the site of infection. This case report describes a 7-year-old girl who developed fever and painful red streaks over the right upper limb after sustaining a small abrasion on the dorsum of her hand. Clinical examination revealed a healing wound, ascending erythematous streaks tracking along the lymphatic drainage pattern, and right axillary lymphadenopathy. Laboratory findings showed leukocytosis with neutrophilia and elevated inflammatory markers. Culture of the wound confirmed a streptococcal infection, and imaging excluded abscess or deeper soft tissue involvement. The patient responded well to intravenous antibiotics followed by an oral course, along with supportive care including limb elevation and warm compresses. This case highlights the classical presentation of lymphangitis in children and underscores the importance of early diagnosis and intervention to prevent serious complications such as abscess formation, sepsis, or chronic lymphedema. It also emphasizes the value of caregiver education in recognizing early signs of soft tissue infections in pediatric patients, which can significantly improve outcomes with timely treatment.		
	INTRODUCTION		
	Lymphangitis is an acute inflammatory response involving the lymphatic vessels, most commonly triggered when bacteria invade via a break in the skin—even something as minor as a small scrape or abrasion, particularly in children. Group A β-hemolytic streptococci (<i>Streptococcus pyogenes</i>) are the frequent culprits behind these infections, exploiting skin injuries as portals of entry [1]. Clinically, lymphangitis is characterized by the presence of linear, erythematous streaks that extend proximally from the initial infection site, following the anatomical course of lymphatic drainage. These streaks are usually accompanied by regional lymphadenopathy, and systemic signs such as fever are common, indicating the inflammatory and infectious nature of the condition [2]. If not recognized and managed promptly, lymphangitis can escalate, leading to severe complications such as abscess formation, sepsis, or chronic lymphedema [3]. Early identification is therefore crucial. Fortunately, with timely administration of appropriate antibiotic therapy, the prognosis is excellent—most patients experience a swift and complete recovery without any long-term consequences [3]. This report details a classic paediatric presentation of acute lymphangitis following a seemingly insignificant injury, emphasizing the clinical progression, therapeutic approach, and favorable outcome. By examining such cases, clinicians are reminded of the importance of vigilance for even subtle signs of infection in children, as well as the effectiveness of early intervention. Case Report A 7-year-old girl presented with a two-day history of fever, reaching a maximum temperature of 38.7°C, accompanied by localized discomfort and mild pain. Notably, two days prior to symptom onset, she sustained a minor abrasion over the dorsum of her right hand while playing outdoors. The wound was washed at home but no antiseptic agents were applied, and it initially appeared non-infected. Within 24 hours, however, systemic symptoms progressed. On examination, the child was febrile (38.7°C) and appeared mildly lethargic. Local assessment of the right upper limb revealed a healing abrasion studded with few papules and vesicles on the dorsum of the ring finger (Figure: 1), with conspicuous linear erythematous streaks ascending proximally along the dorsal aspect of hands continuing over		
	the medial aspect of the forearm and arm toward the axilla (Figure: 2). These streaks were warm to the touch, slightly tender, and non-fluctuant. Right axillary lymphadenopathy was noted, with nodes measuring approximately 1.5 cm, mobile, and mildly tender. Examination of other systems was unremarkable. Laboratory investigations revealed leukocytosis, with a total white blood cell count of 14,647/mm³ and a predominance of neutrophils (80%). The C-reactive protein was elevated at 68 mg/L. Wound swab culture from the abrasion site identified <i>Streptococcus pyogenes</i> [1]. Blood cultures were not performed, as the patient remained hemodynamically stable and exhibited no signs of sepsis [2]. Ultrasound examination of the right upper limb showed no evidence of abscess formation or involvement of deep soft tissue. A clinical diagnosis of acute bacterial lymphangitis was established. Intravenous cefotaxime was initiated at a dosage of 50 mg/kg every 8 hours. The child demonstrated a rapid response, becoming afebrile within 48 hours and displaying gradual resolution of erythema. Following clinical stabilization, therapy was transitioned from intravenous cefotaxime to oral cefixime (100 mg, twice a day) to complete a 10-day course of antibiotics [4]. Supportive management included limb elevation, application of warm compresses, and administration of antipyretics. At one-week follow-up, the child showed complete resolution of skin findings and normalization of inflammatory markers [4]. DISCUSSION Lymphangitis in children typically develops when pathogenic bacteria, most often part of the normal skin flora, infiltrate the lymphatic system through minor skin disruptions [1]. The leading causative agent is <i>Streptococcus pyogenes</i>, a pathogen known for its aggressive tissue-invasive capabilities. This organism secretes virulence enzymes like streptokinase and hyaluronidase, which break down tissue barriers and facilitate swift dissemination along lymphatic vessels [1]. Clinically, lymphangitis is characterized by linear, erythematous streaks that radiate proximally from a site of primary skin infection. This is commonly accompanied by localized lymphadenopathy and systemic signs such as fever		

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[2]. In the present case, the child exhibited hallmark features—rising erythematous streaks on the skin, palpable regional lymph node enlargement, and fever. The diagnosis was made on clinical grounds, reinforced by findings from wound culture. Blood cultures, while not routinely necessary in stable children with localized presentations, are reserved for those who exhibit systemic toxicity or hemodynamic compromise [3].

Differential diagnosis included cellulitis, which presents with more generalized erythema lacking the streaked pattern; erysipelas, which displays well-demarcated, raised lesions; and nodular lymphangitis, typically associated with *Sporothrix schenckii*, which follows lymphatic channels in a nodular pattern. Superficial thrombophlebitis, although presenting with linear inflammation, follows a venous pattern and is not of infectious origin [5]. The child had no history of exposure to zoonotic or environmental sources, effectively ruling out sporotrichosis and rickettsial infections [5].

Timely initiation of antibiotics is central to the effective management of lymphangitis. First-line agents such as first-generation cephalosporins provide reliable coverage against *S. pyogenes*, assuming there is no clinical suspicion of MRSA involvement. Supportive measures, including limb elevation and application of warm compresses, aid in decreasing inflammation and improving lymphatic flow [4]. Failure to recognize or adequately treat the condition can lead to serious complications, including abscess formation, septicemia, necrotizing fasciitis, or toxic shock syndrome. In this case, the early institution of intravenous antibiotics led to rapid defervescence and gradual regression of inflammation, followed by oral therapy to complete the course. The child made a full recovery with no residual complications [4].

This case highlights the importance of prompt clinical recognition and intervention in pediatric lymphangitis. Pediatric patients, by virtue of their active lifestyles and susceptibility to minor skin trauma, are at increased risk for such infections [3]. Educating caregivers about early warning signs and ensuring prompt medical attention for suspicious skin lesions can significantly reduce the risk of progression to severe disease [6]. Ultimately, a comprehensive clinical approach—anchored in timely diagnosis, rational antibiotic selection, and supportive care—forms the cornerstone of favorable outcomes in children affected by lymphangitis.



Figure 1: Clinical image showing, healing abrasion on the dorsum of the ring finger, with erythematous streak over

dorsum of right hand.



Figure 2: Clinical image showing, linear erythematous streaks ascending proximally along the medial aspect of the forearm and arm toward the axilla

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