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**Literature search results**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Search request date:</td>
<td>18/01/2010</td>
</tr>
<tr>
<td>Search completion date:</td>
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**Search details**

Necrotising fasciitis in upper extremity – surgical and antibiotic treatment.

**Resources searched**

- National Library of Guidelines, NHS Evidence – Trauma and Orthopaedics,
- Cochrane database, TRIP, SIGN, Medline and Embase databases, RCS website,
- Google Scholar

**Summary**

**Guidelines**

**Evidence based reviews**
A review of necrotising fasciitis in the extremities. 2009

Necrotising fasciitis of upper and lower limb: a systematic review 2007

Published research

1. **A devastating case of heroin-associated necrotizing fasciitis of the upper limb with bone exposure. A useful method of treatment.**

   **Author(s):** Pagnini D, Colizzi L, Giacomina A, Giannotti G, Gandini D, Lorenzetti F, Gianni G, Lazzeri D

   **Citation:** Journal of Plastic, Reconstructive & Aesthetic Surgery: JPRAS, June 2009, vol./is. 62/6(e151-2), 1878-0539

   **Source:** MEDLINE

2. **Factors affecting the mortality of necrotizing fasciitis involving the upper extremities.**

   **Author(s):** Cheng NC, Su YM, Kuo YS, Tai HC, Tang YB

   **Citation:** Surgery Today, 2008, vol./is. 38/12(1108-13), 0941-1291;0941-1291

   **Abstract:** PURPOSE: Necrotizing fasciitis involving the upper extremities is an uncommon, but potentially life-threatening infection. Surgical records were reviewed to identify its mortality risk factors. METHODS: A 10-year retrospective review was conducted of all patients with upper limb necrotizing fasciitis treated in a tertiary care hospital in northern Taiwan. The demographic data, physical and laboratory findings and salient information with respect to the treatment and clinical outcome were collected and analyzed. RESULTS: Fourteen patients were identified. The mean age of the all-male cohort was 60.2 years (range, 44-83 years). Five of the patients died, yielding a mortality rate of 35.7%. At the time of presentation, all 14 patients had pain and swelling, but fever occurred in only 7 patients. Associated chronic debilitating diseases, of which diabetes mellitus was the most common, were present in 9 individuals. Patients underwent an average of two surgical debridements. The initial presentation in a state of altered consciousness or respiratory distress was found to be a statistically significant factors for eventual mortality (P < 0.05). CONCLUSION: The results showed that necrotizing fasciitis of the upper extremity is associated with a high mortality rate. Early diagnosis and referral for aggressive surgical treatment before the development of systemic toxic signs are therefore considered to be essential for survival.
3. **Factors that affect the clinical course of group A beta-haemolytic streptococcal infections of the hand and upper extremity: a retrospective study.**

**Author(s):** Hankins CL, Southern S

**Citation:** Scandinavian Journal of Plastic & Reconstructive Surgery & Hand Surgery, 2008, vol./is. 42/3(153-7), 0284-4311;0284-4311

**Abstract:** Group A beta-haemolytic streptococcus is a well-known cause of necrotising fasciitis, which is increasing in incidence and severity. More aggressive soft tissue infections of the hand and upper extremity caused by this organism have been noted in our plastic surgical unit, prompting a five-year retrospective study to find out which factors affect clinical outcomes. The records of 31 patients, 27 male and 4 female, with Group A beta-haemolytic streptococcal soft tissue infections with a mean (SD) age of 25 (12) years were reviewed. Twenty-seven infections followed injuries, while four were spontaneous. Six patients required more than two operations to clear the infection, and one required free tissue transfer for closure of the resulting soft tissue deficit. Of the variables age, number of cigarettes consumed daily, interval from the date of injury to the date of presentation, coexisting infection with Staphylococcus aureus, and grade of infection at presentation, only the last correlated with the patients' clinical course (p<0.001). Those patients with spontaneous infections with pre-existing medical conditions had a worse prognosis, requiring more operations and a longer stay in hospital. A multicentre prospective study would be useful to confirm these findings.

**Source:** MEDLINE

4. **Idiopathic Staphylococcus aureus necrotizing fasciitis of the upper extremity.**

**Author(s):** Bluman EM, Mechrefe AP, Fadale PD

**Citation:** Journal of Shoulder & Elbow Surgery, March 2005, vol./is. 14/2(227-30), 1058-2746;1058-2746

**Source:** MEDLINE

5. **The fasciitis-panniculitis syndrome presenting as complex regional pain syndrome type 1: report of a case.**

**Author(s):** Reis ND, Zinman C, Misselevich I, Boss JH

**Citation:** Clinical Journal of Pain, March 2005, vol./is. 21/2(185-9), 0749-8047;0749-8047

**Abstract:** A 28-year-old man presented with a clinical picture suggestive of complex regional pain syndrome type I following a blow to the thenar
eminence and thumb. Symptoms, including swelling of the hand and distal forearm, progressed until an amputation was carried out to rid the patient of an unendurable painful and nonfunctioning wrist and hand. The histologic evaluation of the amputation specimen showed: 1) dermal edema, perivascular dermatitis, and epidermal hyperkeratosis; 2) subcutaneous chronic inflammation with subtotal replacement of the adipose lobules by fibrous tissue associated with thickening of the muscular fascia, implying the fasciitis-panniculitis reaction pattern; 3) atrophy, degeneration, necrosis, and focal calcifications of the skeletal muscles; 4) phlebosclerosis, phlebectasias and lymphocytic arteritis; and 5) increased cortical porosity of the bones. It seems that the pathogenetic process underlying the fasciitis-panniculitis syndrome may rarely manifest as a complex regional pain syndrome-like disorder.

Source: MEDLINE

Full Text:

Available in print at Pilgrim Hospital Staff Library

□ 6. Gas gangrene and necrotizing fasciitis in the upper extremity.

Author(s): Perry BN, Floyd WE 3rd

Citation: Journal of Surgical Orthopaedic Advances, 2004, vol./is. 13/2(57-68), 1548-825X;1548-825X

Abstract: Necrotizing soft tissue infections encompass a wide variety of clinical syndromes resulting from introduction of various pathogens into injured or devitalized tissue. The extent of microbial involvement in such tissue may range from simple contamination to overt and progressive local tissue necrosis, which, if untreated, may lead to septicemia and death. Early differentiation among these infections is not always possible, as there are overlapping classification criteria. These infections exist along a continuum of clinical severity with different etiological agents and associated medical conditions. The often subtle clues heralding the presence of a necrotizing soft tissue infection must be sought so that expeditious surgical debridement and broad-spectrum antibiotic management are initiated. Although experience enables the clinician to make a specific diagnosis based on early findings, aggressive and proper treatment of suspected infections remains the priority. The purpose of the article is to provide an overview of necrotizing soft tissue infections in the upper extremity, focusing on gas gangrene, or clostridial myonecrosis, and necrotizing fasciitis, to facilitate early diagnosis and optimal management of these lethal diseases.

Source: MEDLINE

□ 7. Necrotizing fasciitis and gangrene of the upper extremity.
Necrotizing fasciitis is a severe, fulminant infection most commonly encountered in patients with diabetes mellitus, alcohol abuse, and intravenous drug abuse. The infection can spread unrecognized along fascial planes beneath seemingly normal skin. The relatively benign appearance of the extremity is misleading and often results in delay in diagnosis and increased morbidity or death. Immediate aggressive surgical debridement through extensile incisions in combination with antibiotic therapy is necessary for control of these limb- and life-threatening, soft-tissue infections. Gas gangrene, or clostridial myonecrosis, is encountered commonly in those extremity wounds that involve devitalized or necrotic soft tissues. Clostridial microorganisms are anaerobes that produce local and systemic toxins. Delay in treatment can lead to hemolysis, renal failure, and death. Treatment consists of immediate wound debridement, intravenous antibiotics, and hyperbaric oxygen therapy. Diabetic gangrene typically occurs in those diabetic patients with severe peripheral vascular or renal disease. The infections are usually polymicrobial. Treatment involves broad-spectrum antibiotics and multiple surgical debridements or amputation.
9. **Necrotizing fasciitis of the upper extremity**

**Author(s):** Schechter W., Meyer A., Schechter G.

**Citation:** Journal of Hand Surgery, 1982, vol./is. 7/1(15-20), 0363-5023

**Abstract:** Thirty-three cases of necrotizing fasciitis of the upper extremity were reviewed. This disease occurs in an indigent patient population and is associated with the abuse of street drugs and/or alcohol. Physical findings may resemble a benign, low-grade cellulitis on admission. Radical debridement of all involved skin, fat, fascia, and muscle within 24 hours of admission is associated with a significant reduction in length of hospital stay and number of operations required.

**Source:** EMBASE

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