

Fever and left tibia erythema and pain

Tuesday, 01 February 2005

A 73-year-old male patient was admitted to our hospital because of fever and pain of the left tibia.

His past medical history was significant for diabetes mellitus (managed with oral antidiabetic agents) and lung cancer for which he underwent resection of the left upper lobe one year ago. The patient also received chemotherapy that was completed 1 month ago.

Physical examination showed a red area of the left tibia (Figure). His temperature was 37.40C. Routine laboratory testing showed: C-reactive protein 30.50 mg/dL (normal value 0-0.50 mg/dL), creatinine 1.7 mg/dL (0.8-1.3 mg/dL), urea 61 mg/dL (15-50 mg/dL), hematocrit 28.1% (41.0-53.0%), white blood cell count 9.19 K/il (4.50-11.00 K/il).

An ultrasound of the lower extremities arteries and veins was performed which showed a generalized atherosclerotic disease, including a total obstruction of the left superficial femoral artery.

What is your diagnosis? What should be done?

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Diagnosis

Necrotizing fasciitis

Management

The patient received intravenous antibiotic treatment with ciprofloxacin 400 mg twice a day, and clindamycin 600 mg three times a day for three days, without improvement of his symptoms. Despite this treatment the area of inflammation progressed to most parts of the left tibia and foot. In addition, his fever and general condition worsened.

A surgical debridement of the affected area was performed with resection of necrotic tissue. The operative findings were suggestive of necrotizing fasciitis. Cultures from the affected limb tissue and blood specimens grew *Clostridium septicum*.

Subsequently, the patient received intravenous antibiotic treatment with penicillin 4 million I.U. every 4 hours, linezolid 600 mg every 12 hours (substituted by clindamycin 600 mg every 6 hours when results from cultures became available), meropenem 2 gr every 8 hours as well as hyperbaric oxygen treatment once a day, that led to gradual improvement of the patient's condition. The affected limb was amputated (above the knee) one week later because of the serious damage that the infection had caused. The patient was discharged to home 6 days later. There was no recurrence of the infection during a 4-month follow up.

Teaching Points

- Necrotizing fasciitis is a rare, aggressive and rapidly destructive soft tissue infection resulting in high mortality and significant long term morbidity (1,2). It primarily involves the superficial fascia and subcutaneous tissue, with thrombosis of the cutaneous microcirculation and, is associated with systemic toxicity .
- Differentiation from common soft-tissue infections such as cellulitis and abscesses is important. Two groups of infectious agents have been described.
- Type I involves anaerobic bacteria, including *Clostridium* species and *Streptococci* other than serogroup A and, type II involves *Streptococcus pyogenes* (Group A streptococci) alone, or in association with *Staphylococcus aureus* or *Staphylococcus epidermidis* (3).
- Early recognition and aggressive debridement of all necrotic tissue is important for survival. Combination therapy with

benzylpenicillin and clindamycin is now the recommended treatment (3). Hyperbaric oxygen therapy has been advocated as adjuvant therapy for both microbiological types of necrotizing fasciitis (4).

References

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Acknowledgements

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