

Images in Infectious Diseases

Slike u infektivnim bolestima

Fever, cellulitis and hypotension after radiation therapy

Vrućica, celulitis i hipotenzija nakon terapije zračenjem

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A 67-year-old male non-diabetic patient was admitted to the hospital because of fever and hypotension. Six days prior to admission his fever was up to 39 °C, with redness, pain and edema of his left arm, with headache and general malaise. Five months before he had surgical removal of the malignant melanoma on his back. Three months before he had surgical removal of the lymph nodes from his left armpit with consecutive radiation therapy. Physical exam at admission showed hypotension, atrial fibrillation 150-180/min, tachypnea and skin mottling. On the left arm he had painful redness and edema combined with sunburn rash on his trunk (Figure 1). He had small laceration on his left palm. The patient's initial therapy was started with high doses of penicillin G and clindamycin with 0.15 mcg/min/kg of norepinephrine and 9 liters of crystalloids during the first 16 hours. Since he was anuric continuous renal replacement therapy was performed for four days.

The B-mode ultrasound scan of the left thoracic wall and the left hand performed 2 days after admission, showed diffuse thickening and blurring of the subcutaneous fat of all parts of the upper left extremity and thoracic wall, the most prominent in the posterior olecranon region, where the fat plains were disintegrated. Because of the skin defects caused by bullous skin lesions ultrasound scanning

was limited and medial parts of the upper arm and cubital fossa were not available. No fluid collections were noted in the left arm. Because of the ultrasound diagnostic limitations, the computed tomography (CT) scan was recommended to evaluate possible gas collections or muscular/fascial necrosis. Native CT scan, performed eventually, demonstrated edematous and blurry subcutaneous soft tissue in the axial plane of the left hand and thoracic wall. The left biceps and triceps were edematous, as well. No signs of gas or liquid collections were reported (Figure 2).

After the work up, the patient didn't require surgical treatment. Blood cultures were positive for *Streptococcus pyogenes*. After 36 hours patient was weaned from norepinephrine. After 5 days his diuresis recovered completely. Desquamation of the involved skin appeared. Patient recovered completely after two weeks of treatment in the hospital.

Streptococcal toxic shock syndrome infection in a person with previous malignant disease is possible and can present as a life or limb-threatening emergency. Successful outcome is possible by maintaining a high index of suspicion, early diagnosis and antibacterial and antitoxin treatment and aggressive organ support. Performance of

CT scan is of major importance to evaluate possible gas collections or muscular/fascial necrosis, and if present to perform surgery.

[2] O'Loughlin RE, Roberson A, Cieslak PR, et al. The epidemiology of invasive group A Streptococcal infection and potential vaccine implications: United States, 2000–2004. *Clin Infect Dis* 2007; 2013:853–62.

References

[1] Dennis StevensL, Ian BisnoL, Henry ChambersF, Dale Everett, Patchen Dellinger, et al. Practice Guidelines for the Diagnosis and Management of Skin and Soft-Tissue. *Clinical Infectious Diseases*. 2005;41:1373–1406.

Figure 1. Image of the patient's left arm and left thoracic wall with edema and skin redness



Figure 2. Native axial computed tomography (CT) scan of the left arm and thoracic wall showing subcutaneous tissue edema and blurring. No signs of gas or fluid collection were noted.

