Tetanus following a Major Thermal Injury

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A case of tetanus in an unimmunized burned patient is presented. This foreign national sustained a 32% total body surface area burn, received inadequate prophylaxis initially, and subsequently developed tetanus 11 days postburn.

The rare occurrence of tetanus in thermally injured patients has been attributed to the superficial nature of most burns, the use of exposure and topical chemotherapy, and the widespread use of immunization. A case of tetanus in an uninimmunized foreign national burned patient is presented. This is the first recognized case of tetanus noted in more than 6,500 admissions to this burn center in 33 years.

CASE REPORT

A 73-year-old woman sustained a 32% total body surface flame burn and 6 days later was transferred to this burn center. The full-thickness burns, which had been treated with gentian violet and occlusive dressings, were grossly infected and malodorous. An immediate wound biopsy contained Gram-positive spore-forming microorganisms and was considered diagnostic of gas gangrene. This prompted subseschar burn wound clysis with mezlocillin sodium and excision of the gangrenous burn wounds shortly after arrival (10). Postoperatively, broad-spectrum systemic antibiotic coverage, ventilator support, and sedation were continued. On the fourth postoperative day, the patient became more responsive to verbal commands, exhibited trismus, developed generalized muscle twitching, and a diagnosis of tetanus was made. Serum samples for antitetanus titer assay were drawn and then aqueous penicillin and 5,000 units per milliliter but less than 1.0 units per milliliter (Bac-

tetanus (9). Sherman reported only four tetanus cases in his series of more than 2,000 burn patients (13). An antitetanus titer of 0.01 units/ml is generally considered to be protective, although, as observed in our patient, tetanus has been reported in patients with titers 10 to 20 times higher (1, 7, 8, 14). The mortality of tetanus ranges from 30 to 60% once the clinical symptoms are evident but survival may be improved if human tetanus immune globulin is administered to bind circulating toxin (3-5, 11). The 3,000-6,000 units of human tetanus immune globulin dose should be combined with appropriate antibiotic coverage, burn wound excision, mechanical ventilation, sedation, and supportive measures (2, 6, 12).

Immunologic naivété must be considered in treating any patient from a developing country and elderly burn patients from any country. In order to provide adequate tetanus prophylaxis, the patient’s immunologic status must be accurately determined at the first echelon of medical care.

REFERENCES

5. Committee on Trauma, American College of Surgeons: Post: Prophylaxis against tetanus in wound management. American College of Surgeons Spring meeting, April 1984.


