

Dysphagia and Trismus: an unusual case of tetanus

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Abstract

Tetanus is a life-threatening infection that is rare in the developed world; it is more frequent in the elderly people and immunocompromised patients. We report a case of a 53-year-old woman who presented with dysphagia, mouth pain and trismus. She did not report any injuries. The suspected diagnosis of tetanus was made. The blood examination showed severe lymphocytopenia and a positive result for the antinuclear antibody (ANA) test, with a suspected diagnosis of Sjogren's syndrome. It is possible that her immunocompromised conditions could have led to the onset of tetanus, even after casual and minimal contact with *Clostridium* spores.

KEY WORDS: tetanus; trismus; dysphagia; lymphocytopenia; immunodepression; Sjogren's syndrome

Riassunto

Il tetano è una infezione rara nel mondo occidentale, ma comunque seria e rischiosa per la vita quando non viene diagnosticata; è più frequente nelle persone anziane e nei soggetti immunocompromessi. Viene riportato il caso di una donna di 53 anni che si è presentata in pronto soccorso lamentando disfagia, dolore al cavo orale e trisma; la paziente negava recenti lesioni cutanee. Veniva comunque posto il sospetto di tetano e intrapreso con beneficio trattamento con immunoglobuline e metronidazolo. Agli esami ematochimici si osservava severa linfocitopenia e positività agli anticorpi antinucleo; veniva pertanto ipotizzata la diagnosi di sindrome di Sjogren. E' possibile che le condizioni di immunodepressione associate alla malattia autoimmune possano avere favorito l'insorgenza della malattia tetanica in seguito ad un minimo contatto con le spore del *Clostridium tetani*.

TAKE-HOME MESSAGE

Tetanus usually follows a recognised injury, but in 25% of cases, there is no evidence of a recent wound. Physicians must have a high index of suspicion in elderly or immunocompromised patients.

Competing interests - none declared.

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INTRODUCTION

Tetanus is an infection rarely encountered in the developed world [1], but recent case reports emphasise that this disease is once again gaining attention in developed countries among certain patient populations, such as elderly people and the immunocompromised [2, 3]. Because of the rarity of the disease the clinician may be unfamiliar with the clinical presentation and could be unsuspecting of the diagnosis. We report an unusual case for its natural history and clinical presentation.

CASE REPORT

The patient was a 53-year-old woman who presented at the Emergency Room after experiencing several days's history of dysphagia, mouth pain, and trismus. The patient reported that she worked for a cleaning company and had recently cleaned some cellars. She did not report either injuries or contact with animals. She did not recall having had a tetanus vaccination in childhood.

Upon admission, physical examination revealed that the patient was alert, oriented, and without fever. Opening her mouth was very difficult, and evidence of oral candida lesions was observed. We also observed a rigidity of the cervical spine and dorsal muscle. Moreover, we observed muscular spasms by touch stimuli of her lower extremities. Neurological examination also revealed a hyperreflexia of tendon reflexes. Blood examination revealed severe lymphocytopenia (total lymphocytes 490 cells/ μ l). The suspected diagnosis of tetanus was made at this time and she was treated with antitoxin immunoglobulin 3,000 IU IM, metronidazole, and diazepam.

During hospitalization, the patient showed a gradual improvement of the trismus and muscle spasms, and she started refeeding without problem.

The blood examination controls showed a negative result for HIV antibodies, the CD4 lymphocyte total number was 433 (cells/ μ l), the CD4/CD8 ratio was 2.59, and a positive ANA result with a suspected diagnosis of Sjogren's syndrome.

Tomography excluded tumors. Electromyography

showed a widespread myogenic suffering compatible with the immunological diagnosis.

The patient was discharged 28 days after admission with a good functional recovery.

DISCUSSION

The most common presenting symptom of tetanus is trismus, but patients often develop simultaneous dysphagia as well as pain and stiffness of the neck musculature. Markedly increased tone in the central muscles (e.g. face, neck, chest, back, and abdomen) with superimposed generalised spasms and relative sparing of the hands and feet strongly suggests tetanus [4]. Diagnosis is based purely on clinical observation [5]. Enzyme immunoassays for toxin levels are useful, but not readily available [6, 7]. In our patient, the complete recovery of symptomatology after administration of immunoglobulins and antibiotic therapy confirms diagnosis of tetanus with an 'ex iuvantibus' criterion.

Tetanus usually follows a recognised injury [8]. Contamination of the wound with soil, manure, or rusty metal can lead to tetanus. It can complicate burns, ulcers, gangrene, necrotic snakebites, middle ear infections, septic abortions, childbirth, intramuscular injections, and surgery. Injuries may be trivial and in up to 50% of cases the injury occurs indoors and/or is not considered serious enough to seek medical treatment [8, 9]. In 15-25% of patients, either there is no evidence of a recent wound or no entry site can be found [8, 10-12].

Aydin et al. [13] suggested that physicians must always have a high index of suspicion for the disease when examining a patient with trismus or progressive dysphagia, particularly in the case of elderly or immunocompromised patients.

Mandl et al. [14] described a strong association of CD4 lymphocytopenia (below 300 cells/ μ l) with Sjogren's syndrome. In the past, decreased secondary responses to tetanus toxoid immunization occurred in patients with rheumatoid arthritis complicated by Sjogren's syndrome [15]. Moreover, a case of tetanus associated with Sjogren's syndrome

was described by Fukutake and Miyamoto [16].

It is possible that our patient's immunocompromised conditions could have led to the

onset of tetanus even after casual and minimal contact with *Clostridium* spores due to her work environment.

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