

Case report

Unusual generalized tetanus evolving from odontogenic infection: A case report and review of recent literature



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ARTICLE INFO

Keywords:

Dental infection
Clostridium tetani
 Odontogenic
 Tetanus
 Trismus

ABSTRACT

Tetanus is an acute and vaccine-preventable disease caused by anaerobic bacteria, *Clostridium tetani*. This bacterium can enter the human body via a deep wound, burn injury or medical procedure; however, certain cases also originate from odontogenic infection. In the present study, a tetanus infection associated with dental origin in a 44-year-old man is reported. The case was complicated by lockjaw and difficulty swallowing that worsened over a few days, followed by a generalized spasm. Furthermore, a literature review was performed, in which six reported cases of tetanus, presumed to be of dental or oral origin, were identified between 2011 and 2021. General practitioners, especially dentists, should be aware of tetanus associated with odontogenic origin even without a history of an external penetrating wound or other medical procedures.

1. Introduction

Tetanus is an acute and often fatal disease caused by anaerobic bacteria, *Clostridium tetani* [1, 2]. Although the incidence of tetanus has been declining over the past two decades due to immunization programs, it remains a major health problem in developing countries, with high mortality rates [1, 3]. In 2015, there were 56,743 deaths from tetanus worldwide [4]. In Indonesia, there were 3559 non-neonatal deaths, with a mortality rate of 1.38 per 100,000 persons [4]. The tetanus mortality rate is considered to be fairly high and therefore this infectious disease requires more attention [5].

One of the main diagnostic factors for tetanus is a history of recent penetrating wounds, internal wounds or surgical operations [1, 2]. In the absence of these factors, many physicians often do not consider tetanus as the differential diagnosis. To date, only a few studies have discussed the odontogenic origin of tetanus, with the presumed origin being a result of one of the following: tooth extraction, root canal therapy, injection of anesthetic, gross caries, periodontal abscess or intraoral soft tissue trauma [6, 7, 8, 9, 10, 11]. In the present case report, a case of generalized tetanus of presumed odontogenic origin is presented. Furthermore,

recent literature on tetanus caused by dental infection was reviewed. The present case report may be used to advise physicians and dentists and raise awareness concerning this often-fatal disease in the clinic.

2. Case report

A 44-year-old male visited the hospital due to his inability to open his mouth. He had initially been in good health; however, one week before being admitted, he experienced stiffness in his neck and jaw. He also complained of pain in the same region. These symptoms worsened over a few days and he had difficulty swallowing. The patient did not have a fever, ear infection, neck pain, neck trauma, or a history of an external perforated wound, and had not taken any medicine. He also denied a history of seizure or temporomandibular joint disorder. Related to the chief complaint, anamnesis revealed that the patient often poked his interdental gingiva with a toothpick. He had not been recently administered with a tetanus vaccinations and did not remember having any vaccinations when he was a child.

A general examination demonstrated that the patient's vital signs were normal. He had stiffness in his neck and trismus, with the maximum

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<https://doi.org/10.1016/j.heliyon.2022.e10810>

Received 22 February 2022; Received in revised form 23 August 2022; Accepted 23 September 2022

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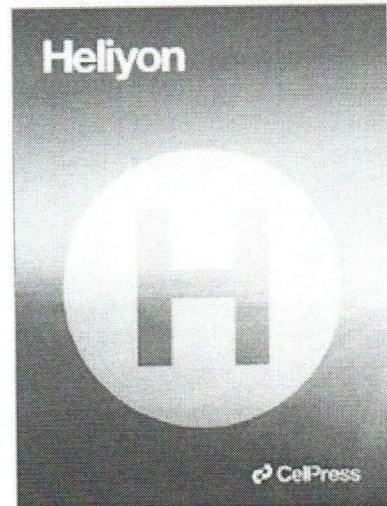
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adequately done

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-

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