

**CASE REPORT**

## Cutaneous anthrax on an unexpected area of body

Ertuğrul Güçlü, Nazan Tuna, Oğuz Karabay

*Department of Infectious Diseases and Clinical Microbiology, Ministry of Health Sakarya University Training and Research Hospital, Sakarya, Turkey*

### ABSTRACT

Anthrax is a zoonotic disease caused by *Bacillus anthracis*. Cutaneous anthrax is the most commonly seen form of anthrax. Skin lesions usually occur on the most exposed areas of the body, such as the face, neck, hand or upper extremity. The aim of this paper is to report a case of cutaneous anthrax form which was occurred on an unexpected area of the body of a slaughter-house worker. *J Microbiol Infect Dis* 2012;2(4): 163-164

**Key words:** Anthrax, *Bacillus anthracis*, cutaneous

### Nadir yerleşimli bir cilt şarbonu olgusu

### ÖZET

Şarbon *Bacillus anthracis*'in etken olduğu bir zoonotik hastalıktır. Cilt şarbonu en sık görülen şarbon formudur. Cilt lezyonları genellikle yüz, boyun, el ve üst ekstremiteler gibi sık maruz kalınan bölgelerde görülmektedir. Bu makalenin amacı bir mezbahane işçisinin beklenilmeyen bir vücut bölgesinde görülen cilt şarbonu olgusunun rapor edilmesidir.

**Anahtar kelimeler:** Şarbon, *Bacillus anthracis*, cilt

### INTRODUCTION

*Bacillus anthracis* is a non-motile, non-hemolytic, and classically penicillin sensitive gram-positive rod that secretes a polypeptide capsule consisting of poly-D-glutamic acid, under anaerobic conditions, with the presence of bicarbonate. Virulence factors are the capsule and the two binary toxins of anthrax termed "edema factor" and "lethal factor".<sup>1</sup> In this case report, we describe a 32-year-old man who had cutaneous anthrax on the scruff of his neck.

### CASE REPORT

We report the case of an otherwise healthy 32-year-old man, employed in a slaughter-house who presented with a rapidly growing necrotic lesion with central black eschar over the scruff of his neck. He stated that the lesion had begun as a "pimple" five days earlier. Initially, the lesion was pruritic and erythematous. Within a few days, the pruritis improved and the nodule transformed to a painless serohemorrhagic blister. Afterwards,

the blister developed a central black eschar. The patient said that he had a low-grade fever and weakness on the first and second day when his complaints started. But he had no chills, or respiratory or gastrointestinal symptoms. Cephalexin 1 gr twice a day had been started in primary health care with a diagnosis of soft tissue infection. He applied to our outpatient clinic on the third day of the therapy. On admission, the patient was afebrile, and vital signs were normal. On physical examination, there was a 2.5 cm non-tender lesion with a central black eschar, with peripheral non-pitting edema over the scruff of the neck (Figure 1). There was a mobile, painful, 2 cm in diameter cervical lymphadenopathy. The physical examination was otherwise unremarkable. His laboratory findings were normal. An initial diagnosis of cutaneous anthrax was made on the basis of the occupation and the characteristics of the lesion. Gram stain of the sample obtained from the patient's skin lesion revealed polymorphonuclear leukocytes without any microorganisms and the cultures were negative. Treatment with oral doxy-

**Correspondence:** Ertuğrul Güçlü, Department of Infectious Diseases and Clinical Microbiology, Ministry of Health Sakarya University Training and Research Hospital, Sakarya, Turkey E-mail:ertugrulguclu@hotmail.com

Received: 21 April, 2012 Accepted: 27 July, 2012

Copyright © Journal of Microbiology and Infectious Diseases 2012, All rights reserved

cycline (100 mg every 12 h) was initiated and the lesion resolved as a result of continuous antibiotic therapy within 10 days.



**Figure 1.** Cutaneous anthrax lesion before antimicrobial therapy

## DISCUSSION

Approximately 95% of all human anthrax is in a cutaneous form. The incubation period of this form ranges from 1 to 12 days. Skin lesions usually occur on exposed areas of the face, neck, hand or upper extremity.<sup>1,2</sup> Generally, all patients have a contact history. In a study from Turkey, cutting of meat, slaughtering, skin peeling, carrying contaminated packets, and contact with sick animals have been determined as risky contacts. Farmers, housewives, butchers and shepherds

are at high risk.<sup>3</sup> In our patient, the lesion occurred in an unexpected area. The reason this situation was recognized was from his occupation, since he said he was working in a slaughterhouse and was carrying meat and bones on the scruff of his neck.

Penicillin is the first-choice treatment for cutaneous anthrax. Doxycycline and ciprofloxacin are suitable alternatives. Recent studies have shown that short course (3-5 days) antibiotic therapy is as effective as standard-course therapy (7-10 days) in uncomplicated cutaneous anthrax.<sup>4</sup> In our case, oral doxycycline was given for 10 days, and the patient recovered without any complication.

In conclusion, in areas where anthrax is endemic, *Bacillus anthracis* should be investigated in lesions that have a central black eschar and antimicrobial therapy should not be started before a suitable laboratory diagnosis is performed.

## REFERENCES

1. Lucey D. *Bacillus Anthracis* (Anthrax) In: Mandell GL, Bennett JE, Dolin R, editors. Principles and practice of infectious diseases. 6th ed. Philadelphia: Elsevier Churchill Livingstone; 2005. p:2485-2491.
2. Doganay M, Metan G. Human anthrax in Turkey from 1990 to 2007. Vector Borne Zoonotic Dis. 2009; 9:131-40.
3. Özden K, Özkurt Z, Erol S, Uyanık MH, Parlak M. Cutaneous anthrax patients in Eastern Anatolia, Turkey: a review of 44 adults cases. Turk J Med Sci 2012; 42:39-45.
4. Kayabas U, Karahocagil MK, Ozkurt Z, et al. Naturally occurring cutaneous anthrax: Antibiotic treatment and outcome. Chemotherapy 2012; 58:34-43.