

# A CASE OF *VIBRIO VULNIFICUS* INFECTION IN A DIABETES PATIENT WITH FATAL OUTCOME

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## ABSTRACT

### Aim

The aim of this report is to present the case of a 44-year-old male tourist from Belgium with type 1 diabetes who developed necrotizing fasciitis and sepsis caused by *Vibrio vulnificus* during his stay at the Bulgarian Black Sea Coast.

### Material and methods

Data was collected from the patient's examination records. *V. vulnificus* was isolated by culture on blood agar and identified with biochemical tests.

### Results

During the initial hospitalisation the patient left the clinic without leave and returned 24 hours later. He was surgically treated and supported with intensive care. However, the patient developed severe sepsis which resulted in fatal outcome.

### Conclusion

It is important to highlight the need for sufficient awareness among patients with diabetes and other serious chronic diseases of the potential threat posed by *V. vulnificus* infections.

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## ADDRESS FOR CORRESPONDENCE:

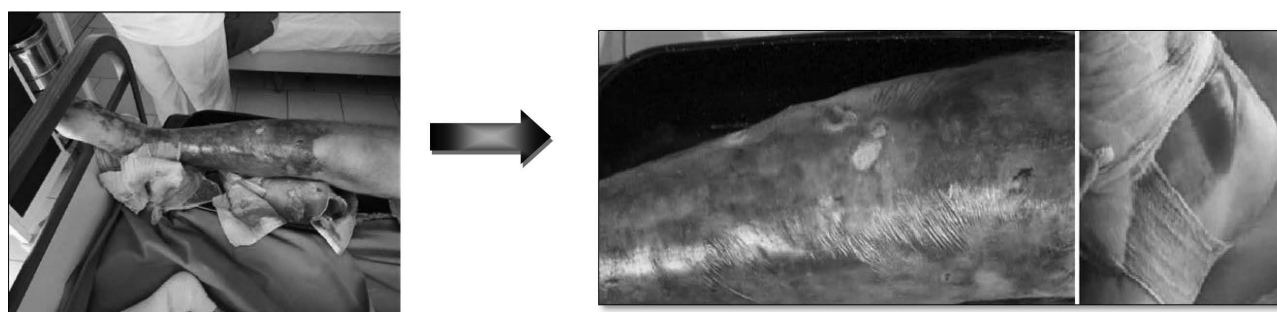
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## INTRODUCTION

*Vibrio vulnificus* belongs to non-cholera *Vibrio* species inhabiting marine waters. The bacteria can cause necrotizing soft tissue infection and primary septicaemia or acute gastroenteritis following the consumption of undercooked shellfish. The skin lesions most often appear in the first 24 hours after the onset of the disease. The infection may be fatal in untreated or immunosuppressed patients (1, 2, 3).

## CASE REPORT

This study presents the case of a 44-year-old male tourist from Belgium with type 1 diabetes spending 7 days in Burgas at the Bulgarian Black Sea Coast. The patient reported swimming in the sea every day. Approximately 10 days before admission to hospital the patient complained of fever, pain and a newly appeared wound on the right leg. On examination he was febrile (up to 38.5°C) and the right lower leg region was with oedema and erythematous skin. It was concluded that there is a severe wound infection in the limb which was surgically treated. Specimen was collected for microbiological analysis. After treatment of the wound the patient left the clinic without leave and demanded to receive medical care in his own country. However, the airline refused to allow him to board the plane and after approximately 24 hours the patient returned to the hospital with haemorrhagic necrosis changes in the leg (Fig. 1). Meanwhile, *V. vulnificus* was isolated in the microbiological laboratory of the hospital and subsequently confirmed in the National Reference Laboratory (Fig. 2). Third-generation cephalosporin, vancomycin and metronidazole were administered and the wound was debrided early. Nevertheless, the patient developed clinical symptoms of sepsis with blood pressure 65/50 mmHg, heart rate of 125 bpm and body temperature of 39°C. Consultation with cardiologist concluded that there is a high coronary risk. In the course of the septic condition, the patient became unresponsive. Due to haemodynamic collapse and respiratory failure the patient was placed on mechanical ventilation, but despite the intensive care support, he died 2 days after hospitalisation.



**Figure 1.** Severe wound infection in the right lower leg surgically treated in the Department of Vascular Surgery at UMBAL Burgas. Haemorrhagic necrosis and bullous changes in the right lower leg during the second hospitalisation.



**Figure 2.** *Vibrio vulnificus* colonies on blood agar isolated from wound sample.

## DISCUSSION

In this case, empirical antibiotic treatment was started before microbiological results were available. According to the World Health Organisation's recommendations the patient was treated properly, but there was a delay due to the interrupted hospital stay. Diabetes is also a serious aggravating factor. According to the Centres for Disease Control and Prevention Gulf Coast

Surveillance System, diabetes is a risk factor in over 35% of cases (4, 5, 6).

This case highlights the need of including *V. vulnificus* in the differential diagnosis of sepsis and severe wound infections in patients with concomitant chronic diseases and epidemiological evidence of contact with seawater, and to avoid consuming raw seafood.

## REFERENCES

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