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## Severe otitis due to *Vibrio fluvialis* in a patient with AIDS: first report in the world

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### ABSTRACT

A case of waterborne otitis in a patient with AIDS was report, who got infected with *Vibrio fluvialis* by swimming in a pool sea water. This is the first case reported in Cuba and as far as we know in the world. We describe the clinical features associated with this an unusual case and discuss its significance.

**Key words:** Otitis, AIDS, *Vibrio fluvialis*.

*Vibrio* species are natural inhabitants of brackish and salty water worldwide. Human disease is associated with the ingestion of contaminated water or consumption of contaminated shellfish or seafood. *Vibrio fluvialis* is one of halophic vibrio is distinct from non-cholera vibrios and have been recognized increasing as potentially pathogenic bacteria in extraintestinal infections.<sup>1</sup> We describe a case of sharp diffuse external otitis associated which was caused by *Vibrio fluvialis* in patient with AIDS.

### CASE REPORT

A 34-year old man with a history of AIDS (CD4 cell count =123 /mm<sup>3</sup>). Five days after swimming in a pool of sea water the patient had fever of 38.5 °C, purulent exudate through the auditive duct; intense pain in the right ear region, which intensified during mastication, the patient was referred to the "Pedro Kouri" Institute of Tropical Medicine in the Havana City, Cuba. Physical examination revealed a remarkable

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edematous and erythematous external auditory duct, with a purulent exudate, and adenopathies in the auricular and retroauricular regions. Examination of the cardiovascular system as well as of other system was normal. On his admission to the hospital an ear swab was done and treatment with 500 mg of tetracycline, taken orally every 6 h, was started. Treatment was discontinued after 10 days and the patient's condition improved clinically.

Laboratory tests revealed: Hemoglobin, 11.6 g/L; hematocrits, 37.0 %; eritrosedimentation, 74mm/h; leukocyte count, 13.000 x 10<sup>9</sup>; neutrophils, 79 %; platelet count, 210 000. Blood chemistry values were as follows: glucose, 5.5 mm/L; creatinine 130 mg/dL. The purulent exudate collected from the lesion before starting treatment was directly plated on Mac Conkey agar and incubated at 37 °C for 18h. The isolate, presumably identified as *Vibrio fluvialis* by API (Analytical Profile Index /Identification) 20E biochemical testing series (bioMérieux, France), was definitely identified according to the standard procedures: it was oxidase positive, esculine negative and string test positive. It grew on thiosulfate-citrate-bile salts-sucrose agar (TCBS, Oxoid) with yellow colonies due to the sucrose fermentation. The isolate was susceptible to 10 mg and 150 mg disks of the O/129 compound (2, 4-diamino-6, 7-diisopropylperidine phosphate). It also grew in 6.5 % NaCl and was L-lysine Möller (1 % NaCl) and L-ornithine decarboxylase negative and arginine dihydrolase positive. No other bacterial pathogens were isolated.<sup>2</sup> The antimicrobial susceptibility test, performed with the Kirby-Bauer method,<sup>3</sup> showed that the strain was susceptible to tetracycline, ampicillin, chloramphenicol, trimethoprim-sulfamethoxazole, nalidixic acid, ciprofloxacin, streptomycin, erythromycin, gentamicin, cefuroxime, polymixin B. The prevalence of *Vibrio fluvialis* intestinal infection in patients with AIDS has been reported in the literature.<sup>4-6</sup> The species most often associated with soft-tissue infections are *V. vulnificus*, *V. alginolyticus*, and *V. damsela*.<sup>7</sup> The isolation of *V. fluvialis* without other bacteria suggests that this species had a contributing role in the development of this

patient's otitis. The patient's history would suggest that sea water constituted infection source in this case. This is the first case reported in Cuba and as far as we know in the world. As a conclusion, clinicians should consider *V. fluvialis* infection in the differential diagnosis when assessing immunocompromised patients.

### Otitis severa causada por *Vibrio fluvialis* en un paciente con SIDA: primer reporte en el mundo

#### RESUMEN

Se reportó un caso de otitis por transmisión hídrica en un paciente con SIDA, que se infectó con *Vibrio fluvialis* al nadar en una piscina de agua de mar. Este es el primer caso reportado en Cuba y hasta donde los autores conocen también en el mundo. Se describieron las características asociadas con este caso inusual y se discutió su importancia.

**Palabras clave:** Otitis, SIDA, *Vibrio fluvialis*.

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