

## Cellulitis Caused by *Vibrio alginolyticus*

G. AELVOET,<sup>1</sup> R. KETS<sup>1</sup> and S. R. PATTYN<sup>2</sup>

<sup>1</sup>Department of Dermatology and <sup>2</sup>Department of Microbiology, University of Antwerp, Antwerp, Belgium

Aelvoet G, Kets R, Pattyn SR. Cellulitis caused by *Vibrio alginolyticus*. Acta Derm Venereol (Stockh) 1983; 63: 559-560.

A case of cellulitis, resulting in a recurrence of a leg ulcer is presented due to the unique association of its bacterial flora, consisting exclusively of *V. alginolyticus* and of its clinically rapid expansion after seabathing. *Key words:* *Vibrio alginolyticus*; Cellulitis; Wound infections. (Received May 23, 1983.)

G. Aelvoet, Department of Dermatology, Academic Hospital, University of Antwerp, Wilrijkstraat 10, B-2520 Edegem-Antwerp, Belgium.

*Vibrio alginolyticus* is an aerobic Gram-negative marine bacterium rarely causing acute gastro-enteritis (1), or suppurative infections such as otitis media or conjunctivitis (2, 3, 4). It has also been isolated from wound infections (4, 5, 6, 7) and chronic leg ulcers (5).

The present report of a case of cellulitis resulting in the recurrence of a leg ulcer is presented because of the unique association of its bacterial flora, consisting exclusively of *V. alginolyticus* and of its clinically rapid expansion after seabathing.

### CASE REPORT

A 37-year-old man visited the out-patient department of dermatology during the second week of August, because of an oedematous leg with a painful ulcer on the left ankle. He suffered from chronic venous insufficiency that had resulted in a short ulcerative episode some months before. He also has a HLA-B 27-linked arthritis. The present ulcer developed on the same place as the previous one, only a few days after seabathing in the Belgian North Sea. The patient could not remember any trauma.

Clinical examination showed an ulcer measuring 3 cm in diameter, covered with fibrinous debris and pus, surrounded by a 2 cm wide painful inflammatory area. The affected leg was moderately oedematous. Two successive bacteriological examinations yielded pure cultures of *V. alginolyticus*, resistant to ampicillin and methi-oxacillin, but sensitive to tetracyclines, chloramphenicol, cotrimoxazole and cephalosporin.

During ambulatory treatment with cotrimoxazole, 4 tablets daily for a period of 10 days and local disinfection with povidone-iodine, the inflammation regressed rapidly, the micro-organism disappeared and the ulcer healed progressively within 2 months.

### DISCUSSION

*V. alginolyticus* is an aerobic Gram-negative bacterium belonging to the group of halophilic vibrios (2, 4, 5, 6, 8). Its natural habitat is seawater. Optimal growth conditions are created in the warmer coastal waters of the Pacific Ocean (4, 7). As the minimal growth temperature is 10°C, the organism can also be found in the North Sea and Baltic Sea during the summer (2, 5, 7).

Frequent ingestion of raw seafood contaminated by this organism, sometimes causes acute gastro-enteritis (1). It can be isolated from stool specimens in 0.5% of the healthy Japanese population (4). Other lesions are seldom described: infections after minor injuries (7) and acute otitis media after perforation of the eardrum. The organism has also been cultured from chronic leg ulcers in patients with venous insufficiency (4, 5, 6) or sickle cell anemia (5) as predisposing factors, but always in association with other organisms, e.g. *Pseudomonas aeruginosa*.

In this patient we observed that *V. alginolyticus* was present in pure culture. The incubation period of the lesion was about 48 hours after seabathing and before the appearance of cellulitis with painful oedema and central necrosis with a serosanguinolent

exsudate. We may assume that the development of a new ulcer on a basis of chronic venous insufficiency and arthritis is related to an episode of cellulitis caused by *V. alginolyticus* after contact with contaminated North Sea water during the warm summertime.

Less conclusive but of interest is the disappearance of the organism from the lesions parallel with a good therapeutic result after administration of cotrimoxazole, to which the bacterium was proved to be sensitive in the antibiogram.

To our knowledge, this case is a rare example of cellulitis caused by *V. alginolyticus*.

## REFERENCES

1. Tohuken J. The isolation of *V. alginolyticus* from a patient with acute entero-colitis. *Exp Med* 1980; 132: 469-472.
2. Olsen H. *V. alginolyticus* isolated from discharge from the ear in two patients exposed to seawater. *Acta Pathol Microbiol Scand [B]* 1978; 86: 247-248.
3. Hansen W, Crockaert F, Yourassowsky E. Two strains of *Vibrio* species with unusual biochemical features isolated from ear tracts. *J Clin Microbiol* 1979; 10: 152-153.
4. Schmidt U, Chmel H, Cobbs C. *V. alginolyticus* infections in humans. *J Clin Microbiol* 1979; 10: 666-668.
5. Rubin SJ, Tilton RC. Isolation of *V. alginolyticus* from wound infections. *J Clin Microbiol* 1975; 2: 556-558.
6. Pezzlo M, Valter PJ, Burns MJ. Wound infections associated with *V. alginolyticus*. *Am J Clin Pathol* 1979; 71: 476-478.
7. Blake PA, Weaver RE, Hollis DG. Diseases of humans (other than cholera) caused by vibrios. *Ann Rev Microbiol* 1980; 34: 341-367.
8. Blake PA, Merson MM, Weaver RE, Hollis DG, Heublein, PC. Diseases caused by a marine vibrio. *N Engl J Med* 1979; 300: 1-5.