Vibrio vulnificus wound infections after contact with the Baltic Sea, Germany

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Health authorities in the state of Mecklenburg-Vorpommern, Germany have reported three cases of wound infections with the bacterium *Vibrio vulnificus* so far this summer. The patients had typical symptoms of vibrio wound infections, and these developed after bathing in the Baltic Sea. All of them had underlying chronic illnesses. One patient was a 57 year old diabetic, one was a 72 year old man with coronary heart disease and chronic leg oedema, and one was a 76 year old man with a chronic skin ulcer. All were treated with antibiotics and are recovering. Two patients' wound samples tested positive for *V. vulnificus.* Since the end of July 2006, water samples taken from 9 out of 10 bathing places along the Mecklenburg-Vorpommern Baltic Sea coast have consistently tested positive for *V. vulnificus* (testing is done every 14 days at these locations). V. alginolyticus and *V. parahaemolyticus* have also been detected, but so far, there have been no reports of human infections with these species [1].

In summer 2003, two cases of wound infections with *V. vulnificus* were also reported in Mecklenburg-Vorpommern [2]. In both cases, the patients also had underlying illnesses. One of the patients, a 50 year old man, suffered from diabetes mellitus. The other patient, a 62 year old woman, suffered from liver cirrhosis and died after developing the wound infection. Both had had open wounds on the legs when they bathed or waded in the sea before illness onset.

Other vibrio infections in Europe linked to Baltic Sea

In recent weeks, three people in southeast Sweden were reported to have developed mild to severe wound infections caused by non-agglutinating (not O1 or O139) and non-toxin-producing *V. cholerae* bacteria after bathing in the Baltic Sea, and possibly an irrigating pond. All three had skin breakages, and two had other underlying diseases [3]. In Denmark this year, there have so far been reports of two children (both immunosuppressed) with wounds infected with *V. alginolyticus* and *V. parahaemolyticus*, and one fatal case of *V. vulnificus* wound infection in an adult. All of these cases were linked to bathing in the Baltic Sea [4].

Discussion

Vibrio are facultatively anaerobe Gram negative bacilli from the Vibrionaceae family, which are medium to highly halophile (requiring salt). Several different species belong to the genus *Vibrio*: *V. vulnificus* and *V. cholerae* among others. Vibrio bacteria can multiply in salty water, especially at temperatures over 20°C, which is currently the case in many areas of the Baltic Sea. No German coastal sea water samples have yet tested positive for *V. cholerae*.

Seafood containing vibrio bacteria* can cause diarrhoea if eaten raw. If open wounds come into contact with sea water, vibrio bacteria can infect the wounds. Elderly and immunosuppressed people (e.g., with diabetes mellitus or liver disease) are at particular risk of infection. Without medical attention, superficial wounds can spread, necrotise and cause septicaemia. For this reason, prompt diagnosis, wound care, and appropriate antibiotic therapy are important, even if a vibrio infection is only suspected.

It should be stressed that people with open wounds and underlying chronic illnesses or who are immunologically compromised should not have contact with sea water. Vibrio infections should be considered in the differential diagnosis if there are supporting clinical symptoms. Patients presenting with wound infections should be asked whether they have had contact with sea water and if so, appropriate therapy needs to be prescribed.

***Correction.** This was corrected from '*V. vulnificans*' to 'vibrio' at the author's request on 18 August 2006. She points out that all the other vibrio species mentioned in the article, particularly *V. parahaemolyticus*, and some strains of *V. cholerae,* are known to cause gastroenteric infections.
Eurosurveillance editorial office, 18 August 2006.

References:

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