



## Case Report



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## Change of host by *Aeromonas salmonicida* from aquatic fish to man- a case report

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### Abstract

*Aeromonas* species are gram negative bacilli widely distributed in aquatic environment. The most common pathogens among *Aeromonas* species include *Aeromonas caviae* & *Aeromonas veronii*. They are known to cause sepsis, gastrointestinal and extraintestinal infections. Here we report a case of *Aeromonas salmonicida* isolated from a non healing ulcer of a 63 year old female patient. It is usually isolated from aquatic fishes and is rarely isolated from human infections.

**Keywords:** *Aeromonas salmonicida*, sepsis, non healing ulcer.

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The aeromonads are Gram-negative, rod-shaped, facultative anaerobic, nonspore forming bacteria that are widely distributed in aquatic environments<sup>1</sup>. They are mainly from soil and aquatic environments and causes different kinds of diseases to many warm and cold-blooded animals. The aeromonads and Enterobacteriaceae share many biochemical characteristics but are easily differentiated by oxidase test for which the aeromonads are positive. They have been associated with several food-borne outbreaks and are progressively being isolated from patients with traveler's diarrhea<sup>2</sup>. The most common pathogens among *Aeromonas* species include *Aeromonas hydrophila*, *A.caviae* and *A.veronii*.

Here we report a case of *Aeromonas salmonicida* from a case of wound abscess. Institutional ethical clearance was obtained. Here is a case of *Aeromonas* species isolated from a 63 year old patient admitted with wound infection. She was a known case of type II diabetes mellitus, peripheral neuropathy and coronary heart disease and was admitted in surgery ward with non-healing ulcer in the 4th inter-digital space of the left foot for 2 weeks duration which was associated with pain but no discharge from the wound or no complaints of fever. Incision and drainage (I&D) was done and pus obtained sent for culture and sensitivity to the diagnostic microbiological laboratory. The pus inoculated on Blood agar grew an aerobic bacteria which was small, 1.5-2 mm in diameter round non-hemolytic colonies and Non lactose fermenting colonies on Mac Conkey agar. The organism was identified as *Aeromonas salmonicida* by Vitek<sup>2</sup> compact and it was sensitive to Amikacin, Netilmicin, Ceftazidime, Imipenem, Meropenem, Piperacillin + Tazobactam, Ciprofloxacin, Doxycycline, Tobramycin, Cefepime, levofloxacin, Piperacillin and Gentamicin and resistant to Ticarcillin. The patient was treated with extended spectrum cephalosporins. Patient improved and was discharged.

Discussion: *Aeromonas spp* are usually isolated from diarrheal diseases, soft tissue infections, blood stream infection leading to sepsis and intraabdominal infections<sup>3</sup> and dissemination may give rise to meningitis or endocarditis. Pneumonia is infrequent and it is usually associated with aspiration, such as in near drowning. Both gastrointestinal and extraintestinal infections are now known to occur in previously healthy hosts as well as immunocompromised or otherwise, susceptible individuals<sup>4</sup>. There are reports of *Aeromonas* species isolated from urinary tract infections also<sup>5</sup>. Presently, as a putatively emerging enteric pathogen, *Aeromonas* species have the inherent capability to grow in water distribution systems, especially in biofilm, where they

may be resistant to chlorination. There are many *Aeromonas* species, of which *Aeromonas salmonicida* is rarely isolated from humans. It has been said to cause furunculosis and septicemia and has been isolated mainly from fishes. Most of *Aeromonas* species show susceptibilities to aminoglycosides, tetracycline, chloramphenicol, trimethoprim-sulfamethoxazole, and quinolones<sup>6</sup>. They are also susceptible to piperacillin, azlocillin, and the second and third generations of cephalosporins<sup>6</sup>. There are reports of resistance to Nalidixic acid and other Quinolones and they also are said to exhibit resistance to the penicillins (penicillin, ampicillin, carbenicillin, and ticarcillin). To conclude, we are already overburdened with lot of resistant organisms and if nonpathogenic organisms change their host preference, virulence and sensitivity, then it will be difficult to tackle the problem.

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