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Case Report

Successful split thickness skin grafting in the presence of heavy colonisation with rare bacterium *Aeromonas hydrophila*: A case report

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ABSTRACT

Background: Aeromonas hydrophila (AH) is a rare gram-negative anaerobic bacterium that is usually found in freshwater and contaminated soils. AH may behave in a pathogenic manner and a majority of the literature reports clinical manifestations of significant infection – typically in the immunocompromised. However, recent genomic typing of the bacterium has led to the discovery of a less virulent but antibiotic resistant strain which may be responsible for colonisation rather than infection.
Case report: We present an example of successful graft uptake in the presence of heavy graft site growth of *Aeromonas hydrophila*.
Discussion: Contemporary literature is yet to make the distinction between colonisation and infection of this bacterium, with clinicians relying solely on the presence of infective stigmata and serum analysis. However, this is a critically important distinction when ascertaining the likelihood of success of wound healing.

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Case report

An 83-year-old female presented to a regional health centre with a large non-healing ulcer on the anterolateral aspect of her left leg in the context of chronic peripheral oedema and venous insufficiency. Her past history was significant for a prolonged six month hospital admission in 2013 for recurrent right knee septic arthritis requiring multiple wash-outs. No evidence of AH was seen on microbiology.

Biopsy revealed a well differentiated squamous cell carcinoma (SCC) of 5 mm thickness. Initially the SCC was treated unsuccessfully with antibiotics and topical 5-Flourouracil (iNova Pharmaceuticals, Sydney, Australia). Following treatment failure, the patient was consented for definitive excision and split thickness skin grafting (STSG). Pre-operatively, the wound developed a foul-smelling odour and clear transudative discharge. Despite this, there were no signs of localised inflammation and the patient did not demonstrate any systemic signs of infection.

Intra-operatively, the lesion was extensive measuring 10 cm in largest diameter, it was subsequently excised with clear macroscopic margins. STSG was harvested using a pneumatic dermatome (Zimmer®, Warsaw, USA) with a large donor graft taken from the ipsilateral upper thigh. The STSG was inset with staples, betadine soaked gauze, and sterile foam, and dressed with crepe bandage. The excised tissue was sent for histopathology, microscopy, culture and sensitivities.

Intravenous antibiotics including ciprofloxacin (500 mg twice daily) and vancomycin (1 g twice daily) were commenced in the immediate post-operative period due to the ongoing odour and clear discharge from the site. Laboratory investigations revealed a white cell count of 6.5 and C-reactive protein of 63.0 three days post procedure. Subsequent review of microbiology results demonstrated heavy growth of *Aeromonas hydrophila* (AH) and moderate growth of methicillin resistant *Staphylococcus aureus* (MRSA).

Given the lack of clinical or biochemical signs of infection and the adequate graft progression, all antibiotics were ceased by post-operative day four. At time of discharge on post-operative day twenty-one, the graft remained intact with approximately eighty percent uptake as seen in Figure 1. Upon subsequent review in the outpatient setting, the graft demonstrated complete uptake as seen in Figure 2.

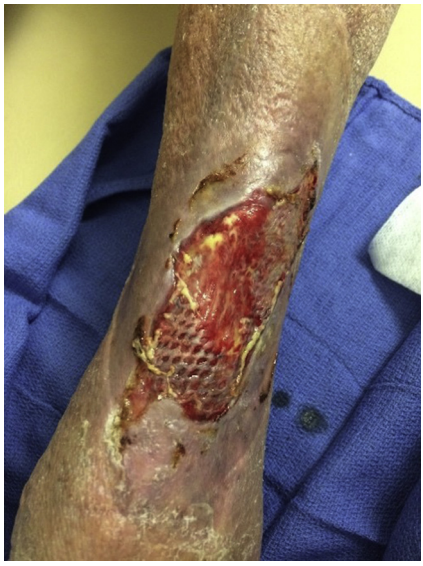

Figure 1. Good granulation at base of graft site on post-operative day eleven despite colonisation with *Aeromonas hydrophila*.