

Assessment and Management of Hot Spring Burns in Waikato, New Zealand

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Background and Aim

Background: Waikato Hospital is the Regional Burn Unit for a geothermal region. There is a paucity of data in on the epidemiology; patterns of injuries sustained; and management of such burns. A belief exists amongst plastic surgeons that geothermal burns are more susceptible to infection, especially with thermophilic microbes.

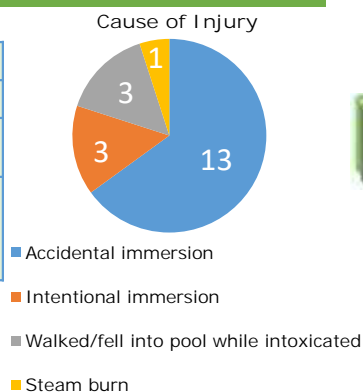
Aim: To review geothermal injuries presenting at Waikato, review the literature, and develop a treatment plan.

Methods

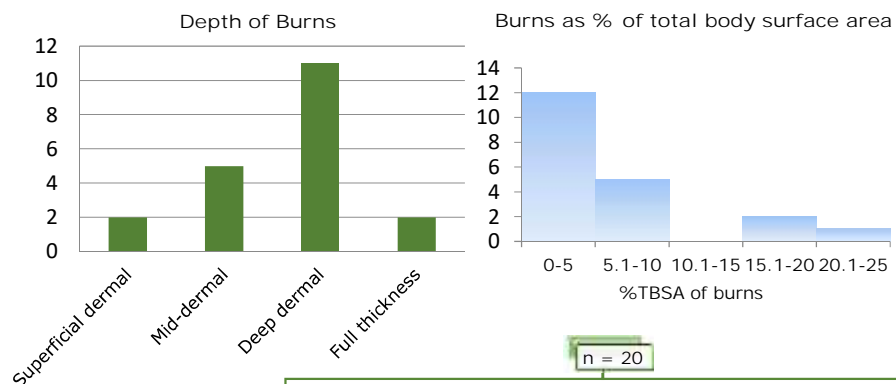
- Retrospective observational study: Jan 2013 –Sept 2018
- 20 patients identified (Inpatients only)
- Determine demographics, treatments, and outcomes
- Review of wound infections in this cohort and antibiotic use
- Literature review

Results

Age	6-67
Male: Female	16: 4
Overseas visitors: NZ residents	7: 13
Ethnicity	Maori 9 European 7 Asian 3 Pacific Island 1

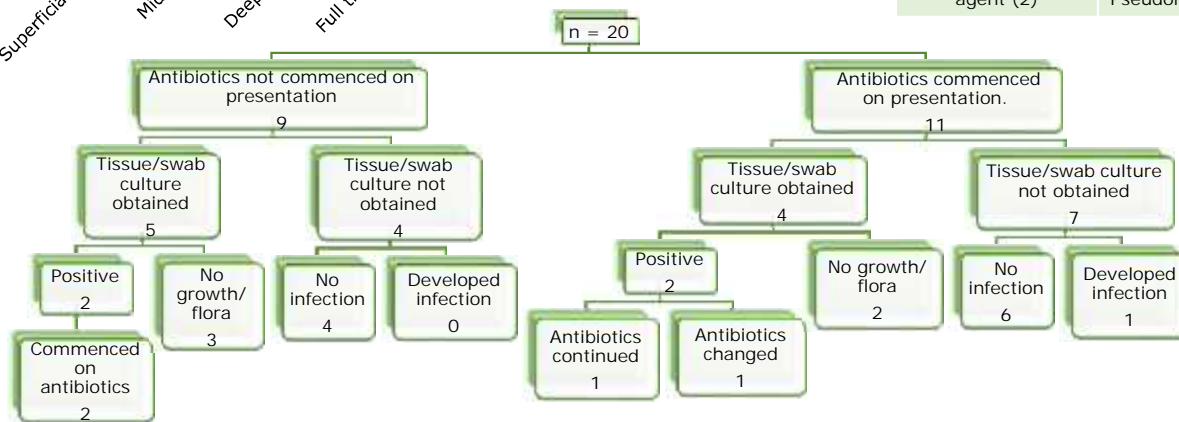


Special thanks to H. Will (Burn CNS) who assisted with data collection



Incidence of wound infection and causative agents

No clinical or laboratory evidence of infection (15)	Staphylococcus aureus + Bacillus cereus
Mixed growth (3)	Pseudomonas aeruginosa + Klebsiella oxytoca + Enterococcus faecalis
Single causative agent (2)	Staphylococcus aureus + Enterobacter cloacae
	Coagulase -ve staphylococcus Pseudomonas mendocina



Waimangu Volcanic Village near Rotorua, New Zealand

Conclusion

This is the first study in the medical literature, that we are aware of, that reviews the presentation and management of geothermal burns. We found a high rate of empiric antibiotic use. This is likely due to the belief that such injuries are uniquely susceptible to wound infection. However, the majority of patients did not develop wound infections, and there is no significant difference between the two cohorts. Our research highlights a gap in the current understanding of hot spring burns. Further studies are required to guide the judicious use of antibiotics in these injuries.

References

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- Ellisdottir R, Ludvigsson P, Einarsson O et al. Paediatric burns in Iceland. Hospital admissions 1982±1995, a populations based study. Burns 1986; 12(8): 567±71.