WILDERNESS IMAGE

Antarctic Fur Seal (*Arctocephalus gazella*)

Katharine H. Ganly, BMBS, BA

British Antarctic Survey Medical Unit, Plymouth, United Kingdom

Antarctic fur seals are widely distributed in the Southern Ocean and Antarctic Convergence. Notably, the island of South Georgia is home to an estimated 4 to 6 million fur seals and holds the densest marine animal population on the planet. South Georgia lies approximately 1380 km (860 mi) east-southeast of the Falkland Islands and is only accessible by sea. This remote glaciated island has no permanent inhabitants. The British Antarctic Survey maintains a research station on South Georgia at King Edward Point. A small nonpermanent population is present year-round at this facility. The station neighbors the

long-abandoned whaling station of Grytviken and is in close proximity to seal breeding beaches. South Georgia is the subantarctic island most visited by tourists, who come to see its historical sites and rich wildlife. Growing Antarctic tourism had led to increased interaction between local fauna and visiting humans.

Antarctic fur seals are fiercely territorial and will attack people in defense of their patch. The bite force of these large mammals is powerful, with potential for extensive damage as a result. Severe attacks are fortunately unusual. Treatment of seal bite injury can be a

challenge for physicians, and the oral flora of these large mammals is not as well understood as that of more commonly encountered biting animals such as dogs or cats.

Seal bites have long been recognized as a source of indolent infections, with *seal finger* first reported in 1907 among Arctic sealers.¹ This presents as a subacute, painful, and progressive infection of the digits. Historically, treatment was amputation.² Although named *seal finger*, this infection is not limited to the hands.

Causative organisms have yet to be definitively identified. Originally *Erysipelothrix rhusiopathiae* was considered the likely pathogen.³ Mycoplasmas have more recently been suggested as the leading cause: *Mycoplasma phocacerebrale* has been isolated in 1 patient with seal finger.⁴ Analysis of the mouth flora of Antarctic seals has revealed new species of *Actinomyces* and *Corynebacteria*, both of which have been associated with indolent infections in fishermen.

In the event of a bite, thorough wound decontamination, debridement, and prophylactic antibiotic cover are key. Questions over the causative organism makes antibiotic choice difficult. *E rhusiopathiae* is responsive to

penicillins, cephalosporins, and erythromycin. Mycoplasmas lack cell walls and do not respond to beta-lactam antibiotics, but they do respond to tetracyclines. Inadequate treatment of either organism can lead to local tenosynovitis and osteomyelitis, and endocarditis in the case of *E rhusiopathiae*. No cases of rabies have been reported from seal bites.

This photo, taken in late October 2020, shows an Antarctic fur seal bull at the start of the breeding season at Hope Point, adjacent to the King Edward Point research station, South Georgia (Location: -54.282, -36.490).

References

1. Bidentknap JH. Spaekflegmonen. *Norsk Magazin for Laegevidenskaben*. 1907;68:515–23.
2. Rodahl K. Notes on the prevention and treatment of Spekk finger. *Polar Record*. 1943;4(25):17–8.
3. Hillenbrand FKM. Whale finger and seal finger; their relation to erysipeloid. *Lancet*. 1953;1(6762):680–1.
4. Baker AS, Ruoff KL, Madoff S. Isolation of *Mycoplasma* species from a patient with seal finger. *Clin Infect Dis*. 1998;27(5):1168–70.