Marinefish stings

Sir,

I enjoyed the case report on marinefish stings by Ell and Yates (*Archives of Emergency Medicine* (1989), 6, 59–62) and would like to make the following observations.

Many venomous fish do not actively approach their prey to attack, but are sedentary and well camouflaged. Envenomation follows inadvertent handling by fishermen or by a person treading on the fish whilst wading in shallows or swimming barefoot. This is avoided by wearing thick gloves or using tongs when handling fish, and by wearing strong shoes and not jumping into shallow waters where the fish may lurk.

First aid by immersion in hot water at 45–50°C is certainly effective in relieving pain probably by denaturing the heat labile toxin. However, it is advisable to first test the heat of the water with an unaffected hand or foot to avoid subsequent scalding of the injured area (Harris & Pearn, 1987). Local infiltration with anaesthetic without adrenaline is also effective, or even a specific nerve block or regional block.

Antivenom is available for stonefish envenomation in Australia and the Indo-Pacific and is recommended for all but the mildest cases. The dose is one ampoule intramuscularly containing 2000 units in 2 ml for every two skin puncture wounds by the venomous spines. It is safe and rapidly effective (Sutherland & Trinca, 1981).

Tetanus toxoid is always required for marinefish envenomation depending on the patient's immune status. Wound debridement and antibiotics are also of value for deep or necrotic wounds and radiographs to rule out retained foreign bodies. Indeed, if a sting from a stonefish, for instance, remains painful or inflammation and discharge recur at the sting site, a retained foreign body, in particular a deeply embedded portion of spine should be suspected and may necessitate surgical exploration (Sutherland, 1988, p. 407).

Finally in reference to the last paragraph, there is no longer any justification for the older methods of first aid such as incision, excision or scarification in cases of envenomation. These may further injure the patient by damaging deep structures including tendons and nerves, have never been conclusively demonstrated to be of benefit and are quite unnecessary in the many poisonous snake bites that are not actually followed by significant envenomation (Sutherland, 1983 pp. 18–19). Furthermore the proximal ligature or arterial tourniquet has serious disadvantages as it causes extreme pain and distress to the patient, may only be left on safely for about 20 min to avoid ischaemic necrosis, is again associated with neurovascular damage and may be followed by dramatic deterioration when released (Fisher *et al.*, 1980).

Therefore a new alternative method of first aid was developed in Australia in 1979 known as the pressure-immobilization technique (Sutherland *et al.*, 1979). A broad firm bandage is applied around the bite site and up the limb as tight as one would bandage a sprained ankle. A splint is then applied to keep the limb immobile and transport is brought to the patient whenever possible. The bandage and splint are then left on until medical care with full resuscitation facilities and antivenom is available. This technique is appropriate for all elapid snake envenomations (and the closely related sea snakes), and for the funnel web spider, blue ringed octopus and cone shell envenomation in Australia. The principle involved is to impede the spread of venom through local lymphatics and capillaries, with the advantage that the bandage is comfortable and may

be left in place many hours. The pressure-immobilization technique has been approved by the Australian Resuscitation Council and the St John Ambulance Brigade and is now actively promoted by these and many other organizations as a simple and safe method of first aid with wide applications.

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