

Traditional treatments for snake bite in a rural African community

Snake bite is a significant cause of morbidity and mortality in many parts of the world (Warrell, 1996). The annual incidence of snake bite in KwaZulu-Natal, South Africa, estimated at 81/100 000 (Wilkinson, 1994), is relatively high because the population is mostly rural and the number of snakes resident in the area is large (Branch, 1990). An important determinant of the morbidity and mortality resulting from snake bite is the treatment-seeking behaviour of those bitten. As shown below for KwaZulu-Natal, the use of traditional snake-bite remedies may be an important feature of such behaviour.

As part of a prospective study to determine the clinical spectrum of snake bite and to identify the biting snake serologically, data on treatment given prior to admission were collected on all cases of snake bite presenting to Hlabisa hospital. This institution is a 450-bed district hospital serving a largely Zulu-speaking population of around 210 000 people in northern KwaZulu-Natal, South Africa. The local climate is sub-tropical with wet and hot summers between October and March, when most snake bites occur (Wilkinson, 1994). Information relating to traditional treatment was recorded using a standard questionnaire.

Overall, 147 patients bitten by snakes were seen between November 1995 and October 1996 and information was collected on all of them (see Table). Of these 147, 132 (90%) had used some form of traditional remedy prior to admission, 118 (89%) had each used two or more traditional remedies and 65 (49%) had each used at least three. One patient had used six different remedies.

The commonest forms of treatment employed had been use of a tourniquet (109; 83%) and *isibiba* taken orally (103; 81%). *Isibiba* is a local medicine prepared by traditional healers from various parts of cremated snakes; most preparations include the snake's gallbladder. The burnt snake is ground into a

powder and taken in the form of a lick or a drink; it may also be applied to the bite. Other common oral treatments had been drinking urine (mostly the patient's own) and taking an elixir of crushed aloe leaves to induce vomiting. Other common topical remedies had included scarification around the bite site, and the rubbing of herbal mixtures on the site of the bite. Scarification had most frequently been done with a razor blade but in three cases a sharpened cow horn had been used. A wide range of substances had been rubbed into the bite site, including *isibiba*, household detergent, potassium permanganate, paraffin, breast milk and snuff. Some more bizarre treatments included amputation of the bitten finger, the

TABLE
Frequency of use of different traditional treatments by 132 patients with snake bite in rural South Africa

Treatment	No. and (%) of patients
Tourniquet	109 (93)
ORAL REMEDY	
<i>Isibiba</i>	107 (81)
Urine	38 (29)
Aloe	13 (10)
Other	6 (4)
TOPICAL TREATMENT	
Scarification	40 (30)
<i>Isibiba</i>	8 (6)
Potassium permanganate	10 (8)
Detergent	8 (6)
Other	7 (5)
OTHER	
Snuff	4
Blood letting	2
Stone	1
Enema	1
Self-amputation	1
Sucking	1

application of a 'healing stone' [possibly the 'blackstone' whose use has been reported in other parts of Africa (Yucy, 1989)] and, in the single case of venom ophthalmoplegia, irrigation with concentrated antiseptic, breast milk and urine. Perhaps surprisingly, given the frequency of enema use locally for other conditions, especially in children, only one patient with snake bite had been given an enema.

These results reveal that many different forms of traditional remedy are frequently used by patients with snake bite in the study area. The frequency of use of a traditional remedy following snake bite recorded in the present study (90%) was higher than the 62.2% reported in South Africa by Coetzer and Tilbury (1982), who stated that incision of the bite site was the commonest traditional treatment. The higher rate may reflect the special effort made in the present study to ask the patients about self-treatment and the fact that the present study area is more rural than that investigated by Coetzer and Tilbury (1982). Although Snow *et al.* (1994) reported that only about half of snake-bite cases attend hospital, it is impossible to say what proportion of those bitten around Hlabisa attend a clinic or hospital, or if use of traditional remedies by those who do attend differs from that of those who not attend.

The reasons for frequent traditional treatment in the present study area (and elsewhere) are probably 3-fold. Firstly, as in most developing countries, traditional beliefs about illness and their cures are highly prevalent in this area. Secondly, as, contrary to local belief, most snake bites are self-limiting in nature and resolve without specific medical treatment, resolution may commonly be attributed to the traditional remedy used. Thirdly, reliance on traditional cures as opposed to conventional medical care may be related to the relative ease of access to the former (Pierini *et al.*, 1996; Habib *et al.*, 1997).

Use of traditional remedies is potentially harmful. Delay in seeking medical attention probably increases risk of morbidity and mor-

tality (McNally and Reitz, 1987) and the treatments themselves are potentially injurious. Although use of tourniquets has been common in South Africa for many years (Smith, 1888), it is no longer recommended for first-aid of snake bite because it may worsen local cytotoxic reactions and induce ischaemia. [Although tourniquets are probably not beneficial to most of those bitten by snakes (Pugh and Theakston, 1987a; Tun-Pe *et al.*, 1987), they may have a therapeutic role in specific bites, by reducing systemic absorption of neurotoxic and coagulopathic venom (Walt *et al.*, 1988; Pugh and Theakston, 1987b).] The common practice of scarification and application of non-sterile remedies risks introducing infection to the bite site and also increases the risk of bleeding in coagulopathic bites; both complications were observed during the present investigation.

Given the potential harm of many of the traditional remedies used by local patients, and the lack of any proven benefit, it would seem wise to encourage people bitten by snakes to follow recommended first-aid practices and to attend the nearest clinic as quickly as possible.

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