

Trophic ulcer over lateral malleolus successfully treated using a bangle for off-loading pressure

Problem

Patients with leprosy often develop trophic ulcer on the pressure site because of failure to perceive noxious stimulus. In India, the practice of sitting in cross-legged posture for a prolonged period (especially sitting on floor for meals and during worship) is common, mostly in rural areas. So, lateral malleolus is a common site for callosity and trophic ulcer in India. Commonly used methods like strict bed rest, use of crutches, wheel chairs, walkers, pressure reducing measures like air cushion, water beds, plaster boot (total contact casting), removable contact casting, half shoes or specialized footwear are not of much help in trophic ulcer on the lateral malleolus. Moreover, the commonly used total contact cast made from plaster of Paris is not preferred by farmers from rural setting as it gets soiled during work in the paddy field.

Solution

We propose the use of a commonly available and inexpensive bangle wrapped with cotton and gauze

pieces for off-loading of pressure on ulcer over lateral malleolus.

A 58-year-old man, a farmer by profession and treated case of lepromatous leprosy, during follow-up, presented with ulceration over the right lateral malleolus. Despite our counselling, the patient probably continued sitting in cross-legged posture because he couldn't perceive noxious stimulus. This repeated trauma caused the ulcer to persist. On examination, there was a well-defined punched out ulcer of size 2.5cm x 2.1cm with thick keratotic rim at the margin [Figure 1]. The keratotic rim was pared. He was counselled regarding care of the anaesthetic area, encouraged to clean the area with soap and water daily and a bangle was applied to off load pressure (caused due to sitting cross-legged or other activities) on the ulcer. The bangle was wrapped with layers of cotton, gauze-pieces and micropore plaster (which helped in preventing direct pressure effect due to the bangle), and tied daily on the malleolar area with roller gauze [Figures 2a and b]. It prevented direct pressure on the



Figure 1: Well-defined punched out ulcer over the right lateral malleolus



Figure 2a: A commonly available bangle was wrapped with layers of cotton, gauze-pieces and micropore to produce a novel pressure-offloading system

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Figure 2b: The bangle wrapped with cotton and gauze pieces placed over the ulcer with the ulcer remaining in the hollow of the bangle



Figure 3: Ulcer showing almost complete healing following application of the bangle

ulcer due to the area of non-contact produced by the hollow of the bangle. The dressing was removed and changed every second day to assess the size of the ulcer and to detect any secondary infection. The ulcer healed completely over a period of four weeks [Figure 3].

Off-loading pressure off the ulcer is the key to successful management of a trophic ulcer.^{1,2} The best off-loading device is a total contact cast/plaster boot, but it is non-removable and technically demanding, does not allow daily inspection and if wrongly applied, can lead to worsening of the ulcer.^{3,4} The problem of a removable plaster cast is that the patients tend to remove it more often, resulting in inadequate off-loading.

This method done using a bangle is easily available, low-cost and allows for cleaning and inspection of the wound, thereby making it more suitable for use in trophic ulcer over lateral malleolus even in resource - poor settings.

Declaration of patient consent

The authors certify that they have obtained appropriate patient consent.

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Conflicts of interest

There are no conflicts of interest.

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