A case of electroacupuncture therapy for pressure ulcer

Pressure ulcers (also known as bedsores or decubitus ulcers) are areas of localised injury to the skin and underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear forces. This type of ulcer is one of the most common complications in patients with spinal cord injury. Treatment with transcutaneous electrical stimulation, and with acupuncture combined with moxibustion, have been reported to be effective for pressure ulcers.1,2 The use of electroacupuncture (EA) specifically for pressure ulcers has not been reported.3 Here, we report a case of the successful use of EA to promote wound healing of pressure ulcers.

A 42-year-old woman was admitted to our acupuncture department with a grade III pressure ulcer (4.0 cm long and 2.5 cm wide) with a wound surface area (WSA) of 7.77 cm², measured by KP-21C (Placom Digital Planimeter, Japan) in her sacral region (figure 1A–C), including a hole (0.5 cm long × 0.5 cm wide × 2.5 cm deep) with yellow pus in the wound centre. Five months earlier, she had fallen and had a spinal cord injury at C6–7, causing paraplegia. She developed a sacral pressure ulcer 1 month later owing to long-term bed rest and impaired haemodynamics. At another hospital she received wound care with a pressure-relieving mattress (Beijing Medical Devices Co, Ltd, China) and a change of position every 2 h for 3 months, with no benefit.

She was transferred to our hospital and underwent surgical debridement, after which she was treated with EA. Two disposable, sterile needles (0.30 × 13 mm) were inserted 1 cm away from the wound margins, one on either side. The EA apparatus (Bio Medical Life Systems, USA) was connected to the needles, and a current of frequency 0.5 Hz and intensity 500 μA was passed for 30 min, 5 days a week for 4 weeks. The ulcer was covered with gauze after each session.

No significant changes apart from a little exudation were found 1 week after the EA intervention. The WSA decreased a little, from 7.77 cm² to 7.06 cm², while the depth reduced significantly, from 2.5 cm to 1.0 cm. Four weeks later after a total of 20 EA treatments the WSA and depth...
had decreased to 1.45 cm² and 0.2 cm, respectively. The patient was transferred to the respiratory ward after the 20 EA treatments because of serious pneumonia before the ulcer had healed completely, so the final outcome is not known.

The use of EA for pressure ulcers has rarely been reported, although it was described for leg ulcers in 1993. We used EA for a pressure ulcer in the sacral area and achieved a successful outcome. This case report demonstrates that EA should be considered to promote wound healing of pressure ulcers. However, controlled studies are needed to confirm the efficacy of EA therapy for pressure ulcers.

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Contributors ZQ conceived and designed the study, YJ conducted the study, and drafted the manuscript. SZ sought funding and ethical approval. DW measured the wound area and depth. YC analysed the data. All authors contributed to the further writing of the manuscript and read and approved the final manuscript.

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