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Accepted manuscript:

Clinical hypnosis as a tool for pain management during sharp debridement of skin ulcers in Immune Mediated Diseases.

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Wound sharp-debridement is increasingly used for the management of skin ulceration in immune mediated diseases (IMIDs)[1]. It consists in the removal of devitalised tissue (e.g. necrotic tissue, slough, and hyperkeratotic cornified layer) and debris from the wound bed and margins. However, pain is associated to this procedure with a lack of standardized approach to manage this disabling symptom.

Our experience from the IMID specialist wound-care clinic suggests that although injectable local anesthesia may be effective during the intervention, the frequency of debridement during the initial stages of wound healing (once every 7 days, for approximately 2 months or longer) or when multiple ulcers coexist makes it less feasible. In systemic sclerosis (SSc), the average healing-time of digital ulcers is 76 days with severe necrotic ulcers taking up to 281 days[2], thus making the potential use of morphine challenging with increased risk of side effects and addiction. This highlights the need for alternative non-pharmacological pain management options.

Hypnosis is a state that involves focused attention, reduced peripheral awareness, and increased response to suggestion[3], reportedly modifying the pain neurophysiological process from the periphery to the spinothalamic track and several cortical areas[4]. The effectiveness of hypnotic suggestion as analgesic has been demonstrated in several randomised control trials including its use for the management of procedural pain[5].

Here we report our experience of the anecdotal use of hypnosis in 16 patients (female sex 14, 87.5%; mean age 56 yr. (sd 13.64; ranges 29-77) (table 1) attending the IMID wound-care clinic at The Leeds Teaching Hospitals NHS Trust, UK with recurrent skin ulcerations requiring sharp-debridement treatment over multiple visits and who were keen to explore holistic interventions due to previous negative experieces with pharmacological pain management. Patients provided verbal consent to undergo hypnosis as the only mode of analgesia during debridement with the same hypnosis trained experienced advanced health care professional in charge of their ulcer care (see appendix 1). Ulcer pain scores on a numerical rating pain scale (NRS; 0 no pain/10 worst pain) were collected just before and during debridement, the latter reported inmmediately after the intervention was completed and the patients were reoriented from hypnosis. The median pre-debridement ulcer NRS pain score was 8 (IQR 7-10), which was reduced to 0.5 (IQR 0-2) during debriment. Fourteen of 16 patients reported having been aware of the debriment, but not feeling the pain intensity, with two recalling feeling a spike of pain ranging from 3-5 which returned to 0 and 1 within seconds. The other two patients reported having a very reduced awareness of the debridement and being pain free during the procedure. A feeling of relaxation and lasting decreased pain perception for 2 to 3 days afterwards were reported by five patients. Whilst these data were not collected in a standardised manner, it suggests that hypnosis might be beneficial for the management of wound-related pain independently of the intervention.

This is, to our knowledge, the first report of the anecdotal use of hypnosis for the management of pain in ulcer debridement in IMIDs. Although our numbers are small, the report of hypnosis reducing interventional pain with potential lasting analgesic effect is promising in the context of local wound-care delivery, particularly dressing change and wound sharp-debridement. In our experience, hypnosis appears to be an acceptable, feasible and inexpensive intervention that can be performed in real time by a trained care provider. Although the cases reported here may suggest an enhanced effect associated to selection bias, existing evidence suggest that hypnosis can be an effective intervention even in those with low level of hypnotisability [4], with self-hypnosis being an option to explore for some individuals.

These preliminary data underscore the potential for the integration of hypnosis in the management of intervention-related pain in clinical care, and the need to conduct controlled clinical trials in order to confirm its value in the management of painful skin ulcerations.

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Conflicts of interest

The authors declare no conflicts of interest

Declaration of interest

BAP, FDG and HMO declare no competing interests.

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Ethics statement

This work was performed as an NHS service improvement initiative. All patients provided verbal consent to undergo hypnosis and for their data to be reported anonymously.

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Patient ID	Sex	Age Range Years	Diagnosis	Ulcer aetiology	N. ulcers	Affected body parts	N. visits until healing
1	F	40-45	dcSSc	Ischaemia (necrosis)	1	Right 3rd finger	12
2	F	65-70	lcSSc	Ischaemia, Calcinosis cutis	10	Left lower leg Left dorsum of the foot	19
3	F	40-45	dcSSc	Ischaemia (necrosis), Pitting scars and Ischaemia (one with bone exposed)	5	Left 1st, 2nd fingers Right 1st, 2nd fingers Right 1st MCPJ dorsum	6
4	F	25-30	Inflammatory arthritis Morphea	Calcinosis cutis	1	Left leg	10
5	F	55-60	lcSSc	Calcinosis cutis, Ischaemia (necrosis), Pitting scars and ischaemia, Mechanical	7	Right 2nd, 5th fingers Left 1st, 3rd finger Right elbow Right Leg Left 5th MTPJ plantar	39
6	F	50-55	lcSSc	Ischaemia (One with necrosis)	8	Right 1st, 2nd, 3rd, 5th fingers Left 1st, 2nd, 3rd fingers Right 1st toe	44
7	F	75-80	lcSSc	Calcinosis cutis	4	Right 2nd finger Left 1st ,2nd finger Right wrist	2
8	F	70-75	dcSSc	Ischaemia, Pitting scars and Ischaemia	5	Right 2nd, 4th, 5th fingers Left 2nd, 5th fingers	10
9	F	45-50	lcSSc Fibromyalgia	Ischaemia	3	Left 2nd, 3rd finger Right 3rd finger	5
10	M	60-65	lcSSc	Ischaemia (necrosis)	11	Right 1st, 2nd, 3rd, 4th, 5th fingers Left 1st, 2nd, 3rd, 5th fingers Right 3rd toe Right heel	42
11	F	75-80	lcSSc	Pitting scars Calcinosis cutis	7	Right 1st, 2nd, 3rd fingers Left 1st, 2nd fingers Right 5th MCPJ Left knee	9
12	F	65-70	lcSSc	Ischaemia Calcinosis cutis	4	Right 1st, 2nd, 3rd finger Left 5th finger	3
13	M	40-45	Mixed connective tissue disease	Ischaemia	1	Right 5th finger	10
14	F	55-60	Morphea	Fibrosis	1	Left abdominal wall	4
15	F	55-60	lcSSc	Calcinosis cutis	4	Right 1st, 3rd Left 1st, 2nd fingers	2
16	F	50-55	Crohn's disease Atrophy Blanche/Livedoid vasculopathy Fibromyalgia	Ischaemia	7	Left knee Left 1st, 3rd, 4th, 5th toes Left 5th MTPJ Left Heel	8

Table 1. Patients' characteristics: ID= Identification, N= number, F= Female, dSSc= Diffuse cutaneous systemic sclerosis, lcSSc= Limited cutaneous systemic sclerosis M=Male MCPJ= metacarpophalangeal joint, MTPJ= metatarsophalangeal joints.