Successful treatment of scar tenderness using ultrasound guided hydrodissection

Dear Editor,

Scar tissue is the usual outcome after trauma. Annually approximately 75 million patients grow scars following surgery.[1,2] Painful scar is a difficult-to-treat condition. We report ultrasound-guided hydrodissection of scar tissue. It is easy to administer and has the potential to significantly improve quality of life.[3]

A 44-year man who had undergone minimal invasive pedicle fixation for fracture of L1 vertebra was suffering from severe scar pain since 9 months. Pain was not relieved with non-steroidal anti-inflammatory drugs (NSAIDs) and antidepressants. Implant removal was done hoping to reduce pain, but it did not help. The patient was then referred to pain clinic; his complaint was nonradiating pain over thoracolumbar region in the midline with a numerical rating scale score of 7–9. Pain used to aggravate any movement of the torso, more during forward bending and curling up in the bed. Four scar marks, each about 1.5–2 cm × 0.5 cm, were present at T11 to L2 vertebral level. Flexion of the back was extremely painful; extension and lateral bending was mild to moderately painful. Three scars were severely tendered on palpation; there was no local rise of temperature. Magnetic resonance imaging showed an old-healed L1 vertebral fracture.

He was started on etoshine, gabapentin, and duloxetine but there was no relief. So after getting consent, under aseptic precaution and after infiltrating local anesthetic (LA) at needle insertion, ultrasound-guided hydrodissection of the scar tissue was done by slowly injecting 4 mL of 25% dextrose and methylprednisolone 10 mg at three tender scar sites. The area was massaged to enhance hydrodissection release following the injection. The patient was advised nonsteroidal anti-inflammatory drug (NSAID) and ice compression for the next 3 days. He was followed up on day 1 and day 7 in person and day 15, 1 month, 3 months and 6 months, and 80% pain relief reported on day 7 and thereafter at each follow-up time points [Figure 1].

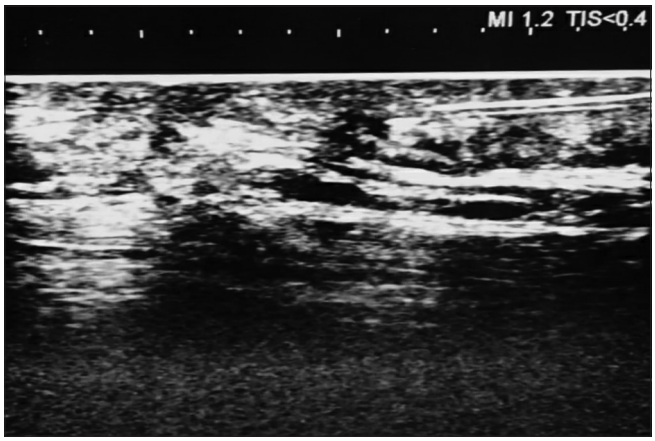

Figure 1: USG guided hydrodissection of scar tissue

Scar formation is the final stage of a healing wound.[4] Scar pain is one of the most important and difficult-to-manage physical complaints by the patient. The factors associated with the increased risk of painful scars can be surgical technique, painful memories associated with scars, posttraumatic stress disorder, substance abuse, and depression.[4] Pain mechanism is mostly unknown though it is considered to be due to microscopic neuroma as a result of nerve ending entrapment in scar tissue.[5] Also abnormal nerve fiber density can be there. Nerve growth factor may trigger neuronal sensitization.[5]

There are various treatment modalities[5] such as medical management, surgical excision of the scar, and interventional pain management but none have very good evidence. Interventional pain management is a notable modality to treat debilitating painful scars. It may include LA injection with or without steroid, hydrodissection of the scar tissue, and cryotherapy.

Hydrodissection will release the tight band formation in between the cells and helps to reduce the pain. It is an inexpensive, outpatient-based, effective, and easy-to-perform technique. However, there are sporadic reports and so studies including a large volume of patients are needed.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

Jeshnu Prakash Tople

Department of Anesthesiology, Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha, Maharashtra, India

Address for correspondence: Dr. Jeshnu Prakash Tople, Department of Anesthesiology, Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha, Maharashtra, India.
E-mail: jeshnu@gmail.com

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