

Local anaesthetic resistance in a young woman with history of scorpion bite

Sir,

We witnessed a case of a young woman who had obvious resistance to various local anaesthetics applied in various techniques during the different surgeries. Articles of Panditrao *et al.* that were published in your journal highlighted this phenomenon, and we wanted to contribute to the subject.^[1-3]

Our patient was a 21-year-old Caucasian female who was diagnosed with volar wrist ganglion and surgery was planned. Exsanguination was done using Esmarch bandage, and double bladder pneumatic tourniquet inflated to 250 mm Hg. Intravenous regional anaesthesia was performed using 200 mg lignocaine (%2 Aritmal, OSEL, Istanbul, Turkey) diluted with 0.9% saline in a total of 20 cc injector. Approximately 15 min later, we checked the anaesthesia with a soft touch and picking the skin with forceps and it seemed fine, then the first incision was made. The patient immediately reported pain. The operation was stopped and an additional 200 mg lignocaine was injected to the incision area subcutaneously. That injection ceased the pain for a couple of minutes then the patient reported mild to severe pain again. Sedation with midazolam was provided and surgery was finished speedily.

The same patient developed a keloid scar after a month. Corticosteroid injection was tried under local anaesthetic but patient felt excessive pain during the process, thus it could not be completed. Two months after the first surgery, the patient complained about the cosmetic problem and surgical removal of the keloid was recommended. Subcutaneous local anaesthesia was tried using 200 mg prilocaine (10 cc 2% Citanest, Eczacibasi, Kirklareli, Turkey). The patient reported severe pain a couple of minutes after the surgery began. Then an additional 50 mg bupivacaine (10 cc, 0.5% Marcaine, Zentiva, Kirklareli, Turkey) was injected to the edges of the incision. After this injection, a couple of minutes were painless but then she began to feel it again and wound closure was done rapidly.

Detailed history of the patient revealed that she had 'difficult' epidural anaesthesia during caesarean section procedure previously and thus they switched to general anaesthesia. Because all the anaesthetics we used on the patient were amide type, we offered the patient to try further anaesthetic agents on her forearm skin to find out what works for her but she did not accept it.

Failure of local anaesthesia is generally due to technical problems. Additional injections and adequate waiting time usually solves the problem. In our case, different techniques and anaesthetics were used; during all such attempts, it is difficult to attribute the problem due to technique and agents. After reading about scorpionism suspicion by Panditrao *et al.* (above) we contacted the patient and asked about it. Our patient

was living in a region where scorpion encounters were very common. She told us that she had scorpion bites when she was younger but no history of being bitten recently.

Scorpion species differ among geographic and climatic regions. The region of Turkey where our patient lives has *Androctonus crassicauda* and *Mesobuthus eupeus* species dominantly, both are in *Buthidae* family. Even though topical lignocaine is found to be the most effective drug in reducing local pain after acute scorpion stings,^[4] resistance might be a late onset entity and should be investigated. Scorpion venom is known to bind sodium channels, which play the main role in the mechanism of action of local anaesthetics. Any relation with specific scorpion venoms and local anaesthetics should be checked by controlled experiments.

In all reported cases, amide type local anaesthetics were used. Trying ester type of local anaesthetics on those patients who are suspected to be resistant would at least eliminate one variable about this phenomenon.

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