

## Selective sensory nerve blocks for effective pain management in the emergency department for a term pregnant cobra snake envenomation patient

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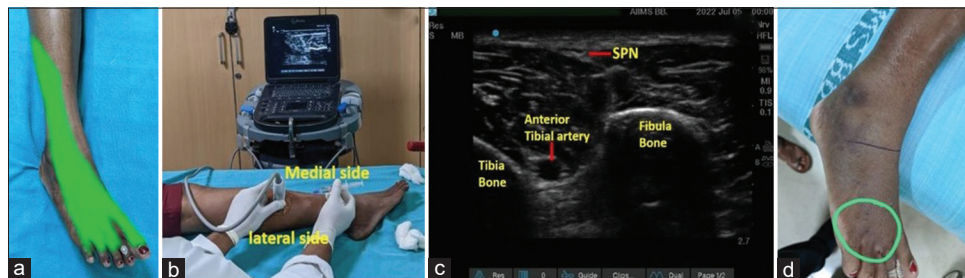
Snake bites with envenomation are a rare life-threatening emergency during pregnancy.<sup>[1]</sup> We report a case of a young full-term parturient who reported intense localized pain at the cobra (*Naza Naza*) bite site which was managed successfully by selective sensory nerve blocks. She subsequently underwent a caesarean section under spinal anaesthesia and had an uneventful post-partum course.

A 26-year-old eight month pregnant patient presented to the emergency department (ED) post-cobra bite. The patient was taken to a local hospital within 30 min of the event. The bite mark was present on the right foot near the 4<sup>th</sup> toe [Figure 1]. There was minimal localized swelling but intense pain in the bite area. She had an episode of vomiting 45 min post-snake bite (suggesting the onset of systemic symptoms) and

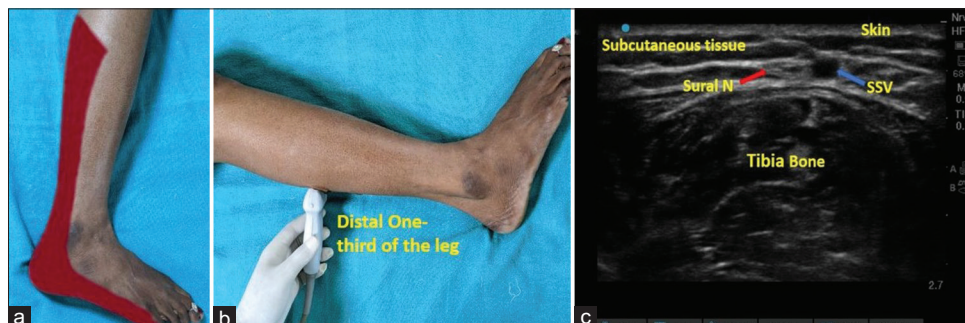
was administered 10 vials of anti-snake venom and referred to our tertiary care set-up.

When she presented to our ED 3h post-bite, the swelling had increased considerably and 10 more vials of anti-snake venom were infused. The investigations revealed leucocytosis with mild thrombocytopenia and anaemia. Local site pain was unbearable even after intravenous paracetamol and diclofenac. A superficial peroneal nerve and sural nerve blocks to cover the dorsolateral aspect of the foot was planned. The nerves were localized using a linear transducer (8–13 MHz) and a 3.5 ml of 0.75% ropivacaine was deposited. [Figures 1 and 2] Within 5 mins, the numeric rating scale (NRS) fall to 2 from the initial score of 10. At 10h, the patient reported an NRS score of 6, and the same blocks were repeated and effective pain relief was reported. The patient underwent a caesarean section under spinal anaesthesia at 18h post-admission given foetal distress. The baby was kept on nasal continuous positive airway pressure for 18h in view of respiratory distress and both of them were discharged in stable condition on the 3<sup>rd</sup> day of admission.

Snake bites are rare in pregnancy but maternal mortality and foetal loss remain high.<sup>[1]</sup> An early presentation and rapidity of treatment with anti-snake venom probably led to a good outcome in this case.



**Figure 1:** Distribution of superficial peroneal nerve (a); Probe placement for USG-guided block (b); USG image showing the superficial peroneal nerve (c); Snake bite mark on foot of the patient (d)



**Figure 2:** Distribution of sural nerve (a); Probe placement for USG-guided block (b); USG image showing the sural nerve (c)

Acute localized moderate-to-severe pain is often documented as the first sign of a venomous snake bite (VSB).<sup>[2,3]</sup> The presynaptic and postsynaptic neurotoxins may directly interact with the nerve endings or indirectly cause severe pain secondary to ischemia due to local oedema.<sup>[1]</sup> Antivenom treatment fails to alleviate the local pain which may last for 48–72 h.<sup>[3]</sup> Weak opioids such as tramadol or paracetamol often provide inadequate analgesia.<sup>[4]</sup> Systemic opioids and non-steroidal anti-inflammatory drugs may be harmful to the foetus in term pregnancy. Furthermore, opioids can increase the risk of respiratory depression in neurotoxic envenomation cases as seen in cobra bite.<sup>[4]</sup> Untreated pain can have adverse consequences on foeto-maternal circulation.<sup>[5]</sup> In our case, the patient had intense pain with an NRS of 10 despite analgesics and responded well to nerve blocks.

#### Declaration of patient consent

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

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Nil.

#### Conflicts of interest

There are no conflicts of interest.

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