Surgical anaesthesia for scapular surgery in a patient with ipsilateral thoracic injury

Sir,

We read the letter titled ‘Scapular surgery under combined thoracic paravertebral and interscalene blocks’ in a recent issue of IJA, with great interest. We commend the authors’ effort and congratulate them for having done a scapular surgery solely using regional anaesthesia (RA) technique. As the authors precisely pointed out, whenever feasible, to avoid aerosol generation associated with general anaesthesia RA approaches should be the techniques of choice in the context of the ongoing coronavirus disease (COVID)-19 pandemic.
Providing surgical anaesthesia for scapular surgeries using only RA technique is often difficult as the scapula receives complex innervation from the superficial cervical plexus, brachial plexus, and intercostal nerves. To formulate an appropriate RA plan for scapular surgery, we would like your readers to refer to an excellent educational review recently written by Sonawane and colleagues,[3] where they described an algorithmic ‘identify-select-combine’ approach based on the dermatome, myotomes, and osteotomes involved during the surgical procedure.

We concur with the authors for using a thoracic paravertebral catheter to block the intercostal nerves supplying the scapular dermatome. However, to block the nerves supplying the scapular osteotomes and myotomes, i.e., the suprascapular (C5-C6), dorsal scapular (C5), upper and lower subscapular nerves (C5-C6), the authors have opted for ultrasound-guided (USG) interscalene block, using 15 mL of 0.25% bupivacaine. As the interscalene block is associated with the highest incidence of ipsilateral diaphragmatic palsy,[4,5] we recommend the USG “Superior Trunk Block (STB)”,[6] especially when performed with the thoracic paravertebral block (which is associated with paralysis of segmental intercostal muscles). As the superior trunk constitutes the C5 and C6 ventral rami in a compact space, it does not necessitate a large volume of local anaesthetic as does the interscalene block. Besides, as the superior trunk is formed at a much lower level (the phrenic nerve is located far from the superior trunk on the anterior surface of the scalene anterior muscle at this level), the incidence of phrenic nerve involvement, and its associated incidence of hemi diaphragmatic palsy is considerably less. [4,6] This is clinically relevant as these patients, similar to the patient managed by the authors, often present with associated thoracic injuries. By using USG STB, we can bring down the total volume of LA used and thereby possibly reduce the chance of complications secondary to hemi diaphragmatic palsy in this population without compromising the quality of analgesia and surgical anaesthesia.[4,6] Having said that, we thank the authors for their contribution and believe this communication will draw attention to the diaphragm sparing (or techniques with least incidence of diaphragmatic palsy) brachial plexus block techniques like STB and its clinical relevance, particularly when administered with the thoracic paravertebral block in the high-risk population.

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Conflicts of interest
There are no conflicts of interest.

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Sir,

Human rabies is a serious health problem in developing countries like India. The transmission of the disease is frequently associated with dog bites. Post exposure prophylaxis (PEP) of rabies vaccine as recommended by the World Health Organization is spanned over 30 days, with vaccination on 0, 3rd, 7th, 14th and 30th day.

Surgery and anaesthesia in a patient receiving PEP creates dilemma. Elective surgery may be postponed due to possibility of reduction in efficacy of antirabies vaccine (ARV) due to immunosuppressive effects of anaesthesia and surgery. Emergency surgeries need to be dealt keeping in mind immunomodulatory effects of anaesthesia and surgery interfering with benefits of ARV.

Written, valid and informed consent was taken for sharing this case. We report a case of a 19-year-old primigravida with 39 weeks of gestation with pregnancy induced hypertension receiving PEP with ARV posted for emergency cesarean section (CS). She gave a history of stray dog bite 11 days back. She had taken two doses of Inj. Rabipur (inactivated rabies virus vaccine) on day 0 and day 3. The third dose was missed as the patient was transferred from her village to a city hospital in view of recently diagnosed pre-eclampsia.

Considering history of ARV, we planned general anaesthesia (GA) for the emergency CS. In the operating room, after applying standard American Society of Anesthesiologists (ASA) monitors, rapid sequence induction of anaesthesia was carried out with injection thiopentone sodium 5 mg/kg and succinylcholine 2 mg/kg intravenously followed by tracheal intubation. Anaesthesia was maintained with oxygen, nitrous oxide, sevoflurane, vecuronium and fentanyl. She received bilateral ilioinguinal and iliohypogastric blocks for post-operative analgesia. Rest of the perioperative course was uneventful. The patient had a remarkable recovery and was discharged on the fifth postoperative day. She was advised to continue and complete the ARV as per the schedule.

Rabies, a disease caused by the ribonucleic acid (RNA) virus of the Rhabdovirus group resulting in serious and fatal infection primarily affecting the central nervous system causing encephalitis or meningoencephalitis. Rabies PEP will prevent further worsening and neurological manifestations of rabies. PEP extends over a period of one month and patient may need surgery during this interval. There is no direct evidence of any major interactions between PEP and anaesthetic agents and techniques except ketamine. Ketamine has been demonstrated to decrease vaccine efficacy.[1] Nevertheless, surgery and anaesthesia suppress the immune system and may interfere with benefits of vaccination.[2] It is recommended to postpone elective surgery for one week after an inactive vaccine and three weeks after immunisation with a live vaccine.[3]

In our case scenario, surgery being emergency CS had to be undertaken in spite of vaccination a week ago. The various options available for anaesthesia...