

## A novel indication of an advanced block: Mid-point transverse process to pleura block for rib cartilage harvesting in pinna reconstruction surgery-A case report

Sir,

Pinna reconstruction is one of the challenging tasks in the reconstruction surgery usually done for congenital anotia, malignancy and traumatic injury of the pinna. The two-staged procedure involves autologous costal cartilage (6–8<sup>th</sup>) harvesting and placing it underneath the skin on the planum mastoideum.<sup>[1]</sup>

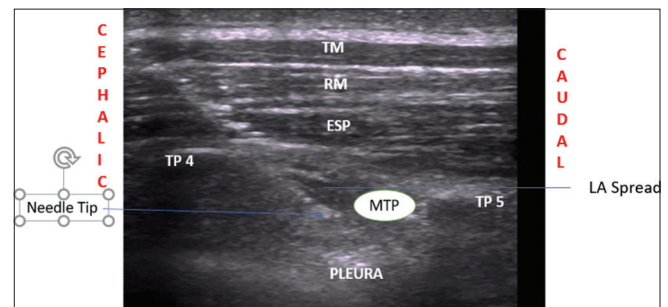
Moderate to severe pain is experienced by the patient after costal cartilage harvesting, which leads to shallow breathing, inability to cough out secretions, delayed recovery and discharge.

Various perioperative analgesic methods have been used including systemic administration of analgesic drugs, local infiltration of local anaesthetics, thoracic epidural (TE), thoracic paravertebral (TPV) and intercostal nerve block. We report the analgesia management of such a case with a “mid-point transverse process to pleura” (MTP) block, which is an alternative technique of TPV block in which the needle is placed midway between the transverse process to the pleura to reduce the incidence of pneumothorax and vascular injury.

A 20-year-old female patient weighing 50 kg and with an American Society of Anesthesiologists physical status (ASA) grade I was posted for pinna reconstruction with seventh rib cartilage harvesting. Ultrasonography (USG)-assisted right-sided MTP block was planned for postoperative analgesia at the costal cartilage harvesting site before the induction of general anaesthesia (GA). Written informed consent was taken and a high frequency (8–15 MHz) linear vascular transducer probe (LOGIQe, GE Healthcare, China) was placed at the T<sub>5</sub> level in the parasagittal plane after taking strict aseptic precautions with the patient in the sitting position. The midpoint of the posterior border of the transverse process and pleura was identified, and a 100 mm long 18 G needle (Contiplex, B Braun)

was inserted in the plane of the probe and 20 mL of 0.5% ropivacaine was given [Figure 1]. The spread of local anaesthetic was confirmed by USG, and a 20G catheter was inserted for continuous analgesia. After 20 min of the block, sensory assessment by cold swab and pinprick revealed decreased sensation over the anterior chest wall from T3 to T9 dermatomes. GA was then given as per institutional protocol and intraoperative haemodynamics remained stable without any need for opioid supplementation. The surgery lasted around 240 min and the patient was extubated uneventfully after the surgery. In the postoperative period, a continuous 0.2% ropivacaine infusion at the rate of 5 mL/h was given through the catheter for the next 48 h. The patient received a 15 mg/kg paracetamol intravenous injection in the postoperative period every 8 h. Her Visual Analogue Scale (VAS) score at rest was 2/10 and 3/10 on coughing at 24 h postoperatively, and she was totally satisfied with the analgesia during the recovery period.

Recently, the increased use of USG in regional anaesthesia has enabled us to look for specific targets, making peripheral blocks, including interfascial plane blocks, quite popular and feasible. MTP block is one of the recently described approaches for thoracic surgeries. The analgesic role of MTP block has been proved in various unilateral chest pathologies such as modified radical mastectomy (MRM), video-assisted thoracoscopic surgery (VATS), rib fracture, medical thoracoscopy and intercostal drain placement.<sup>[2-5]</sup> The target in the MTP block is superficial (midway between the transverse process and the pleura) and does not require visualisation of the superior costotransverse ligament (SCTL), minimising the chances of pneumothorax. Possible mechanisms postulated for the diffusion of the local anaesthetic to the paravertebral space include gaps between the SCTL and vertebral



**Figure 1:** Image of ultrasound-guided ESP block: Sagittal view – T4T5 transverse process, with a needle placed between the transverse process and pleura (TM-Trapezius Major, RM-Rhomboid Major, ESP-Erector Spinae Muscle)

bodies, fenestrations in SCTL and laterally through the internal intercostal membrane.<sup>[6]</sup> We achieved dense and effective analgesia in the intraoperative as well as postoperative period with the MTP block. If the operator is well versed with sonoanatomy, the MTP block is a simpler block with minimal complications.

To conclude, MTP block is an excellent as well as a safe alternative for providing analgesia for unilateral surgeries requiring rib cartilage harvesting.

#### 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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#### Conflicts of interest

There are no conflicts of interest.

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