

## Combined interscalene brachial plexus block and superficial cervical plexus block for shoulder disarticulation surgery in a terminal cancer patient

Dear Sir,

A 45-year-old female with a Glasgow coma scale (GCS) of 9, having fourth-degree burn over her left arm and shoulder region, presented to a pre-anesthesia-check-up clinic for shoulder disarticulation surgery [Figure 1a]. She was incidentally diagnosed with carcinoma lung fourth stage and with multiple metastases including the brain stem. She was unable to follow commands and responded only to pain. (withdraws from pain) On auscultation, air entry was reduced, but cardio-vascular examination was normal. Her mouth opening was one finger [Figure 1b], and the Mallampati grade (MPG) was difficult to ascertain. Her heart rate (HR) and blood pressure (BP) were normal. Oxygen saturation varied between 90 and 92%. All blood investigations were within standard limits. Chest X-ray revealed a thick-walled cavitory lesion in the left lower lobe of the lung with pleural parenchymal bands and multiple enlarged metastases involving the left hilar pre-carinal, paratracheal, para-aortic, and sub-carinal nodes [Figure 2a and b]. Magnetic resonance imaging (MRI) of the brain revealed multiple intra-axial lesions in cerebral and cerebellar hemispheres and the brain stem seen as hemorrhagic metastasis [Figure 2c].

Nebulization was advised with duolin (ipratropium and levosalbutamol) twice a day, and her SPO<sub>2</sub> had improved to 96% in a day of surgery. Her HR and BP were normal.



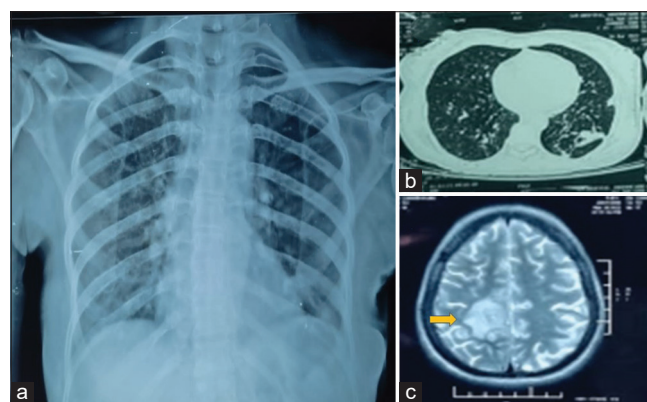
**Figure 1:** Clinical picture of the patient with exposed bones (a); mouth opening demonstrated in (b); clinical picture after disarticulation (c)

Patient relatives were reluctant to general anesthesia (GA) and also were not consenting to prophylactic tracheostomy. Under ultrasound guidance, a combined interscalene brachial plexus block and superficial cervical plexus block was given (20 and 10 ml containing bupivacaine 0.5% and lidocaine with adrenaline 2% in 1:1 ratio). The patient calmed down after the block and became comfortable. The shoulder disarticulation was performed uneventfully [Figure 1c]. Post-operatively, the patient was shifted to the ward pain-free.

Brain metastases represent an important source of both morbidity and death rate for patients with systemic cancer.<sup>[1]</sup> Tracheostomy was required owing to terminal illness, disease progression, and a poor consciousness that posed a threat of gastric aspiration, but the patient relatives had refused. A low GCS prohibited the use of awake fiber-optic intubation. Technically, GA was challenging for us. GA agents inhibit cell-mediated immunity and increase cancer cell migration by promoting angiogenesis<sup>[2]</sup> whereas local anesthetics provide some protection by cytotoxic effects and improve overall survival but not cancer recurrence.<sup>[3]</sup> In our case, surgery was a palliative option to relieve her from the agonizing pain and prevent super-added infection. Peripheral nerve blocks are useful adjuvants for post-surgical analgesia in many primary tumor resections, and they reduce the opioid requirement.<sup>[4]</sup> Shoulder disarticulation and flap surgery would require a blockage of nerves to the subclavius muscle and suprascapular nerve (contribute to clavicular intra-osseous innervations and acromioclavicular joint innervation) and in anesthesia of the skin over the clavicle. Hence, an interscalene block of the brachial plexus at the root and proximal trunk level along with a superficial cervical plexus block would be ideal as executed in our case.<sup>[5]</sup>

### Declaration of patient consent

The authors certify that they have obtained all appropriate



**Figure 2:** Chest x-ray showing multiple hilar and perihilar opacities (a), which is also confirmed in computed tomography scans (b); MRI of the brain showing metastatic mass (arrow) (c)

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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Nil.

### Conflicts of interest

There are no conflicts of interest.

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### References

- Gheorghita E, Pruna VM, Neagoe L, Bucur C, Cristescu C, Gorgan MR. Perioperative management of patients with lung carcinoma and cerebral metastases. *Maedica (Bucur)* 2010;5:28-33.
- Tavare AN, Perry NJS, Benzonana LL, Takata M, Ma D. Cancer recurrence after surgery: Direct and indirect effects of anesthetic agents. *Int J Cancer* 2012;130:1237-50.
- Sun Y, Li T, Gan TJ. The effects of perioperative regional anesthesia and analgesia on cancer recurrence and survival after oncology surgery: A systematic review and meta-analysis. *Reg Anesth Pain Med* 2015;40:589-98.
- Montejano J, Jevtic-Todorovic V. Anesthesia and cancer, friend or foe? A narrative review. *Front Oncol* 2021;11:1-7.
- Banerjee S, Acharya R, Sriramka B. Ultrasound-guided inter-scalene brachial plexus block with superficial cervical plexus block compared with general anesthesia in patients undergoing clavicular surgery: A comparative analysis. *Anesth Essays Res* 2019;13:149-54.

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