Complication of Interscalene Block: "Subdural Block"

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Dear Editor,

I read the case report titled "Complication of Posterior Interscalene Brachial Plexus Block: A Case of Subdural Block" by Başkan et al published in the last volume of your Journal with interest (2012; 40: 154-7). I would like to make a small contribution to the case report and mention several points that are required to be illuminated.

Although the authors followed up the patient in line with the criteria defined by Lubenow et al. (1);

- a) As is known, subdural space is a potential space between the dura mater and arachnoid, with a very small volume. Therefore, Stevens and Hicks (2) stated that even small volumes of local anaesthetics (LA) can spread extensively in this space. From this point of view, I think that only a part of LA volume (20 mL 0.25% levobupivacaine) injected by the authors for interscalene block passed into this space, and the remaining was injected into other areas such as the brachial plexus with a high probability.
- b) Again as is known, arachnoid and dura mater are attached separately to the dorsal nerve roots but together to the ventral nerve roots. Therefore, subdural space has a greater potential capacity posteriorly and laterally, and dorsal accumulation should be expected with the subdural injection of a LA. Anterior nerve roots include motor and sympathetic fibres, whereas sensorial fibres are included in the posterior roots. Due to these anatomic reasons, predominantly sensory involvement should be expected in case of a subdural block. Motor or sympathetic block is likely only if the patient is in lateral decubitus or prone position; however, predominantly sensory block is provided if the patient is in supine position (1-3). Under the light of these opinions, it may be important for the authors to express in what position they followed the patient after the injection performed in left lateral decubitus position.
- c) The authors stated that the case met 2 major and 3 minor criteria of Lubenow for subdural injection; however, it

might be unclear that the patient met the criteria concerning the block occurring later than 10 minutes since the patient was under general anaesthesia at that moment.

Pupil dilatation, which is another minor criteria that occurs independent from the dose of LA (despite low dose of LA), may not be suggested as an indicator for sympathetic block.

- d) In addition to these criteria, Asato et al. (4) defined delayed onset and short-term motor block in subdural block. In the reported case, detecting both sensory and motor blocks in the same dermatomes (C4-T2, L1-5) and at the same measurement time at the end of the time required to establish spontaneous breathing and regain consciousness, is an interesting finding.
- e) Finally, the authors mentioned that interscalene block was performed with Stimuplex needle (Contiplex, B. Braun), but both of them are different needle sets of the same company used to perform continuous block and single dose block.

I thank to the authors and to your editorship for including this valuable case report in Turkish literature, which attracts attention to a serious complication, subdural injection in the interscalene brachial plexus block via posterior approach, which is very easy to perform.

With My Best Regards,

References

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3. Yılmaz N, Gültekin S, Tavlan A. A rare complication in epidural anaesthesia: "Subdural catheterization." *Journal of the Turkish Anesthesiology and Reanimation Society* 1994; 22: 226-8.
4. Asato F, Nakatani K, Matayoshi Y, Katekawa Y, Chinen K. Development of a subdural motor blockade. *Anaesthesia* 1993; 48: 46-9. [\[CrossRef\]](#)