Correspondence

Eschew the ACHOO!

To the Editor

We are grateful to Dr. Abramson for reviewing the aetiology of a sneeze during sedation and the hazard it poses during regional anaesthesia of the head and neck.¹

However, we cannot condone the technique described for regional anaesthesia of the eye in the case reported – penetration to a depth of 38 mm portends an increased hazard of complications. An anatomical study of the orbit demonstrated that needle insertion to a depth of 38 mm could penetrate the optic nerve in 11% of the population.² Large series of successful regional eye blocks with shorter 31 mm needles having low complication rates^{3,4} have led to widespread recommendations to avoid deep injections in the orbit.^{5,6}

We prefer a more lateral entry point for inferotemporal needle insertion⁷ than the classic 'injunction of the lateral third and medial two-thirds of the lower orbit ridge.' A more lateral needle path avoids injection into the inferior oblique and inferior rectus muscles, averting the hazards of myotoxicity and diplopia⁸ from muscle degeneration.⁹ We also prefer the use of fine sharp needles (31 mm 27 gauge) that are less painful for the patient, obviating the need for sedation. Although a cadaveric study documented a higher pressure was required to penetrate the globe with a blunt versus sharp needle,¹⁰ globe perforation by a blunt needle may be more often associated with retinal detachment and poor visual activity.¹¹ The use of sharp needles for orbital anaesthesia is supported in the literature.^{12,13}

A misadventure was skillfully avoided in the case reported when the needle was withdrawn before a sneeze occurred; we submit that when shorter needles are used and sedation is avoided through the use of sharp needles, the disastrous complications so nearly missed in the reported case could be more securely avoided.

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REFERENCES

- 1 Abramson DC. Sudden unexpected sneezing during the insertion of peribulbar block under propofol sedation. *Can J Anaesth* 1995; 42: 740–3.
- 2 Katsev DA, Drews RC, Rose BT. An anatomic study of retrobulbar needle path length. *Ophthalmology* 1989; 96: 1221–4.
- 3 Fry RA, Henderson J. Local anaesthesia for eye surgery. The peri-ocular technique. *Anaesthesia* 1989; 45: 14–7.
- 4 Davis DB 2nd, Mandel MR. Efficacy and complication rate of 16,224 consecutive peribulbar blocks. A prospective multicenter study. *J Cataract Refract Surg* 1994; 20: 327–37.
- 5 Donlon JV. Anesthesia in eye, ear, nose, and throat surgery. In: Miller RD (Ed.). *Anesthesia*, 4th ed. New York: Churchill Livingstone Inc., 1994: 2176.
- 6 Zahl K. Selection of techniques for regional blockade of the eye and adnexa. In: McGoldrick KE. *Anesthesia for ophthalmic and otolaryngologic surgery*. Philadelphia: W.B. Saunders Co., 1992: 240.
- 7 Hamilton RC. Techniques of orbital regional anaesthesia. *Br J Anaesth* 1995; 75: 88–92.
- 8 Hunter DG, Lam GC, Guyton DL. Inferior oblique muscle injury from local anesthesia for cataract surgery. *Ophthalmology* 1995; 102: 501–9.
- 9 Carlson BM, Emerick S, Komorowski TE, Rainin EA, Shepard BM. Extraocular muscle regeneration in primates. Local anesthetic-induced lesions. *Ophthalmology* 1992; 99: 582.
- 10 Waller SG, Taboada J, O'Connor P. Retrobulbar anesthesia risk. Do sharp needles really perforate the eye more easily than blunt needles? *Ophthalmology* 1993; 100: 506–10.
- 11 Grizzard WS, Kirk NM, Pavan PR, Antworth MV, Hammer ME, Roseman RL. Perforating ocular injuries caused by anesthesia personnel. *Ophthalmology* 1991; 98: 1011–6.
- 12 Vivian AJ, Canning CR. Scleral perforation with retrobulbar needles. *Eur J Implant Refract Surg* 1993; 5: 39–41.
- 13 Wong DH. Regional anaesthesia for intraocular surgery. *Can J Anaesth* 1993; 40: 635–57.

REPLY

Thank you for allowing me the opportunity to reply to Drs. Elwood, Loken and Hamilton; their reference to an 11% possibility of damaging the optic nerve¹ is certainly nothing to be sneezed at! Indeed, this high possibility is quoted in other studies despite the existence of only one case report of peribulbar injection leading to optic nerve injury.² However, I agree with the criticism. Dr. Hamilton and his group have undoubtedly shown the safety of peribulbar injection with needle penetration to a depth of 25 mm, demonstrating (in over 5700 patients) no optic nerve injury.³ Despite the widespread use of 38 mm needles, current recommendations⁴ agree with their suggested depth of penetration of not greater than 31 mm.

While I agree that fine sharp needles are less painful for the patient and thus easier to place without sedation, personal experience of oblivious globe penetration has led me back to the blunt needle. A fine needle may be used to place a skin wheal through which the larger needle may be passed later. If, as suggested,⁵ the injection is warmed, alkalised, and injected slowly, minimal patient discomfort is encountered and sedation may be minimised or avoided altogether. But then, how would we ever have discovered the ACHOO syndrome?!

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REFERENCES

- 1 Katsev DA, Drews RC, Rose BT. An anatomic study of