Unexpected sneezing after a peribulbar injection in a patient for elective cataract surgery

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Introduction
Sneezing during induction or during general anaesthesia in humans is not described in the current literature. A previous report of sneezing was described in an animal model, with chlormethiazole sedation-supplemented spinal anaesthesia.1 Vigorous sneezing during and just before withdrawal of the needle during a peribulbar block can be hazardous, and needs to be treated immediately. Sudden unexpected sneezing during the insertion of a peribulbar block under propofol sedation has been reported in humans.2 Sneezing fits have been commonly reported following exposure to sunlight, also known as photoparoxysmal sneezing and “sun sneezing”, in 18–35% of the population.3

Case report
A 75-year-old male without any co-morbidity presented for cataract surgery. Informed consent was taken from the patient to report on this case. The general physical, as well as systemic examination, including relevant investigations, were within normal limits. The patient’s past history revealed that he had received a subarachnoid block five years earlier for hernia repair. As per the records, an injection of bupivacaine intrathecally and lignocaine for skin infiltration, were used for the procedure and the surgery was uneventful.

An awake peribulbar block was planned for the present surgery. A 20-G intravenous cannula was secured in the left forearm and standard monitors were attached. Preparation of the eye was routine. An awake peribulbar block was performed with a local anaesthetic solution of 10 ml volume for the peribulbar block was prepared by mixing lignocaine (2%) 6 ml and bupivacaine (0.5%) 4 ml, together with hyaluronidase (30 units per one ml). During performance of the peribulbar block, the introduction of a needle for the inferolateral block and drug injection was uneventful. The introduction of the needle for the supraorbital block was safe, but after the drug injection, as soon as needle withdrawal, the sneezing reflex was provoked and continued eight times per minute, for the next four minutes. The desired level of the block was achieved within five minutes. As the patient did not experience spontaneous relief, an injection of pheniramine maleate 22.75 mg was given intravenously. The sneezing stopped thereafter within a minute. No further sneezing episode occurred in the next 10 minutes. The patient’s vital parameters remained stable. A local reaction was not observed in the eyes in the form of oedema, redness or itching. Postoperatively, the patient was interrogated with regard to a history of sneezing episodes, especially on exposure to light. However, nothing suggestive was found. The patient was discharged the next day and follow-up at one month was uneventful.

Discussion
Sneezing or the sternutatory reflex, inborn in most animals, is a primitive neuromuscular physiological response to irritation. Sometimes, unusual sneezing occurs during and immediately after a peribulbar block, which is generally performed with a local anaesthetic in awake patients. We present a case report of an awake elderly male who experienced unexpected continuous sneezing immediately after the removal of the needle used for the peribulbar block, which was subsequently relieved with pheniramine maleate.

Keywords: peribulbar block, pheniramine maleate, sneezing
Abramson reported sneezing with a peribulbar block under a light plane of anaesthesia (propofol sedation). This author suggested that some patients demonstrate a photic sneeze response to local irritation of V1. This stimulation may be caused by the technique employed to place the block, i.e. peribulbar, with more peripheral placement of needle, and perhaps would not be demonstrated with the intracanal placement of the injecting needle. The same report was noted in two asymptomatic patients with no history of allergies or epilepsy. One was a 68-year-old white man undergoing cataract surgery, and the other was a 65-year-old white woman undergoing supraciliary brow ptosis repair, during thiopental hypnosis.

Ahn et al reported vigorous sneezing in 5% of patients in a study on 381 patients receiving periocular anaesthetic injection under intravenous sedation. These authors reported no sneezing in another group of 341 patients receiving periocular anaesthetic injection without intravenous sedation, and concluded that awareness of the unusual and potentially dangerous sneeze phenomenon is needed when periocular anaesthetic injections are delivered under intravenous sedation. In another study, Morley et al observed that propofol-based intravenous sedation, in combination with periocular local anaesthetic injections, induced sneezing in approximately one sixth of patients. These authors further concluded that a history of photic sneezing, bilateral or upper eyelid infiltration, deep sedation and concurrent administration of midazolam increased the risk, whereas adjunctive opioid use reduced it.

In the present case, this elderly patient denied a history of allergy to any drug and prior sneezing episodes. The patient was in an awake state and did not receive any intravenous sedation, hence a very light plane of anaesthesia could not be the reason for the poorly understood, primitive brain stem reflex coming to the fore. Therefore, this presentation is unique. Empirically, this patient was treated with intravenous pheniramine 22.75 mg under the presumption that the histamine release could be the reason for the sneezing. The patient was relieved symptomatically, in contrast to case reports of patients under general anaesthesia who were relieved after deepening of hypnosis.

Antihistaminics effectively exert the competitive antagonism of histamine for the histamine-1 (H1) receptors. Itching and sneezing are suppressed by an antihistaminic blockade of the H1 receptors on the nasal sensory nerves. Therefore, antihistamine therapy represents the main therapeutic option. Most H1 antihistaminics have been found to inhibit sneezing and to lessen the increase in vascular permeability, with therapeutic equivalence.

Our aim in this case report was to draw attention to the unusual occurrence of sneezing during and immediately after a peribulbar block in a patient who did not have any history of photic sneezing and who did not receive intravenous sedation. Vagorous sneezing during and just before withdrawing the needle during a peribulbar block can be hazardous to the patient as it can cause needle displacement and inadvertent injury to the eye structure, hence needs to be treated immediately. We were unable to draw a definite conclusion as to the implicating factors of this phenomenon in the present case.

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