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References

1 *Brull R, McCartney CJ, Chan VW, El-Beheiry H.* Neurological complications after regional anesthesia: contemporary estimates of risk. Anesth Analg 2007; 104: 965–74.
2 *Brull R, McCartney CJ, Chan VW, et al.* Disclosure of risks associated with regional anesthesia: a survey of academic regional anesthesiologists. Reg Anesth Pain Med 2007; 32: 7–11.
3 *Katz J.* A survey of anesthetic choice among anesthesiologists. Anesth Analg 1973; 52: 373–5.

Post-dural puncture postural vertigo

To the Editor:
Our institution recently admitted a 39-yr-old woman with a diagnosis of acute meningitis. A diagnostic lumbar puncture, undertaken with a 22G Quincke needle, confirmed the diagnosis of acute, aseptic, lymphocytic meningitis [(lymphocytes: 81% of 420 cells·mm^{-3}, neutrophils 3%, other cells 16%) glucose 2.7 mmol·L^{-1} (normal range 2.2–5.0), protides 1.53 (normal range 0.10–0.40 g·L^{-1})]. The patient received acyclovir, amoxicillin, paracetamol and tramadol for four days. However, despite rapid improvement, she was still complaining of vertigo, vomiting and persistent headache four days later. A second lumbar puncture performed at this time showed a reduced, cerebrospinal fluid (CSF) lymphocyte count [(lymphocytes 54% of 126 cells·mm^{-3}, neutrophils 23%, other cells 23%), glucose 2.9 mmol·L^{-1}, protides 0.82 g·L^{-1}].

On the fifth day after admission, the patient was apyretic, complaining only of postural vertigo. While vertigo was absent with bed rest, she was unable to walk or stand because of bursting attacks of postural vertigo. A cranial computed tomography scan was unremarkable and a consulting neurologist excluded the possibility of toxic vertigo or a complication of meningitis. While the patient continued with bed rest, her vertigo did not resolve. On the tenth day after admission, her vertigo persisted without any headache. Rapid head movement did not initiate symptoms as in classical positional vertigo. An anesthesiologist was consulted to discuss the possibility of a complication of the lumbar puncture. Examination revealed a discrete right hypoacousia, and the possibility of post-dural puncture vertigo was entertained. The patient consented to having an epidural blood patch, which was performed uneventfully. An 18G Tuohy needle was advanced into the epidural space at the L3–L4 level under aseptic conditions. Only 12 mL of autologus blood was injected, slowly, as the patient had complained of lumbar tension (with no real back pain), at the end of the injection. Two hours later the vertigo had completely resolved. At one-week follow-up, the patient reported by phone that she had resumed her normal activities of daily living, without vertigo. Although her hypoacousia had improved, it had not fully resolved.

Postural headache is the common manifestation of CSF leakage.[1] This type of headache is usually associated with a cohort of symptoms including vertigo, nausea, vomiting, hearing loss, and tinnitus.[2] In some cases, one of these symptoms predominates, masking the headache.[3] Exceptionally, one of these symptoms is the unique expression of the CSF leakage.[4] Classical symptoms of CSF leakage were absent on the tenth day following the diagnostic lumbar puncture in this case. However, vestibulocochlear dysfunction, in the setting of post-dural puncture, might require longer than the headache to resolve.[3] In this particular case, we suspect that the vertigo was probably of vestibular origin, as it was associated with a right hypoacousia.[5] Drug-induced vertigo may be implicated with tramadol (9.4% of cases) and rarely, with acyclovir. However, at the time the blood patch was performed, both drugs had been discontinued for five days. Furthermore, the efficacy of the blood patch in this case argues against drug toxicity as a mechanism.

In conclusion, severe and disabling postural vertigo may present as a unique manifestation of persistent CSF leakage after a lumbar puncture, and an epidural blood patch may be effective in treating this complication.

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References

1 *Candido KD, Stevens RA.* Post-dural puncture headache: pathophysiology, prevention and treatment. Best Pract Res Clin Anaesthesiol 2003; 17: 451–69.

2 *Peng PW.* Intracranial hypotension with severe neurological symptoms resolved by epidural blood patch. Can J Neurol Sci 2004; 31: 569–71.
3 *Arai M, Matsushima S, Terada H.* Divergence paresis without positional headache: an unusual presentation of cerebrospinal fluid hypovolemia after spinal anesthesia. Anesth Analg 2006; 102: 1865–6.
4 *Kilickan L, Gurkan Y, Ozkarakas H.* Permanent sensorineural hearing loss following spinal anesthesia. Acta Anaesthesiol Scand 2002; 46: 1155–7.
5 *Baloh RW.* Vertigo. Lancet 1998; 352: 1841–6.

Neck auscultation: a simple new method for confirming tracheal intubation

To the Editor:
I read Dr. Christodolou's recent letter[1] regarding neck auscultation with keen interest, and have concerns regarding several issues with this technique. Firstly, Dr. Christodolou suggests that neck auscultation, for the purpose of confirming tracheal tube position, may be beneficial for emergency resuscitation in settings outside of the operating room. Most motor vehicle accident casualties requiring tracheal intubation are considered to have potential cervical spine injury contraindicating cricoid pressure. Secondly, the described neck auscultation maneuver requires advancement and withdrawal of the endotracheal tube over a distance of 1–2 cm. In some instances, this maneuver could lead to extubation and ensuing disastrous consequences. Thirdly, this maneuver could also result in mucosal injury when the tip of the endotracheal tube strikes the tracheal mucosa. Furthermore, in addition to the individual performing tracheal intubation and the person responsible for applying cricoid pressure, the maneuver requires an assistant for neck auscultation. This may not be feasible in emergency situations. Finally, auscultation may be difficult in patients with thick necks.

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Reference

1 *Christodoulou C.* Neck auscultation: a simple new method for confirming tracheal intubation (Letter). Can J Anesth 2007; 54: 854–5.

Reply:

"There are many hypotheses in science which are wrong. That's perfectly all right; they're the aperture to finding out what's right. To be accepted, new ideas must survive the most rigorous standards of evidence and scrutiny." - Dr. Carl Sagan.

I thank Dr. Farooq for the questions he has raised regarding the technique I have described. Firstly, the application of cricoid pressure to augment the sound emanating from the endotracheal tube striking the cricoid cartilage and tracheal rings is an observation rather than a formal component of the technique. It should never be applied in settings where cricoid pressure is contraindicated. The advance and withdrawal maneuver is a confirmatory sign that need only be applied if doubt exists as to the sounds created by the original passage of the endotracheal tube. Given that many clinicians are involved in the actual intubation, the advance and withdrawal maneuver becomes the sole confirmatory test. The issue of inadvertent tracheal extubation is an important one. Caution should be exercised not to withdraw the endotracheal tube beyond a depth considered to be consistent with subglottic tube placement. A subset of patients may exist in whom the technique is not suitable. Two prospective studies, with an enrolment of over 200 patients, have been completed. The findings should provide further clarity as to the utility of this technique.

The accepted gold standards for confirmation of tracheal intubation are not available to many clinicians in underprivileged settings. A stethoscope is usually always available.

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Rupture de la membraneuse trachéale après intubation par une sonde double lumière droite [Tracheal rupture after intubation with a right double lumen tube]

Au rédacteur en chef,
La rupture trachéobronchique est une complication rare de l'intubation par sonde double lumière sans éperon (0,04%).[1] Nous rapportons le cas d'un patient âgé de 60 ans, programmé pour une résection du lobe supérieur gauche pour tumeur bronchique.