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Intracuff Saline Infusion for the Short-term Repair of an Endotracheal Tube Cuff Leak

To the Editor.—Endotracheal tube cuffs commonly develop leaks. However, it is not always possible to change the endotracheal tube immediately or safely, such as when the larynx is severely swollen or during surgery when access to the endotracheal tube is compromised. We would like to describe such a situation and a practical solution.

A 47-year-old obese patient was scheduled to undergo a cholecystectomy. General anesthesia was induced, but tracheal intubation via direct laryngoscopy proved impossible after several attempts. The airway was finally secured with a nasotracheal tube placed with the aid of a fiberoptic endoscope. Severe bleeding from the pharynx was noted after intubation and was treated by packing the pharynx with gauze. When the bleeding stopped, the surgery was allowed to proceed. However, shortly after incision, a cuff leak appeared, resulting in progressive ventilatory difficulties. Because the initial intubation had been so difficult, we were reluctant to attempt a replacement of the tube. Instead we decided to infuse isotonic saline into the cuff. An intravenous infusion set with a bag of saline was connected to the pilot tube, with the bag suspended approximately 8 in above the patient’s head. Opening the bag resulted in immediate cessation of the air leak and the resumption of normal ventilation. During the final 30 min of the procedure, a total of approximately 70 ml saline was instilled into the cuff, without any respiratory difficulties. At the end of surgery, the gauze packing was removed from the pharynx. No further bleeding was evident. After spontaneous ventilation resumed, the saline solution was carefully aspirated from the cuff and the trachea was extubated. The patient was transferred to the postanesthesia care unit. There were no postoperative difficulties.

In this case, we were able to correct a gas leak from the endotracheal tube cuff by replacing the air with a more viscous fluid, i.e., saline. We have now used this method in six other similar cases, all without complication.

We recognize that this method could cause problems for a patient, particularly if the leak were very large and if much larger volumes of saline were infused into the cuff (and hence directly into the trachea via the hole in the cuff). The infusion of any fluid other than saline might also be dangerous. However, if used during close supervision for short periods of time, it may prove useful until a more “definitive” solution to the cuff leak becomes possible.

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Transient Neurologic Symptoms: A Diagnosis of Exclusion?

To the Editor.—We would like to draw your attention to a case of transient neurologic symptoms after spinal anesthesia. A 48-year-old man with no history of back pain scheduled for ureterolithotomy received spinal anesthesia with 75 mg hyperbaric lidocaine, 5%. The spinal was performed in the sitting position with a 25-gauge Quincke needle. Spinal placement wasatraumatic, with free flow of cerebrospinal fluid and no blood, pain, or paresthesia. The operation, at the lithotomy position, lasted 50 min and was uneventful, with no significant hemo-
dynamic changes. The patient received in total 1,200 ml Ringer’s lactate solution and 2 mg midazolam.

Recovery was also uneventful, and the patient referred only a slight burning-itching sensation from the urethra, for which no analgesics were administered. However, 6 h postoperatively severe pain from his back developed, radiating to the heels of both legs, along with a burning sensation over both calves and heels. The patient was restless, changing continuously positions, without any relief. The urologist administered 75 mg pethidine intramuscularly and called the anesthetist. At examination, pain referred down both legs had become moderate, but the burning sensation remained unchanged; sensation and strength was normal, the patient was afebrile and there was no local tenderness over the site of injection. Computed tomography performed an hour later, did not reveal any pathology in the lumbar sacral area.

At examination, three tender points (two paraspinal and one over the left iliac crest) were noted, and after the negative computed tomography, these were infiltrated with 1 ml bupivacaine, 0.25%, each. Within 5 min, the pain and the burning sensation completely
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disappeared, neither recurred, and the patient was discharged after
24 h, having received no more analgesics.

Because this seemed to us to be a case of transient neurologic symp-

toms after spinal anesthesia and not just myofascial pain, we did not
expect infiltration of tender points to be of real help. However, from our
experience, infiltration of similar trigger points has been useful in allevi-
ating pain in the back (more clearly myofascial in origin), after spinals for
surgery in the lithotomy position, in another two patients. We wonder
whether a study using laboratory neurologic tests, would prove to be
useful in further elucidating these cases, establishing the criteria for tran-
sient neurologic symptoms' cases and "rediscovering" their incidence.2

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