Unilateral Transient Sialadenopathy: Another Complication of Oropharyngeal Airway

To the Editor — The oropharyngeal airway is commonly used to maintain a patent airway and to prevent endotracheal tube occlusion. However, it can also result in various complications like trauma to lips, teeth, and uvula and ulceration and necrosis of tongue. We report the occurrence of transient unilateral sialadenopathy, which we believe was a result of oropharyngeal airway. The patient was a 40-yr-old, thin, American Society of Anesthesiologists' physical status I woman undergoing esophagectomy. Tracheal intubation was performed with left-sided 37 FG Robertshaw double lumen tube (Rusch, Germany) after a smooth induction with atropine, thiopentone, and succinylcholine. After the tube fixation, a Guedel oropharyngeal airway, size 3 (Intersurgical, UK), was inserted, and head and neck were turned to the right. Three minutes later, a subcutaneous, noninflammatory, well-circumscribed, firm swelling was noticed just beneath the left side of the mandible. Pressure over the swelling caused no change in its size. The head was immediately straightened, and airway was removed. The swelling persisted, thus, ruling out the airway tip itself to be the cause. There was no increase in salivation. Subsequently, the swelling decreased and disappeared completely after 20 min.

In 1969, Slaughter et al observed an episode of sialadenopathy during endoscopy. They postulated that swelling was either a result of the endoscope pushing the posterior portion of the tongue forward and downward, thus dislocating the submandibular gland, or a result of temporary occlusion of gland duct by the endoscope, resulting in gland enlargement. Subsequently, Smith et al described a case of unilateral swelling similar to ours and attributed the event to the administration of atropine and succinylcholine, whereas Rubin et al postulated that swelling could occur as a result of straining during intubation or extubation. The exact etiology of this remains obscure. We believe that the etiology of the swelling seen in our situation is probably a result of airway tip temporarily occluding the submandibular duct or as a result of distortion of base of the tongue thus pushing the gland outward. Other causes of neck swellings like acute allergic...

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reactions, angioneurotic edema, and hemorrhage could be ruled out
in our case because the swelling was transient, not associated with
allergic manifestations, and subsided without treatment. Although
these glandular enlargements usually regress spontaneously in min-
utes, hours, or days, these may or may not be associated with any
sequelae. Thus, we suggest that in cases of saliadenopathy one
should also look for oropharyngeal airway as the cause, and its re-
moval may help in early regression of the swelling.

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Open Adjustable Pressure Limiter Valve

To the Editor.—Two independent reports, one to ECRI, the other
to the US Food and Drug Administration’s Medical Device Reporting
System (accession no. MDR-66794), describe almost identical inci-
dents in which an adjustable pressure limiter (APL) valve on a North
American Drager (NAD) anesthesia machine blocked the exhaust of
gas to the scavenger outlet even though the valve was set appropri-
ately to relieve pressure. Both incidents took place during mask in-
duction. As the patient breathed, the baseline pressure in the patient
chest increased, and the reservoir bag steadily filled. One of the
reports states that adjusting the APL valve had no effect, but removing
the mask from the patient’s face allowed the pressure to drop, thus
avoiding patient injury.

The NAD APL valve has two parts: a needle valve, which is the
primary pressure adjustment mechanism, and a disk-in-cage one-way
valve (similar to a standard exhalation valve) that is intended to pre-
vent back flow from the scavenger system into the breathing circuit
and to provide a slight back pressure to preferentially fill the breath-
ing bag before gas passes through the needle valve into the scavenger
port. Sticking of this disk in the closed position blocks entry of gas
into the APL valve, so that gas cannot pass to the scavenger system
even when the needle valve is adjusted to fully open. Consequently,
the breathing bag will gradually expand, and the airway pressure will
gradually increase, depending on the fresh gas flow.

A blocked NAD APL valve should be evident in the pre-use check
of the breathing circuit. One of the incidents was reported to have
occurred during the first case of the day, and it is not clear whether
a pre-use check had been performed. When discovered, the blockage
was eliminated by tapping the APL valve, and the valve remained
unblocked afterward. It was hypothesized by the personnel involved
that the disk of the one-way valve became stuck as a result of the
drying of moisture in the valve from the previous day. A valve that
is, or has been, blocked should be tested, repaired, or replaced by
an authorized service person.

Most NAD anesthesia machine users are probably not aware that
this valve can behave in this way. I am writing this letter to aid
clinicians in the differential diagnosis of machine problems and to
reinforce the recommendations of ECRI, FDA, and the American So-
ciety of Anesthesiologists that pre-use checks be performed before
each anesthetic procedure.

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