A Pediatric Face Mask Can Be a Useful Aid in Lung Ventilation on Postlaryngectomy Patients

To the Editor.—Postlaryngectomy patients with permanent tracheostomies subsequently may require anesthesia for a wide spectrum of operations. Positive-pressure ventilation sometimes is necessary after the administration of the anesthetic agents. Recently, we have successfully used a size 1 Rendell-Baker-Soucek (RBS) pediatric face mask to deliver inhalational agents under positive pressure to the patients' airway. An adult face mask does not match the size and configuration of the neck and fails to provide leakproof ventilation. The RBS type pediatric face mask has the proper contour of a tracheostomy stoma and provides several advantages. It allows an overall tight seal, making assisted or controlled ventilation possible. With a small internal volume, it minimizes dead space. And because of its softness and contour, it minimizes the pressure applied to major structures in the neck, including major vessels. Endotracheal intubation through the stoma, which requires a deeper level of anesthesia, can be avoided and this may be an advantage in patients with associated cardiovascular disease. Lighter levels of general anesthesia can be maintained and the problems of coughing and bucking on the endotracheal tube avoided. Furthermore, the possibility of endobronchial intubation by the endotracheal tube is avoided, as is contamination of the trachea by bacteria from around the stoma.

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Another Potential Failure in an Oxygen Delivery System

To the Editor.—The Ohmeda (Ohio) Modulus™ I anesthesia gas machine is equipped with an oxygen check valve, which prevents back-flow from the machine-mounted oxygen cylinder into the piped gas system, when the oxygen cylinder on the machine is in use. Recently, we have had two identical incidents where the oxygen check valve malfunctioned, resulting in potentially dangerous situations.

During routine maintenance checks of our anesthesia gas machines, it is our habit to check the integrity of the oxygen and nitrous oxide check valves by disconnecting the machine from wall gases, turning on the gas tanks, and verifying that no gas escapes through the disconnected hoses. Twice in the past year, when this test was done, there was high-pressure flow of oxygen from the disconnected hose. In both cases, the cause

Fig. 1. Oxygen check valve broken off at shoulder.
was determined to be a broken oxygen check valve (fig. 1).

A broken oxygen check valve results in a potentially dangerous condition: in the event of a failure or rupture of the high-pressure oxygen line, use of the oxygen cylinder as a back-up results in the high-pressure oxygen escaping from the machine, and, therefore, the inability to ventilate the patient.

We recommend that the proper function of the oxygen check valve on Ohmeda (Ohio®) Modulus™ I anesthesia gas machines be periodically checked and promptly replaced if found to be defective.

In reply.—Ohmeda agrees with the authors' recommendation that the function of the oxygen pipeline inlet check valve on the Ohmeda (Ohio®) Modulus™ I Anesthesia Gas Machine be checked periodically and the check valve replaced if defective. The Operation and Maintenance Manual for the Modulus™ contains preoperative checklist test procedures intended to verify the integrity of all pipeline inlet check valves. As stated in this manual, these procedures should be reviewed and all relevant procedures performed daily.

The pipeline inlet check valves were designed to prevent gas flow from the machine-mounted cylinders into the piped gas system of the facility. In late 1982, the bullet-shaped plug on the check valve was redesigned to improve the reliability of the valve. Modulus™ machines manufactured since November 1982 utilize this redesigned check valve. Ohmeda has not received any reports of pipeline inlet check valve malfunctions involving the redesigned check valve.

For additional information contact the local Ohmeda representative or contact Ohmeda in Madison, Wisconsin, at (608)221-1551.

Extracorporeal Circulation in a Patient with Heparin-induced Thrombocytopenia

To the Editor.—Smith et al. report a case of heparin-induced thrombocytopenia in which aspirin and dipyridamole were administered to prevent platelet aggregation and possible embolic phenomena during the period of heparinization and extracorporeal circulation. They mention that an alternative would be to use warfarin, "... but the difficulty with rapid reversal of anticoagulation with this drug may be a problem." The same criticism can be made of aspirin and dipyridamole, since prolonged inhibition of platelet function following the administration of these drugs will almost certainly necessitate platelet concentrate administration to secure hemostasis, as occurred in their case.

We have safely cared for three patients with well-documented heparin-induced thrombocytopenia and to whom we administered Illoprost (ZK), a new prostacyclin (PGI₂) analog, which immediately inhibits platelet function but has a half-life of 15–30 min. In these patients discontinuation of the infusion after protamine administration resulted in a prompt return of platelet function and platelet concentrates were not required in any case. While this drug possesses some vasoactive properties similar to PGE₁ and PGI₂, the hypotension was much less than in our previous experience with those two drugs and was easily managed with small doses of phenylephrine.