Fig. 4. Histogram showing volumes (ml) of oropharyngeal secretions collected and grades of salivary gland swelling in the seven patients studied. No relation between volume of secretion and degree of swelling existed. Swelling was associated with straining during intubation in Patient 6 and occurred during extubation in four of the seven patients.

Lar swelling of a minor degree appeared to be related to the violence of straining and coughing produced by intratracheal manipulation, possibly secondary to increased intrathoracic pressure and venous engorgement of all the tissues of the head and neck. This swelling was small compared with that observed in the original group of patients; the cause of their glandular swelling remains unknown.

We have been unable to find any reports of others who have observed sialadenopathy during general anesthesia. The only remote association is the observation of Hall et al., who noted brawny edema affecting the soft tissues of the lower jaws in three boars of a single litter who received 100 mg succinylcholine intravenously. Since this was accompanied by violent convulsions, an atypical response in this species, the edema and convulsions were ascribed to an unusual genetic pattern in the litter.

REFERENCES


An Acoustic Switch for Use in Constant Monitoring

WILLIAM R. PLOSS, M.D.*

A dual stethoscope attached to a molded monaural earpiece to monitor both pulse and blood pressure continuously was described in 1955. This system has gained considerable acceptance because it is simple, inexpensive and reliable. It has been recommended that the device "should be a part of the armamentarium of all anesthesiologists."

The cardiac pulse pickup is either a conventional stethoscope chest piece positioned over the precordium or an esophageal pickup. The pulse pickup used is connected to one arm of the Y piece and the blood pressure pickup is connected to the other arm. A monaural earpiece makes the third connection to the Y. When taking the blood pressure, the anesthesiologist either clamps the pulse pickup tubing or uses a simple three-way stopcock as a valve.

We have recently improved this device by designing a simple and inexpensive valve that frees the anesthesiologist's hands. On blood pressure cuff inflation, the valve automatically blocks the acoustic pathway of the cardiac pulse pickup and allows reception of Korotkoff sounds. On cuff deflation, cardiac pulse sounds return automatically (figs. 1 and 2). No valve

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Fig. 1. Isometric drawing of assembled valve.

Fig. 2. Schematic drawings of top and bottom sections of valve. Dimensions are not critical. Any size neoprene ring may be used, the valve machined to fit. Original valve was 1 1/2 inches outside diameter with a 3/4 inch inside diameter by 1/8 inch neoprene ring.

manipulation is needed, so that valve and tubing can be placed beneath drapes, with a single cuff-inflation and auditory tubing line leading to the anesthetist's ear (fig. 3). We have found the valve, when used in conjunction with an automatic oxygen or compressed-air-powered cuff inflator (e.g., Side-Kick®), provides a rapid means of repeated blood pressure readings and continuous pulse monitoring at much less than the cost of similar systems now available. It has no maintenance problems and needs no electrical power source.

The valve, made from acrylic or aluminum with stainless steel tubing connections, is light and durable. It is less than 1 1/2 inches in diameter. The recommended minimum internal diameter of the tubing and acoustic paths is

Fig. 3. Assembly of "Y" R. E. Ploss Constant Monitor System with valve in place.
A Means of Recording Force of Thumb Adduction

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The common use of the nerve stimulator to monitor muscle relaxation has brought with it the desire to obtain a written record of the muscle response. We suggest a simple technique that has proved satisfactory for making such a recording.

Our basic instrument is a Grass FT.03 transducer, an instrument previously suggested by Katz.1 To attach the transducer to the hand with reasonable security we have added a rubber bicycle handlebar grip. A wire wound from the grip about the transducer holds the two together. Next to the lug of the cantilever of the transducer, we have placed a small cradle cut from a piece of pipe. This cradle is attached by means of a 4-40 screw which fits the already-threaded lug. The components are shown in figure 1 and the completed assembly in figure 2.

Fig. 1. Components of the monitoring device.

Fig. 2. The assembled components.