A SIMPLE METHOD FOR CONTINUOUS MONITORING OF DIRECT MEAN ARTERIAL PRESSURE

Sir,—I should like to confirm the value of continuous monitoring of the mean arterial pressure using a mercury manometer, as described by Sivapragasam and Sandison (Brit. J. Anaesth. 1967, 39, 986). In some 500 cases over the past six years a similar manometer (London's rat manometer, C. F. Palmer Ltd., London) has been used to monitor arterial pressures over periods of up to one week. It has been found to be satisfactory in patients of all ages. However, in neonates and infants, when only very fine-bore cannulas can be inserted percutaneously into peripheral arteries (e.g. radial or scalp), the oscillations in the mercury are almost completely damped down, and it is necessary to clamp the flushing drip to obtain an accurate reading. Nevertheless, changes in pressure can still be seen immediately during a slow steady infusion of heparin solution (e.g. 20 mg/litre).

Manometers can be safely sterilized by filling with 1 per cent chlorhexidine in spirit, after which they are autoclaved and dried. Even after prolonged contact with chlorhexidine or saline, we have been unable to detect significant contamination by mercury of the adjacent liquid (Burton, 1965). During use, the manometer and tubing should be changed on alternate days, to minimize the risk of bacterial contamination. Taking this precaution, a positive culture from the manometer fluid has never been obtained.

When glass bottles of infusion fluid are used, they can be pressurized, using rubber bellows. Because this cannot generate pressures approaching 2 atm. abs., air embolism can be prevented by changing the bottle when it is only half empty. As an additional safety measure, an Oxford Safety Dripper (Medical and Industrial Equipment Limited) is normally incorporated in the line.

G. W. BURTON
Bristol

REFERENCE


GASTRIC PERFORATION DUE TO MANUAL VENTILATION

Sir,—While endotracheal tubes are often passed into the oesophagus, dilatation of the stomach sufficient to cause perforation, following attempted controlled ventilation, is usually avoided by early recognition of the error. "Most anaesthetists, however, have heard legends about burst stomachs from this cause" (Galley, 1959).

Case report.

A 62-year-old woman, who had been admitted to the medical department three days previously with a cardiac infarct, developed hypertension and respiratory insufficiency. She was transferred to the intensive care unit, being ventilated on the way with an Ambu bag and mask.

On arrival at the intensive care unit the patient was intubated by the nursing staff and ventilated with the Ambu bag, using additional oxygen at 2 l/min. Some spontaneous respiration was present when intubation was performed. The electrocardiogram showed a large, fresh, posterior wall infarct.

After a short time the abdomen became grossly distended. When an attempt was made to empty the stomach with an oesophageal tube, it was realized that the endotracheal tube was, in fact, in the oesophagus. Perforation of the stomach was suspected, as the distension could not be relieved by a tube in the stomach, and laparotomy was performed. When the peritoneum was opened, there was a large escape of gas, and on the lesser curve of the stomach a 3-cm-long tear was found, which was repaired. The patient remained post-operatively on a ventilator, and subsequently died of the cardiac disease.

It is thought that the tube, correctly placed at first, was subsequently dislodged.

Edwards (1938) described a case, undergoing tonsillectomy, in which the patient became cyanosed, and it was found that the oxygen cylinder was empty. A new cylinder was connected, but the flowmeter valve was wide open, and it was observed that the epigastrum became distended, and then suddenly collapsed again. A perforation of the stomach was found at laparotomy. The patient subsequently died of peritonitis.

Although this complication is uncommon, a more frequent occurrence might be expected, now that unqualified personnel attempt intubation and positive pressure ventilation in emergency resuscitations.

It is therefore important that such personnel are taught to check that the tube is lying in the correct place, by observing the rise and fall of both halves of the thorax, the return of air during expiration, and by listening with a stethoscope. The tube should be fixed in position, to prevent dislodgement during moving of the patient or other manipulation, when it may be pushed into the oesophagus.

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REFERENCES


THE NEW "B.J.A."

Sir,—What a "shock" it was on opening our post to see the new format of the British Journal of Anaesthesia! The former attractive cover has been replaced by one of pedestrian design, indistinguishable from many other journals. The presentation of the contents of the Journal on the back cover seemed at least as effective as the new pattern and had the virtue of permitting some individuality by the Journal. Furthermore, the relegation of the contributors' qualifications and place of work to the inside of the Journal is an inconvenience for readers. These alterations can only be justified by distinct financial savings.

We sincerely hope that the Editorial Board will reconsider their decisions and give us back the unique cover of the B.J.A., whose colour, incidentally, is surely more appropriate for the practising anaesthetist!

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