

CURRENT COMMENT AND CASE REPORTS

CURRENT COMMENT is a new department in ANESTHESIOLOGY. In it will appear invited professional and scientific correspondence, abbreviated reports of interesting cases, material of interest to anesthesiologists reprinted from varied sources, brief descriptions of apparatus and appliances, technical suggestions, and short citations of experiences with drugs and methods in anesthesiology. Contributions are urgently solicited. Editorial discretion is reserved in selecting and preparing those published. The author's name or initials will appear with all items included.

CORRESPONDENCE

To the Editor:

May I call the attention of anesthetists and hospital administrators to a practical device which affords useful information on the explosive hazard of gas mixtures?

This apparatus is termed an "Explosi-meter" or combustible gas indicator. It has been used for years in industry for checking gas hazards in sewers, man-holes, ship holds, distilleries, paint and varnish plants, etc. The basic design is that of a platinum filament, heated by batteries and balanced electrically in the form of a standard Wheatstone bridge. Gas mixtures are aspirated into the unit by a sampling bulb and the combustibility of the mixture is read directly from a meter.

Flashback arrestors prevent propagation of flames from the instrument. The accuracy of the readings is sufficient, although for careful work calibration against known mixtures is required. Commercial meters are calibrated usually in terms of gasoline, but for use in hospitals a meter calibrated for ethyl ether, cyclopropane, etc., could be purchased.

To the Editor:

Anaesthesia using cyclopropane in closed circuit with soda lime for carbon dioxide absorption became somewhat hazardous in our hands during a few weeks of very hot weather last summer. We found that in spite of frequent changing of the soda lime in our Heidbrink machines, the canisters became very hot over short periods of time. At the same time alarming increases in the respiratory and cardiac rates of our pa-

A number of interesting observations can be made with this apparatus. For example, one can test the hazard of an anesthetic mixture at various levels from the head of the patient to the floor. The hazard can be checked around fluoroscopes, light switches, etc. Data obtained are acceptable to fire underwriters when they are evaluating insurance risks. The instrument illustrates the ready diffusibility of anesthetic vapors, together with their accumulation in dependent areas. Finally, such a device is of value in a teaching institution since it offers a ready means of illustrating the problem of explosibility and anesthesia. The cost, which averages \$70, makes the meter a perfectly reasonable purchase for any institution.

Various models can be purchased from the Mine Safety Appliances Co., Pittsburgh, Pa., or the Davis Emergency Equipment Co., New York City.

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tients were observed. These occurred in spite of minimal numbers of drapes used and liberal use of intravenous normal saline.

In an effort to reduce the temperature of the gases being rebreathed, we hit upon a method which may prove useful at some time to others in a similar predicament.

The wick of the ether vaporizer on the Heidbrink machine is removed and a short piece of wide bore rubber tubing reaching

almost to the bottom of the bottle is substituted. Several vents are cut with scissors in the sides of this tube. The ether bottle is then filled almost to the top with chipped ice and screwed into place. By opening the valve on top to the "Full On" position, all the expired gas passes around and up through the ice. This method we found produced excellent cooling in the system. As the ice melts it will be found that the water in the bottom of the bottle will need to be emptied about every half-hour to prevent the building up of positive

pressure as the vents in the rubber tube become submerged.

One of our patients undergoing a spinal fusion had shown an increase in respiratory rate up to forty per minute. Within three minutes after the introduction of ice into the circuit, his respiratory rate fell to 18 per minute with a corresponding fall in pulse rate and blood pressure.

Yours truly,

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To the Editor:

For removal of growths of the kidney, I prefer spinal anaesthesia, whenever possible if no contraindication exists for it. However, the spinal anaesthesia should not be of the unilateral type, because although the whole tumour may be on one side, during its removal the surgeon often encroaches beyond the middle line as he sweeps his hand all around and tries to separate adhesions, particularly if the growth is a large one and its removal difficult due to dense adhesions. This encroachment beyond the middle line, the pull of the large sized retractors which often stretch beyond the middle line, the weight of the assistant's hand on the other side, the tight packing necessary where pus is suspected, and the difficult act of bringing up the tumour on the surface of the wound—all contribute to the production of pain and severe surgical shock if the spinal anaesthesia is strictly unilateral and the patient conscious.

I have witnessed a case in which severe shock occurred leading to death under such conditions, i.e., in a strictly unilateral spinal in a conscious patient. The shock was due to the fact that the patient, a weak man, was unable to bear pain as soon as the operator's hand and fingers went beyond the middle line and above the upper limit of spinal anaesthesia. The anaesthetist had underestimated the upper limit of the

growth which went up as far as the diaphragm, and so dragging on the growth caused sudden irregular breathing, pain, and shock. The anaesthetist, believing the trouble would soon pass off, simply asked the patient to take deep breaths, which was not possible due to pain. As the anaesthetist was playing to the gallery, having much praised the value of unilateral spinal anaesthesia, he did not want to show that it had failed, so he did not supplement the spinal with any kind of general anaesthesia. This false sense of shame caused the death of the patient.

It is not generally understood that even if the spinal analgesia is as far as the diaphragm or the nipple line, yet the peripheral nerve endings of the vagus in the stomach and diaphragm, if markedly excited by painful stimuli due to pulling on the neck of the stomach as in some cases of gastrectomy, are sometimes enough to lead to sudden fatal reflex cardiac inhibition.

Therefore, I believe that (1) for removal of large growths of kidney, unilateral spinal anaesthesia is inadvisable, and (2) if spinal anaesthesia, unilateral or even bilateral gives any discomfort, general anaesthesia must be then administered to avoid shock which may be fatal.

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To the Editor:

Gillespie (Gillespie, N. A.: Surgeon and Anesthetist; Their Mutual Relationship, *J. A. M. A.* 118: 787-790 (Mar. 7) 1942)

has very aptly outlined what the ideal relation should be between surgeon and anesthetist, in order that best results be obtained; in order that the patient be the