TRACHEAL INTUBATION USING AH8165: A COMPARISON WITH SUXAMETHONIUM

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AH8165, the most potent of a series of tetramoline dyes, which have been investigated for muscle relaxant properties, is now available in a yellow solution at a concentration of 15 mg/ml. Initially, it was hoped that this drug would fill the much needed place for a rapid- and short-acting non-depolarizing relaxant and this view was supported by studies in animals. Our initial findings (Arora et al., 1973) did not confirm its brevity of action. The impression was obtained that, despite the claims of Blogg and his colleagues (1973), it had not as rapid an onset of action as suxamethonium.

We have compared intubating conditions following AH8165 1.25 mg/kg and suxamethonium 1 mg/kg in strictly comparable patients in whom anaesthesia was induced with a standard i.v. injection of thiopentone 5 mg/kg. The patients were studied at 30, 45, 60 and 75 sec after administration of the relaxant. Each group consisted of 30 patients equally distributed between ASA grades 1, 2 and 3 of physical status. The degree of relaxation of the jaw and cords and the reaction to endotracheal intubation were noted and a score varying from 3 (excellent) to 0 (impossible to intubate) was allocated. All assessments and attempted intubations were carried out by the three authors.

Table 1 summarizes the results and shows the superiority of suxamethonium as regards conditions for intubation. At all times the incidence of excellent intubating conditions was significantly greater with suxamethonium (P varied from <0.025 to <0.001). Furthermore it proved impossible to intubate 11 patients given AH8165 at the times chosen whereas all patients receiving suxamethonium were able to be intubated.

REFERENCES


THE USE OF A HELIUM-NEON LASER FOR THE IN VIVO MEASUREMENT OF BREATH ALCOHOL

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Although an infra-red analyser based on a broad band source was used for the analysis of carbon dioxide in the breath more than a century ago (Tyndall, 1865) it was not until the last decade that a non-dispersive analyser was applied to the in vivo analysis of breath alcohol levels. Payne, Hill and King (1966) measured breath alcohol concentrations for comparison with those of the blood, by means of an infra-red analyser which employed two wide band sources of radiation and a capacitive photodetector with a selective response to alcohol. Such analysers may suffer from a long response time due to the sample cell volume required, and their sensitivity is diminished due to the need to use an optical filter to restrict the absorption characteristics of the detector to a narrow bandwidth which coincides with a main absorption band of the sample. To overcome these disadvantages a monochromatic beam of radiation should be used.

Since beam monochromaticity is an inherent characteristic of laser radiation a suitable laser matched with a solid state photodetector can achieve a sufficient selectivity and a fast response time without a reduction in source intensity. On this basis a helium-neon laser infra-red gas analyser has been constructed. Its mode of operation was selected to be a wavelength of 3.39 μm which lies within one of the major spectral absorption bands for alcohol. The main laser beam is divided into two equal parts, chopped alternately and reflected to pass through sample and reference cells. The two beams are then detected by a lead selenide photodetector and the corresponding signals are separated for amplitude comparison.

TABLE I. Intubating conditions with AH8165 and suxamethonium. Number of patients in each score group at the times shown.

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