INTRATRACHEAL ANÆSTHESIA AS A ROUTINE.

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Although anaesthesia by the intratracheal method has been employed for more than a decade, it is still used by only a minority of anaesthetists, and even amongst these the method is often reserved for operations where its use is specially indicated. At first glance the apparatus required for this method appears complicated, but in actual use its management is simple, and the introduction of the catheter into the trachea is, with an efficient endoscope after very little practice, a simple matter.

I have lately employed intratracheal anaesthesia as a routine, except where nitrous oxide or other anaesthetic is specially indicated. Of my last 550 consecutive cases, eighty-two per cent have been anaesthetized by the intratracheal method with Magill’s apparatus, and more than half this number have been for operations on the ear, nose and throat. After a preliminary injection of atropine, 1/8 gr., half an hour before operation, anaesthesia is induced with a little ethyl chloride on an open mask, followed by chloroform-ether mixture and ether until surgical anaesthesia is reached. The tracheal catheter is then introduced, and anaesthesia maintained with oxygenated ether vapour. In a few cases a minimum of chloroform has been added to the ether vapour; nitrous oxide can be added if desired.

I have found the use of an oxygen cylinder enables one to dispense with an electric motor, and is quite as satisfactory and far more convenient. It does away with the irritating noise of a motor, makes the apparatus more portable, and moreover only a slight positive pressure will suffice to obtain an even anaesthesia. In nose and throat work the surgeon is not exposed to nearly the same extent to the fumes of ether as in other methods of administration, and the slight pressure of a few millimetres of mercury is sufficient to prevent blood trickling down into the larynx.

The advantages of this method are definite to (1) the patient, (2) the surgeon, and (3) the anaesthetist.

(1) Advantages to the patient. He inhales an even flow of vapour, and an even level of anaesthesia can be maintained, predisposing to a recovery with a minimum of nausea and vomiting. The patient is naturally not informed of the method of anaesthesia to be employed, and in no case have I found the patient afterwards to complain of soreness of the throat or trachea due to the catheter.

(2) Advantages to the surgeon. I have found that when once a surgeon realizes the advantages of this method to himself, he is loth to have any other mode of anaesthesia employed. In a laparotomy, abdominal respiration is reduced to a minimum, facilitating exploration of the abdominal
viscera, and closure of the abdominal wall. In a resection of rib for empyema, where chloroform is employed in preference to ether, the positive pressure is helpful in counteracting collapse of the affected lung. In throat and nose operations the surgeon is not troubled with the constant fear that blood may be inhaled; the operations of oesophagoscopy and dissection of the tonsils are simplified. He can have the field to himself, and the head in any position desired. He is not subjected to that give-and-take which is often necessary when a Junker’s inhaler is employed, and is provided with an even anaesthesia which it was sometimes difficult to maintain by the latter method.

(3) To the anaesthetist, perhaps, the advantages are greatest. Once the catheter has been introduced, a most satisfactory anaesthesia is usually maintained.

First and foremost a free airway is always patent in any position. The colour always remains good, there is thus no complaint from the surgeon of increased haemorrhage from cyanosis. Deep anaesthesia and complete abdominal relaxation (sometimes difficult by other methods) can be maintained. The anesthetic can be pushed with safety provided the pulse is satisfactory. A degree of natural respiration should always be present, but even if in abeyance for a time, with the ether turned off, oxygen playing directly into the trachea is sufficient to keep the patient a pink colour, and natural respiration is soon restored. The manometer attached to the apparatus shows the depth of respiration, and there is thus no necessity to watch the abdomen or listen to the patient for evidence of respiration.

In this short series there has been no case causing serious anxiety. In cases where surgical shock is unavoidable, a stream of oxygenated ether vapour blown directly into the trachea has a definite stimulating effect.

I have no hesitation in stating that intratracheal anaesthesia has a place in the front rank of modern methods, and that in the future it will be employed with increased frequency, and become a necessity in the armamentarium of the up-to-date anaesthetist.