THE SURGEON'S REQUIREMENTS FOR INTRA-ORAL SURGERY

BY

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The dental surgeon’s needs for general anaesthesia are so like those of all other surgeons that most writers take them for granted. In hospital general anaesthetics are required by dental specialists doing oral and maxillofacial surgery and by dentists who provide general dental care for the ill or handicapped child and adult incapable of cooperating normally. However, the vast majority are given to medically fit, normal out-patients attending general practices, local authority clinics or dental hospital out-patient departments. It is with these that this paper is primarily concerned. Since they were first introduced anaesthetics have been administered for the extraction of teeth not because they are always surgically necessary (the majority of extractions could be done quite safely under local analgesia), but because in this country it is accepted that this facility will be available to the many nervous adult and child patients who request it or who can be more expeditiously treated in this way. On the continent and in the United States fewer such anaesthetics are given, but neither the medical nor the dental professions here have seriously questioned the need for the large number given in this country.

Until recently it was usual to admit to hospital patients who required anaesthetics lasting longer than 10 minutes. There are many patients who require more difficult surgical procedures (single buried third molars or buried roots), or prolonged conservative measures lasting for half an hour or more. The latter are not only painful and uncomfortable but often involve different quadrants of the mouth and have to be suffered by many unfortunate patients at six-monthly or yearly intervals during certain periods of their lives. If it is accepted that the extraction of a few teeth in a nervous patient warrants a general anaesthetic, then it is difficult to deny the need of those who are fearful of undergoing extensive conservation. The introduction of more advanced techniques in all branches of surgery has created an increased demand for beds and theatre time which makes it difficult if not impossible to admit such dental patients. These factors together with the growing interest in dental care has resulted in the need for longer out-patient anaesthetics from which patients will recover in a few hours and which are both suitable and safe for surgical and conservative procedures.

PRE-OPERATIVE ASSESSMENT

Before the operation the dental surgeon will wish the anaesthetist to make an assessment of the patient’s suitability for anaesthesia and advise about premedication. This means considering not only the patient’s physical and mental state but also the complexity of the dental operation, as this will influence both the choice and the duration of the anaesthetic. The need to reduce salivary secretions is not only important to the anaesthetist but of great help to the operator in keeping the mouth dry. Where a bloodless field is required some dental surgeons will wish to inject a solution containing adrenaline. Most readily available in the dental surgery is a 2 per cent solution of lignocaine in 1/80,000 adrenaline usually used for local analgesia, which could affect the choice of anaesthetic used. Where for anaesthetic reasons consultation with the patient’s general medical practitioner is indicated, this would seem to be better done by the anaesthetist. The postanaesthetic management, particularly after intubation or a long anaesthetic, is best discussed and settled when the operation is being planned.

Though at present liaison is generally good, the dental surgeon often has the responsibility for arranging these matters before the operation, the anaesthetist seeing the patient only a few minutes before the event. This can be true of both general practice and of the busy hospital service. Improvement in this direction means more time spent by the anaesthetist in diagnosis and consultation before patients are brought to operation.
AT OPERATION

Intra-oral surgery presents certain special problems. The first is the safety of the airway. Though the operator can obviously assist by helping to support the lower jaw during his efforts, he must be relieved of all responsibility for monitoring the patient's respiration, colour and blood pressure, so that he can give his undivided attention to the operation. Blood, saliva and operation debris which could be inhaled are all potential hazards. Further, many dental burrs, whether used for surgery or conservation, are irrigated with water. The airway must be packed off safely to the satisfaction of both dentist and anaesthetist, who together should decide how this is to be done, who is to be responsible for the pack, and in longer procedures whether for complete safety endotracheal intubation is necessary. Equally important is an adequate suction apparatus which must always be available throughout the anaesthetic for aspiration of the mouth and pharynx. At the end of the operation if haemorrhage has been brisk or there has been much debris the anaesthetist may need to make a careful inspection and clearance of the oropharynx when the pack is removed.

For out-patient surgery posture needs consideration as traditionally the patients are seated upright. Providing a suitable chair or table is used there is no reason why after a little practice all dental treatment should not be given with the patient lying down. However, where this position is adopted it must be remembered that foreign matter will tend to fall to the back of the mouth so that packing must be very carefully done. It is of interest that widespread changes are now taking place in the design of dental equipment whereby many procedures, particularly in conservation, will be done by dental surgeons themselves seated, but with the patient supine, so that this position may well become the normal for most general practitioners.

ANAESTHESIA

In most dental cases half the chairside time is spent in induction and recovery so that swift induction, in which the patient quickly and pleasantly falls asleep, and rapid smooth recovery are important. Recovery has been divided into waking time, walking time, and steady or recovery time (Young and Whitwam, 1964), the latter being the time it takes before the patient is able to leave the surgery. It is this last which is of real importance in the organization of a busy practice or out-patient clinic. Economically it is better for a visiting anaesthetist to treat a number of patients in quick succession but, if the operations are of short duration and recovery facilities are limited, patients must not be unduly delayed before they leave the premises. As postoperative nausea and vomiting are a cause of such delay they are unwanted complications, as are straining or fighting which may encourage postoperative bleeding or cause damage to oral wounds or appliances.

During the operation the patient should be still and quiet, breathing spontaneously without coughing or retching. This is equally necessary for "simple" extractions, which may well turn out otherwise if these conditions are not satisfied. In complicated procedures involving the use of chisels or the dental drill these criteria are vital to the safety of the patient. Relaxation tends to be rather underplayed in dental anaesthesia. Though the patient may be lightly anaesthetized, he does require to be relaxed sufficiently to allow the mouth to be opened by gentle pressure with a gag, and for props to be changed from side to side without the jaws snapping closed. This occurrence is a frequent cause of embarrassment and of delay, sometimes necessitating a second induction half-way through the anaesthetic. Such difficulties can be upsetting to the surgeon if they occur at a critical point in the operation, and may be dangerous if there is debris present in the mouth and struggling causes the pack to be deranged.

Both the anaesthetist and the dental surgeon share the same field, but the latter will want free access to the mouth, unobstructed by the mask, tubes or supporting fingers on the jaws. When the patient is intubated the head should be free to move from side to side. Tension from the tube should not distort the facial tissues and it should be fixed in such a way that it does not encroach on the surgeon's field. Where an oral tube is used it should be sited in the mouth so that it is convenient for the dental surgeon and be well supported away from the operating field. It should be possible to move it from one side of the mouth to the other. Where respiratory assistance, endotracheal suction,
correction of a faulty connection or of kinking are needed it is helpful if this can be managed with minimal disturbance to the operative field.

Finally the anaesthetist should consider the role that the dental surgeon and his assistants may be required to play in an emergency such as respiratory obstruction or cardiac arrest. He should ensure that the necessary instruments and equipment are available in the practice and that all the members of the team understand the part they will be expected to play.

CONCLUSION

General anaesthesia in dentistry is an expanding rather than a contracting field, for though the demand is decreasing in relation to multiple extractions yet new demands have arisen because more complicated work is being done. Professor Mushin (1965) in his John Snow memorial lecture, has drawn attention to the change which is taking place in anaesthesia and in surgery. Both these branches of medicine are moving ever more rapidly from a craft to a science. Dentistry too is taking an active part in this change but dental anaesthesia for out-patients, even as it is practised and taught in dental hospitals, seems to retain more of the characteristics of a craft rather than of a science. For a considerable time to come the dental surgeon will have to give a large proportion of dental anaesthetics. Standards of professional excellence are so high today that to do this successfully the dental surgeon will want anaesthetic colleagues to give instruction in the science of anaesthesia not only by the chairside but by the bedside and in the teaching school. Further, where the practice of dentistry calls for the introduction of new concepts and new methods the initiative for solving these problems must come from the specialist anaesthetist. Obviously dental anaesthetics form only a small part of the field of interest of the anaesthetist but if this forward-looking attitude is not provided by them as a part of their service to the dental profession then the dental surgeon, admittedly a craftsman anaesthetist, will try as best he can to introduce innovations, as indeed he introduced surgical anaesthesia to medicine many years ago.

REFERENCES
