ANAESTHESIA FOR FACIAL RHYTIDECTOMY

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ANAESTHESIA for facial rhytidectomy should meet specific requirements.¹ There should be little or no anaesthetic equipment in the operative field which could lead to distortion of the structures, incomplete asepsis, or constitute a hindrance to the surgeon. The possibility of increase of venous pressure due to coughing or straining must be avoided to minimize bleeding during the operation, and the immediate and late postoperative periods should be as calm as possible to avoid the risk of postoperative haematoma.

It is important to be able to get the patient's co-operation during the operation, as the surgeon may have to take specific measurements with the patient's help or to make sure of the integrity of muscle and nerve function. Nevertheless, the patient must be kept as calm and still as possible during the long operation through provision of adequate analgesia and amnesia, while at the same time maintaining the integrity of homeostasis.²

Local anaesthesia is used routinely for this procedure, along with infiltration of epinephrine to avoid excessive bleeding. The technique must therefore provide a certain degree of protection against the large doses of local anesthetics sometimes used, while being compatible with epinephrine and limiting increases of blood pressure from its use without preventing it from acting locally.

A technique combining sedation and analgesia (*séquentielle modulée*) makes it possible to avoid the disadvantages of general anaesthesia with tracheal intubation and palliates the unpleasantness and discomfort caused by a lengthy procedure performed under local anaesthesia alone.

Technique

The patient is seen preoperatively and it is explained that he will be kept in a semi-conscious state, while being more deeply anaesthetized during periods of painful stimuli, and also protected by local anaesthesia. The consent is ob-

tained. This is also an opportunity for the anaesthetist to assess the degree of anxiety of the patient regarding the conduct of the forthcoming operation and to foresee the degree of sedation that will be required.

Premedication is of the conventional type, without an anticholinergic to avoid the unpleasant sensation of dryness and thirst of which patients used to complain during operation.

Anaesthesia is conducted by the intravenous route alone. The patient is constantly monitored with the electrocardiogram, pulse and blood pressure.

At induction, we first give either perphenazine 0.08 to 0.1 mg·kg⁻¹ if the systolic blood pressure is below 15.96 kPa (120 torr) or chlorpromazine in increments of 2.5 to 5 mg if the systolic blood pressure is above 15.96 kPa (120 torr)³. Consequently, at induction, if the systolic blood pressure is between 17.29 kPa and 21.28 kPa (130–160 torr), we aim to reduce it to 15.96 kPa (120 torr); if the systolic blood pressure is 21.28 to 26.6 kPa (160–200 torr), we aim to reduce it to 18.62 kPa (140 torr). This has the multiple advantage of decreasing the need for further sedative agents, minimizing increases in blood pressure following local infiltration of epinephrine (rarely more than 20 per cent increase), decreasing blood loss and providing a potent antiemetic effect. We seldom have to repeat the dose.

A small dose of narcotic is then administered as basal analgesia (meperidine 20–40 mg or equivalent), which may be repeated whenever the patient is experiencing discomfort.

Thiopentone (solution 15 mg/ml) and diazepam (2 mg/ml) are used to provide sedation and amnesia. The solutions of these drugs are administered in increments of 1 ml each from the induction throughout the procedure. The patient is maintained in a state which makes clinically adequate ventilation possible and which permits awakening to follow simple instructions, while maintaining a satisfactory state of amnesia⁴. The dose is repeated whenever the patient becomes restless, anxious, or is talking spontaneously. As painful events such as local infiltrations and traction occur during the operation, minimal doses of ketamine (25 to 50 mg) are administered. This

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induces adequate levels of anaesthesia for 10 to 15 minutes. At this dose, there is a minimal increase of blood pressure in the order of 10 to 20 mm Hg (1.33 to 2.66 kPa).

The use of droperidol is deliberately avoided since its peripheral vasodilator effect (α -receptor blockade) can counteract the vasoconstrictive action of epinephrine injected at the operative site.⁴

At the end of the operation the patient is taken to the recovery room and observed for about two hours. She is then returned to the ward where she remains sleepy but easily rousable for about four hours more. Eight hours postoperatively the patient is allowed a light diet and can be progressively ambulant. The next morning the patient resumes normal diet and can be discharged in the early afternoon.

Dosage

We have conducted a retrospective survey of 200 cases of facial rhytidectomy with or without blepharoplasty, done in our Clinic from June 1975 to June 1976, using the technique described.

The patients surveyed were all women classified as ASA status I and II. Average age was 53 years (range 28 to 75). Average weight was 56.8 kg (range 41 to 80 kg) and the average duration of the operation was 3.5 hr (range 1.55 to 5.50).

The surgeons used local infiltration of lidocaine in concentrations ranging from 0.3 to 0.6 per cent for an average of 650 mg (range 200 to 1680 mg) in addition to epinephrine in concentrations ranging from 1/100,000 to 1/300,000 for an average of 494 μ g (range 200 to 890 μ g).

The following drugs were administered at various stages and the average doses and ranges are indicated

	Average	Range
Meperidine	41 mg	20–80
Thiopentone	75 mg	30–280 mg
Diazepam	9.4 mg	4–24 mg
Ketamine	119 mg	25–215 mg

Figure 1 is a model anaesthetic chart illustrating an average case.

Side effects

Pain at the site of injection of diazepam was an infrequent complaint, but there was no case of peripheral thrombophlebitis. The incidence of significant hallucinations was less than one per cent following our small dose of ketamine, but

FIGURE 1

some patients complained of unpleasant dreams during their operation.

The incidence of postoperative nausea and vomiting was in the range of 30 per cent, which is comparable with any other technique. A few patients were nauseated during operation and two vomited, but there were no cases of aspiration pneumonia.

Approximately five per cent of patients showed clinical evidence of respiratory depression which responded well to verbal command. One such patient required tracheal intubation.

A vagal reaction with bradycardia has sometimes been noted at the time of blepharoplasty, which might have been a reflex response to manipulations around the ocular globe. This responded well to atropine 0.2 mg to 0.4 mg intravenously.

The increase of blood pressure induced by infiltration of epinephrine was sometimes presumably potentiated by ketamine, although the previous administration of chlorpromazine greatly attenuated this reaction.

DISCUSSION

The technique described aims at minimizing the disadvantages of local anaesthesia used alone, and avoiding those associated with general anaesthesia with tracheal intubation.

Under local anaesthesia alone, the infiltration can be very painful and distressing to the patient, even after premedication. Due to the length of the operation and painful stages of surgery, the patient may become restless and uncooperative. There is little protection against possible toxic reactions or other adverse effects of the large amounts of local anaesthetic infiltrated, and no anaesthetist at the patient's side to manage such complications.

Under general anaesthesia with tracheal intubation manipulations of the patient's head may induce coughing or dislodge the tracheal tube. Bulky equipment at the operative site may deform facial structures or hinder the surgeon and may also be a source of contamination. Moreover, it is impossible to obtain the patient's cooperation during the operation, when this is desirable. Finally, the dressing is more difficult to apply.

The technique described offers the advantages of analgesia when necessary, along with quiescence and amnesia throughout the operation, while some cooperation on the patient's part remains possible. Minimal doses of intravenous drugs are used, avoiding the presence of cumbersome equipment in the operative field, as well as offering protection against the toxicity or side-effects of the local anaesthetic and epinephrine. Constant supervision by the anaesthetist offers an additional valuable safety measure and helps to maintain near-normal homeostasis. The thirteen plastic surgeons in our clinic are unanimously happy with the technique.

CONCLUSION

The technique which has been described, combining sedation and analgesia (séquentielle modulée)* provided by the intravenous route alone, was used in more than 800 cases of facial rhytidectomy at our Plastic Surgery Clinic in the past four years.

This technique also proved to be a successful complement to local anaesthesia for many other types of surgery such as otoplasty, scar correction and mammary capsulotomy.

SUMMARY

Observations on anaesthesia for facial rhytidectomy in 200 patients, without tracheal intubation or artificial ventilation, are reported in this survey.

Anaesthesia has been managed by the intravenous route alone, using small divided doses of phenothiazine derivatives along with thiopentone, diazepam, ketamine and narcotics.

This technique makes it possible to avoid the disadvantages of general anaesthesia with tracheal intubation and of local anaesthesia alone. The patients were maintained in a state which enabled them to follow simple instructions while a satisfactory state of amnesia and analgesia was achieved.

RÉSUMÉ

Les auteurs rapportent leur expérience de 200 cas d'anesthésie pour rhytidectomie faciale effectués sans intubation trachéale ni autre méthode de ventilation artificielle.

L'anesthésie a été effectuée par voie intraveineuse seule utilisant comme médication le thiopental associé au diazepam, à la kétamine et aux narcotiques à doses fractionnées tout au long de l'intervention.

La technique décrite tente d'obvier aux inconvénients de l'anesthésie locale seule et à ceux de l'anesthésie générale avec intubation trachéale. Elle comporte comme avantages de faciliter au plus haut point les mouvements du chirurgien tout en diminuant les risques d'infection post-opératoire, et de procurer au malade un état de semi-conscience qui rend sa coopération possible durant l'intervention.

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