Anaesthesia for Condylectomy

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VARIOUS problems due to pathology of the temporomandibular joint and of the mandible itself present formidable challenges in airway management to the anaesthesiologist. Ankylosis of temporomandibular joint, either bony or fibrous, occurs mainly due to trauma and also from infection of the middle ear. Mandible usually becomes hypoplastic in these cases and the line of dental bite becomes oblique. Inability to open the mouth makes direct laryngoscopy impossible. In these cases the placement of a nasotracheal tube by a blind technique is extremely essential to maintain satisfactory anaesthesia for operation like condylectomy. The technique of blind nasotracheal intubation avoids the need of tracheostomy which has got its own hazards, morbidity and mortality.

In Plastic Surgery Unit, Medical College and Hospitals Calcutta, 52 patients of trismus were anaesthetised for elective operative procedures of condylectomy during last 6 years. It was considered worthwhile to discuss the technique of anaesthesia, blind nasotracheal intubation in particular and the results of our experience in this field.

The age of the patients varied from 5 years to 30 years. There were 34 males and 18 females in this series. Complete trismus or inability to open the mouth was the chief complaint of the patients and they were posted for condylectomy. At the preoperative visit the patients were carefully examined. Preoperative investigations included standard haemogram, urine analysis and Xray of temporomandibular joints. As the patients were unable to maintain adequate oral hygiene, proper mouth wash was needed preoperatively. In presence of infection antibiotic cover might be helpful. All patients were premedicated with intramuscular injection of pethidine and atropine in usual clinical doses.

Technique of blind nasotracheal intubation

Proper selection of endotracheal tube is essential. A firm and well curved tube is esse ntial. A firm and well curved tube seems to be better than a rigid and flat tube. The tube is well lubricated with xylocaine jelly. The clear, open and wide nostril is to be selected for intubation.

All patients were induced with inhalation of N_2O, O_2 and halothane/ ether under face mask. The patient is then well under anaesthesia with spontaneous respiration. No pillow is usually needed.

The endotracheal tube is then inserted through the nostril and then passed gently

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along the floor of the nose to the oropharynx. The patient at this point is breathing through the endotracheal tube. By listening the character of the sound the tube is guided and advanced to the inlet of larynx and if in the right way, it is introduced into the trachea.

If the endotracheal tube is not in right path, it may be improperly placed on either side of larynx, above and below the inlet of larynx or just in front of adducted vocal cords. In such circumstances the following measures may prove helpful. When the tube is on either side of larynx, the respiration can not be heard and pointed end may impinge to form a slight bulge on the lateral side of the neck, It can be lightly guided by rotating the distal end of the tube aided by the sound of respiration. If the tube posteriorly enters the oesophagus, the tube should be withdrawn a little to oropharynx and then reinserted into the inlet of larynx by adjusting further extension of the patient's head. When the tube lies anterior causing a bulge in front of the neck, the tube should be passed again by diminishing the extension of the patient's head. If the tube lies in front of the vocal cords, most probably inducing little cough, the tube should be rotated gently around (180° to 360°) so that at one point bevel of the tube will enter the larynx consequently slipping the tube into trachea.

After nasotracheal intubation the anaesthesia was maintained with N_2O, O_2 and halothane or ether in semiclosed technique. An infusion with 5% dextrose solution was always started. All vital signs were monitored during operation and anaesthesia. The duration of operation ranged from 60 to 90 minutes. At the end of operation and anaesthesia, pharyngeal suction should always be made before extubation, to clear the mucus, blood, secretions or loose teeth. Pharyngeal pack was not used as the mouth can not be opened before operation. Postoperative sedation with pethidine was often needed for relief of pain.

Complications

Failure of the blind nasotracheal intubation was encountered in 4 cases of the series. Inspite of best attempts it was not possible to intubate them. However, in two cases anaesthesia was maintained with N_2O, O_2 and halothane by keeping the tube in the oropharynx (endopharyngeal). The other two cases were anaesthetised with ketamine. No difficulty was felt during operation, but no doubt, these techniques were very risky as there was every possible chance of aspiration and regurgitation.

Minor trauma was frequent in blind nasotracheal intubation. Bleeding from nose occured in some cases but never caused any problem out of it. No laryngospasm or bronchospasm ever occurred in the present series. But mild hoarseness and sore throat occurred in about 25% cases.

In the series there was one mortality in the early postoperative period. This was a female patient of aged 28 years and she had complete trismus. She was otherwise fit for general anaesthesia. Anaesthesia was induced with N_2O, O_2 and halothane. Blind nasotracheal intubation was tried but failed. Atlast anaesthesia was maintained endopharyngeally. No vomiting or undue secretion ever occured during anaesthesia. Recovery was uneventful.

But on the first postoperative day there was mild respiratory distress and localised surgical emphysema on the right side of the neck. As respiratory distress might be due to glottic oedema, tracheostomy was done. Oxygen was given through catheter. Pharyngeal and tracheal suction were done with proper aseptic measures. Broad spectrum amtibiotics and massive doses of steroid were started. On laryngoscopic examination there was tear in oropharynx most probably due to trauma caused by the pointed end of the endotracheal tube. Chest Xray showed extensive pneumonitis of both lungs. Inspite of all possible measures the patient expired on second postoperative day. No necropsy was done. It was conjectured that the possible cause of death might have been a virulent anaerobic streptococci infection of lungs and also at the site of injury in oropharynx. This patient had very poor oral hygiene at the time of operation and surgical emphysema might be due to this type of infection in oropharynx. Antibiotic were useless in this type of anaerobic infection. Other less possible cause might be the massive aspiration into the lungs in the postoperative period.

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