manually, and the suture was tightened and trimmed. During the manipulation there was no evidence of squeezing of the lids or facial muscles, the extracocular muscles remained still, and the patient seemed completely relaxed and comfortable. He had received no premedication or sedation.

The child had no postoperative discomfort and has little recall of the procedure. He stated that he enjoyed the games he played with the anesthesiologist and would be willing to play those games again.

**Discussion**

Hypnosis has been demonstrated to be an effective alternative to general anesthesia. It offers complete freedom from the adverse physiologic changes, allergic reactions, and residual effects often associated with chemical anesthetics. In ophthalmologic hypnosis may be useful either alone or in combination with retrobulbar block. For procedures involving opening the globe of the eye (e.g., cataract extraction), the latter combination renders the patient comfortable and tranquil, yet completely cooperative, without the post-anesthetic problems of coughing or vomiting. Patient response is favorable, and there is freedom from the dangers of confusion, disorientation, and airway obstruction that may attend intravenous sedation, especially in the elderly. Hypnosis can be very effectively used in conjunction with other agents and techniques to promote optimum patient comfort and safety.

Issues frequently raised about the use of hypnosis in anesthesia include patient selection, reliability, reproducibility, and success rate. While two cases are not enough to permit drawing any conclusions about these issues, the results are most encouraging. Another concern is that the trance will be disrupted in the midst of an operation. In these instances cessation of the surgical stimulus for a brief period in combination with trance-deepening techniques will usually restore the patient to a comfortable state.

Individualization is the key to successful use of hypnosis. Hypnotic abilities vary with motivation, situation, and the rapport established between the patient and the physician. These factors are assessed during the preoperative interview. Erickson has described utilization techniques that tailor the approach to the patient's behavior. For example, the child's remark about the smell of the mask was utilized to induce a trance after other methods had proven unsuccessful. Additionally, this was the first hospitalization for both children, and the appropriate use of hypnosis helped to attenuate a potentially traumatic emotional experience.

Ophthalmic procedures incorporating postoperative suture adjustments may reduce the total number of operations needed for adequate correction of strabismus. The present report suggests that hypnosis may be an ideal anesthetic technique, allowing these procedures to be performed more frequently in children. Further studies are needed to elucidate the role of hypnosis in pediatric anesthesiology and ophthalmology.

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**References**


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**Submucosal Passage of a Nasogastric Tube Complicating Attempted Intubation during Anesthesia**

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The purpose of this communication is to report a difficult nasogastric intubation resulting in submucosal passage of a nasogastric tube, and to review briefly techniques proposed to minimize problems associated with gastric intubation.

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REPORT OF A CASE

A 26-year-old black woman, gravida 3, para 2, weighing 60 kg, was admitted for elective cholecystectomy. The patient had a three-month history of right-sided abdominal pain and nausea, both exacerbated by food ingestion. An oral cholecystogram obtained prior to admission showed numerous small gallstones. Anesthetic history included tonsillectomy during childhood, a laparoscopy with general anesthesia, and two vaginal deliveries performed with spinal anesthesia. Physical examination was unremarkable, except for the absence of four upper incisor teeth.

The patient was premedicated with 150 mg pentobarbital an hour prior to transfer to the operating room. A sleep dose of thiopental, 250 mg, iv was followed by pancuronium, 4 mg, endotracheal intubation, and maintenance of anesthesia by means of controlled ventilation with nitrous oxide (50 per cent) and enflurane (1–2 per cent).

Following establishment of a light plane of surgical anesthesia, attempts were made to pass a #18 French Salem-sump nasogastric tube. The tube was well lubricated but passage through the right nasal airway, then left, proved difficult. The nasogastric tube was re lubricated, then passed through the left nasal airway for a distance of about 10 cm. No further advancement could be achieved. Aspiration recovered neither saliva nor blood. A gloved finger was passed into the pharynx, where the tip of the tube was felt in the posterior pharynx. Further attempts to advance the tube were futile. A laryngoscope was introduced via the mouth for direct visualization. An elevation of the mucosa was seen in the posterior pharyngeal wall beneath the mucosa. The tube was removed under direct vision and the oropharynx suctioned for small amounts of blood. A second #18 French Salem-sump tube was used successfully to intubate the stomach via the mouth and oropharynx. The tube was removed prior to completion of the operation, after adequate decompression of the stomach was achieved. No antibiotic was given.

Postoperatively, the patient complained of a sore throat for four days. There was no sign of bleeding or infection, and the patient was discharged, well, on the fifth postoperative day.

DISCUSSION

Both nasogastric and endotracheal intubation are routinely performed in the daily practice of anesthesia. Previous reports have emphasized the difficulties that can be encountered in attempting to pass a nasogastric tube in the unconscious patient.1-3 Passage of the tube may be impeded by narrowed anterior and posterior choanal septal deviation, esophageal narrowing secondary to an inflated endotracheal tube cuff, inadequate relaxation of the cricopharyngeus muscle, and a variety of other anatomic abnormalities. The following suggestions have been made to simplify insertion: 1) chilling to increase the rigidity of the tube; 2) lubrication; 3) placement of two fingers through the mouth to hold the tube against the posterior pharyngeal wall while advancing the tube to prevent or detect kinking; 4) use of the laryngoscope and Magill forceps to advance the tube under direct vision; 5) passage of the gastric tube through an endotracheal tube previously positioned in the esophagus via the nose; 6) use of a Fogarty catheter, inserted one of the suction ports of the nasogastric tube, adding stiffness to the tube. Unfortunately, none of these precautionary measures can be counted on to prevent submucosal passage of a nasogastric tube. The use of a rigid tube, or one that is chilled or inserted with a stylet, may merely increase the possibility and the length of submucosal tunneling before obstruction is reached, or allow reentry of a submucosally placed tube into the oropharynx or esophagus.

Many other complications of nasotracheal and nasogastric intubation have been described. In 1953, Daly4 reported submucosal placement of a nasotracheal tube during a difficult nasotracheal intubation, subsequently found by visualization with a laryngoscope. The presence of a tumor of the sinuses and air passages or maxillofacial trauma increases the possibility of complications, including retrobulbar hemorrhage and surprisingly, intracranial introduction of a nasogastric tube.5 Intraoperative placement of a nasogastric tube has led to esophageal perforation, followed by peritonitis, and fatal septicemia.6

In the preoperative evaluation of a patient undergoing a surgical procedure that may necessitate intraoperative passage of a nasogastric tube, one should always inquire about the presence of nasal obstruction, history of epistaxis or coagulopathy, and ingestion of drugs known to possess anticoagulant activity. Examination of the nasal airways for signs of obstruction is also indicated.

We emphasize the importance of use of a well lubricated nasogastric tube with direct visualization of the tube tip in attempts at passage in the anesthetized patient. The tube should be introduced along the floor of the nasal airway beneath the inferior turbinate, not upwards toward the sphenoid. Use of Magill forceps with direct visualization is helpful when repeated coiling occurs. Direct visualization may not prevent submucosal passage, but will permit early recognition and help prevent further tunneling, thereby minimizing the possibility of submucosal hemorrhage and infection. We favor the oral route for gastric intubation of patients receiving anticoagulant therapy and in the presence of tumor, infection, or trauma involving the nose, orbit, or sinuses. Furthermore, the oral approach is indicated when attempts through the nasal cavity result in major bleeding or submucosal passage.

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CLINICAL REPORTS

Time vs. Success Rate for Epidural Blood Patch

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Headache is a frequent complication of dural puncture, particularly with a large-bore needle.1,2 Epidural blood patching is a well-accepted therapeutic modality for dural puncture headache; it seemed reasonable that the sooner done, the shorter would be the duration of the headache. We had noticed an unusually high failure rate of epidural blood patching done shortly after dural puncture. Therefore, the following study was undertaken.

METHODS

All cases in which epidural blood patching was done at the University of Utah Medical Center between January 1974 to July 1977 were studied. In all, 66 epidural blood patches were done for post-lumbar-puncture headache on ASA class 1–2 patients. Only these patients who had well-accepted symptoms of post-lumbar-puncture headache were included.1,3 The patient’s age, weight, height, sex, time of dural puncture, and time of epidural blood patching were recorded. Every patient in this study received 10 ml of autologous blood for the patch. Patches were rated unsuccessful, partially successful, or totally successful. Patients were randomly divided into two groups according to the intervals from dural puncture to epidural blood patching: an immediate group less than 24 hours), and a late group (more than 24 hours).

Twenty-four patients received inadvertent dural punctures during attempts at epidural anesthesia (utilizing an 18-gauge Tuohy or Crawford needle) for obstetric procedures (eight patients in the immediate group, and 16 patients in the late group); eight patients had dural-puncture headaches following diagnostic dural punctures (utilizing a 20-gauge spinal needle), all in the late group; eight general surgical patients received inadvertent dural punctures during attempted epidural anesthesia with an 18-gauge needle (four in the immediate group, four in the late group); eight patients received inadvertent dural puncture with an 18-gauge needle during treatment of a herniated lumbar disc (five in the immediate group, three in the late group). Correlations between success rate and the above-mentioned variables were obtained, utilizing chi-square and correlation coefficients. P values less than 0.05 were considered significant.

RESULTS

No significant difference could be related to patient age, height, weight, or sex (Table 1). The rate of unsuccessful patches in the immediate group was 71 per cent, while patches done after 24 hours or more were 4 per cent unsuccessful (P < 0.001) (fig. 1). Eighteen per cent of epidural blood patches done in less than 24 hours were classed as partially successful, as were 18 per cent of those done after 24 hours (fig. 1).

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