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Acromegalic Patient—Indication for Fiberoptic Bronchoscopy But Not Tracheostomy

To the Editor:—Southwick and Katz¹ recommend that elective tracheostomy be performed either preoperatively or prior to removal of the endotracheal tube when a difficult intubation is encountered in acromegalic patients with glottic or soft-tissue abnormalities. It is well known that tracheostomy is not an innocuous procedure, and carries certain risk and complications. I submit that the complications of a difficult intubation could have been avoided by the use of a fiberoptic bronchoscope. When faced with a difficult intubation, familiarity of the anesthesiologist with the use of the fiberoptic bronchoscope would assure an atraumatic endotracheal intubation and avoid the need for tracheostomy, either pre- or postoperatively.

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Headache Immediately Following Attempted Epidural Analgesia in Obstetrics

To the Editor:—A recent paper in *ANESTHESIOLOGY* brought attention to transient headaches occurring shortly after epidural steroid injections.¹ The authors stated that they were unaware of any reports of such headaches occurring after attempted epidural anesthesia for labor and delivery. We have observed two such episodes in obstetric patients.

Patient 1. A 33-year-old woman, gravida 4, para 3, requested epidural analgesia for labor and delivery. The patient was placed in the right decubitus position and an 18-gauge Tuohy epidural needle was placed by loss-of-resistance (LOR) technique with saline solution and 2 ml air in the L3-4 interspace. Dural puncture inadvertently occurred and was documented by aspiration of approximately 1 ml cerebrospinal fluid. Local anesthetic was not injected. The patient complained immediately of mild frontal cephalgia. The epidural needle was removed and replaced successfully with another at the L2-3 interspace using LOR technique

with saline solution. The patient continued to complain of headache, which was exacerbated by elevation of the head. Sodium chloride, 0.9 per cent, (40 ml), was injected through the epidural catheter, with immediate relief of the cephalgia. Six hours later an additional 40 ml of saline solution were injected prophylactically, and the epidural catheter was removed. The patient underwent an uneventful cesarean section and was discharged several days later without further anesthetic complication.

Patient 2. A 31-year-old woman, gravida 2, para 1, requested epidural analgesia for labor and delivery. An 18-gauge Tuohy epidural needle was placed in the L3-4 interspace with LOR technique using 5 ml air. A catheter could not be advanced into the epidural space, so the needle was removed and repositioned again in the L3-4 interspace with LOR using 4 ml air. The patient described a paresthesia in the right leg and severe fronto-occipital headache upon "epidural" entrance. Aspiration yielded no cerebrospinal fluid. The needle was removed. The patient delivered a healthy infant during mask nitrous oxide-oxygen analgesia. The headache persisted. It was exacerbated when the patient was up-

right, less severe when she was supine. On the third postpartum day an epidural blood patch was performed at the L3-4 interspace using 8 ml autologous nonclotted fresh blood, with immediate and complete resolution of the headache. The patient was discharged without further complication.

Rapid drainage of at least 10 per cent of cerebrospinal fluid volume (approximately 20 ml) in standing human volunteers will produce immediate headaches.² This was clearly not the case in our patients. Abram and Cherwenka believe subarachnoid injection of air during attempted epidural cannulation was the etiology of the headaches they reported,¹ and this seems the most likely cause of the headaches we observed. Discussions with our colleagues suggest that the phenomenon of acute lumbar-puncture headache is probably more common in the obstetric population than previously recognized.

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Enflurane Antiarrhythmic Effect Documented

To the Editor:—Williams and Sone¹ initiated their study on the premise that no one had demonstrated any difference in the incidences of arrhythmias in man anesthetized with halothane and enflurane and undergoing surgical procedures. Such is not the case. Dr. Reisner and I determined the incidences of ventricular arrhythmias with and without exogenous epinephrine administration in a group of patients anesthetized with halothane or enflurane and undergoing gynecologic, oral, otolaryngologic or neurologic operations.^{2,3} There were 100 patients in each of the four groups. We found the incidences of ventricular arrhythmias to be 3 per cent in the halothane control group, 7 per cent in the halothane-epinephrine group, 0 per cent in the enflurane control group, and 1 per cent in the enflurane-epinephrine group. Like Williams and Sone, we concluded that the incidence of cardiac arrhythmias is significantly less when enflurane is used.

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DSA System Misleading

To the Editor:—The device that Fleming and Smith¹ have called the density-modulated spectral array (DSA) is essentially a slow-speed on-line recorder of frequency analyses. Automatic gain control of the input signal is both a feature and a limitation of that system, with its inherent loss of all information on the overall amplitude of the electroencephalogram (EEG). Therefore, this device displays proportional amounts of EEG

frequencies but not the total amount of electrical cortical activity. Frequency analysis alone gives a limited view of cerebral activity²⁻⁴ because of the possibility of fast activity remaining even at deep levels of anesthesia² or, in some cases, brain damage (*e.g.*, "alpha" coma). Consequently, the DSA is not sufficiently reliable for routine clinical use, a limitation admitted by the authors. An alternate, simplified EEG mon-