Board for approximately 30 years. I agree also with the writer's mention that Fulton was most generous in his recognition of the work and ideas of others, and he would not for a moment have counternanced overlooking the importance of Asenjo's idea. I think it is also true that considering the tribulations of the war years, it is likely that the idea of a journal of neurosurgery would have been long delayed had it not been for the energetic and enthusiastic promotion of the idea by Fulton.

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Venous Air Embolism in Sitting and Supine Patients Undergoing Vestibular Schwannoma Resection

To the Editor: Duke et al. presented a timely article on a controversial issue (1). In 1987, in his thesis, Smelt (2) reported serious hemodynamic complications occurring in patients who were operated on while in the sitting position for neurosurgical procedures, compromising cerebral perfusion. In addition to these findings, alarming reports from one department about two consecutive cases of postoperative quadriplegia in young patients led to the abandon- ment of this operative position in most neurosurgical departments in The Netherlands.

In our department, neurosurgical procedures have been performed with the patients in the sitting position since the closing of the 1970s, averaging 25 operations per year. To evaluate the risks of the procedure in our department, we reviewed the charts of 91 patients who were operated on between 1989 and 1994 and subsequently studied 17 patients prospectively. The incidence of venous air embolism, measured using precardial Doppler monitoring and capnography, was recorded. Postoperative neurological, cardiac, and respiratory statuses were established, and neurological outcomes after 3 months were determined. The prospective study was focused on the incidence of hemodynamic changes caused by the shift in position and the occurrence of venous air embolism. In addition to routine precardial Doppler monitoring and capnography, a pulmonary artery catheter was inserted. Central venous pressure and pulmonary artery pressure were continuously recorded. Cardiac output was measured, and vascular resistance was calculated. Patients received 0.1 mg/kg diazepam premedication. The legs were bandaged. After intravenous preloading with 10 mL/kg Ringer's lactate, anesthesia was induced using etomidate, fentanyl, and pancuronium and was maintained using oxygen, nitrous oxide, fentanyl, and isoflurane 0.4% end-tidal. If a change in the Doppler signal was accompanied by a decrease in end-tidal CO₂, air embolism was assumed. This was reported to the surgeon, who covered the incision with wet gauze. Nitrous oxide was discontinued, both jugular veins were compressed, and air was aspirated from the central venous catheter. An attempt was made to localize the entry point of the air into the venous system and to seal it. After recovery of end-tidal CO₂, the operation was continued, often without finding a clear entry point.

A total of 108 patients were studied. The mean patient age was 49 years (range, 3-74 yr). In the majority of cases, the diagnosis was a neoplasm in the posterior fossa. The operating time varied from 1 to 9 hours (mean, 182 min). Heart rate, central venous and pulmonary artery pressure, and calculated hemodynamic parameters dropped after putting the patient in the sitting position. However, these changes did not reach statistical significance. In each of 11 patients, there was an acute drop of more than 20 mm Hg in systolic blood pressure after positioning. This could easily be managed by increasing the rate of the intravenous infusion or by the intravenous administration of 5 to 10 mg of ephedrine. Venous air embolism was observed in a total of 23 instances in 20 patients. An acute increase of the pulmonary artery pressure proved to be a sensitive sign of the occurrence of venous air embolism. In only one case was the operation interrupted and continued after repositioning the patient in the prone position. None of these patients suffered neurological sequelae. There were complications in 23 patients, none of which related to positioning or the occurrence of venous air embolism.

We conclude that posterior fossa operations performed with the patients in the sitting position do not lead to serious hemodynamic changes. Venous air embolism occurs but seem to have no serious consequences. Continuous monitoring of the pulmonary artery pressure can serve as an alternative monitoring for venous air embolism. In experienced hands, with proper patient selection and indication, operating with the patient in the sitting position can offer many advantages at an acceptable risk. We fully agree with the authors that the decision regarding which position to use is dictated by preference of the surgical team. We express our hopes that the sitting position will reclaim the credit it deserves. The article by Duke et al. is a significant contribution to the ongoing discussion.


Lymphocytic and Granulomatous Hypophysitis: Experience with Nine Cases

To the Editor: We read with great interest the article by Honegger et al. (2). The authors present nine cases with hypophysitis, including two cases of granulomatous hypophysitis. Interestingly, one patient, a 16-year-old female, had granulomatous hypophysitis and related aseptic meningitis. Once the inflammatory pituitary lesion had been removed by surgery, the symptoms and signs of meningitis ceased, providing strong evidence that the meningitis was secondary to the granulomatous hypophysitis. This is the second report of granulomatous hypophysitis and aseptic meningitis; the first was published in 1992 (3). We report herein a third analogous case, which further emphasizes the possibility...
of a relationship between granulomatous hypothalamic hypophysitis and aseptic meningitis.

In August 1994, this 15-year-old female patient was hospitalized because of a subacute episode with severe headaches, vertigo, and fever (38.3°C). An examination revealed marked neck stiffness. Cerebrospinal fluid (CSF) analysis showed lymphocytic pleocytosis with 660 cells/mm³ but normal protein and glucose levels. No microorganisms were found in the CSF. Detailed serological studies of the CSF and serum showed no evidence of an acute viral infection. Without specific therapy, the patient suffered from recurrent episodes of fever during the subsequent months and developed secondary amenorrhea and diabetes insipidus. She was therefore referred to our endocrine division. Endocrinological assessment revealed posterior and incomplete anterior pituitary failure with luteinizing hormone/follicle-stimulating hormone/adrenocorticotropic hormone deficiencies and mild hyperprolactinemia. In 1995, magnetic resonance (MR) imaging of the pituitary gland showed an intrasellar mass lesion with suprasellar extension and pituitary stalk enlargement. The CSF was found to be sterile, and the cell count was 35 lymphocytes/mm³. Repeat CSF and urine cultures were negative for Mycobacterium tuberculosis. Serological studies of the CSF and serum showed, again, no evidence of an acute viral infection.

Based on these findings, an inflammatory disorder of the pituitary gland was suspected, and the pituitary lesion was biopsied via a frontotemporal craniotomy. Histological analysis was consistent with granulomatous hypothalamic hypophysitis without giant cells. The results of computed tomography of the sinus, chest, and liver were normal, the results of serological testing for lues were negative, a time test yielded negative results, and the angiotensin-converting enzyme concentration was normal. There was, thus, no evidence for the presence of syphilis, tuberculosis, or sarcoidosis. A diagnosis of granulomatous hypothalamic hypophysitis, which had most likely caused the aseptic meningitis, was therefore made. Treatment with prednisolone (25 mg/d) was initiated. Three months later, an MR examination showed a slightly inhomogeneous pituitary gland but no residual hypothalamic mass lesion. The steroid therapy was tapered and stopped after a total of 4 months. During the 3 ensuing years, the patient did not experience any recurrent episodes of fever or meningitis. Although the originally insufficient function of the pituitary-adrenal axis normalized itself, the patient remained luteinizing hormone-, follicle-stimulating hormone-, and adrenocorticotropic hormone-deficient. However, with appropriate hormone substitution, she began to do very well. A recently measured decreased insulin-like growth factor I value may indicate that she is growth hormone-deficient (1).

We describe herein a case of granulomatous hypothalamic hypophysitis associated with aseptic meningitis. It is widely accepted that hypophysitis is an autoimmune disorder. However, whether the associated aseptic meningitis represents an extension of this autoimmune process to the meninges or only a dissemination of inflammatory cells from the pituitary to the CSF space is an issue that remains to be solved. It is of interest that in contrast to reports from the literature (2), our patient, whose pituitary lesion was only biopsied and not totally removed, did not experience recurrent hypophysitis after the termination of the glucocorticoid treatment. Although granulomatous hypophysitis associated with aseptic meningitis is rare (to our knowledge, this is only the third reported case), this disease entity needs to be known by physicians caring for patients with pituitary disorders.

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Surgical Removal of a Choroid Plexus Adenoma Using the Argon Beam Coagulator: Technical Case Report

To the Editor: We read with much interest the report by Sutton et al. (1) of an unusual adenomatous tumor of the choroid plexus arising in the right lateral ventricle of a 12-year-old male patient. In contradistinction to conventional papillomas and carcinomas, both characterized by a papillary architecture of epithelial-covered connective tissue fronds, the lesion described by Sutton et al. displayed a solid, acinar pattern without papillarity. Despite its tendency to recur, the tumor was considered to be of low grade because of its moderate MIB-1 staining (fewer than 1% of tumor cells). Based on their literature review revealing only one similar occurrence in the pediatric age group, the authors suggest that tubular adenoma of the choroid plexus be considered a separate entity.

Before the publication by Sutton et al., a case of choroid plexus adenoma in a 4-month-old male patient was reported by our group (4), including MIB-1 immunohistochemistry and TUNEL analysis of apoptosis. Subsequently, we had the opportunity of reviewing an additional example in a 3-month-old male patient.

Located in the right and left lateral ventricles, and measuring 3.5 and 7 cm in diameter, respectively, both tumors showed microscopic features in accordance with the findings presented by Sutton et al. Notably, parenchymal invasion was lacking. The derivation of neoplastic cells from the plexus epithelium was confirmed using a panel of immunohistochemistry similar to that applied by Sutton et al.

At variance with the proliferation data obtained by Sutton et al., however, the MIB-1 labeling in our cases averaged 16 and 12%, respectively. Comparably high MIB-1 indices have been associated with the histological diagnosis of carcinoma and shortened survival time in the group of conventional choroid plexus tumors (2). With apoptotic rates as high as 8 and 11%, we hypothesize that increased turnover of mitotic cells might have prevented clinically aggressive growth in our cases of choroid plexus adenomas. The first patient remained disease-free 5 years after surgery (4). The second patient died during the perioperative period.