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Neurosurgery Online
To the Editor: The young neurosurgeon was sitting at her desk contemplating the ongoing changes in her practice. Two more years until the turn of the century, and it seemed the managed care revolution was ongoing. She turned to her computer and asked the agent to call up the Neurosurgery Online service. With a few more voice commands, she was in Managed Care. Her community had changed so much that, although her practice now consisted now of 60% managed care, there was a new CenturyCare HMO coming to her community and she had to know how to respond. She scanned the latest messages on the Managed Care bulletin board. A practitioner in Jacksonville had just contracted with CenturyCare. His impressions were clearly written out and described for her review.

She spoke into the microphone to initiate a search: "Find neurosurgery practices dealing with CenturyCare." Soon a listing of 23 practices appeared on her screen. Most were concentrated in several cities in her region; it quickly was evident that CenturyCare had contracted with practices of various sizes and types. She clicked on practices that were apparently similar in size to hers. The experience of each practice varied. With time, she began to understand the issues involved in making her decision to participate in CenturyCare.

One particular practice seemed to be similar to hers. She left a message to the neurosurgeon at that practice, and an electronic dialogue was initiated that would ensue over the upcoming weeks.

One thing that became clear was that CenturyCare had its own neurosurgical practice guidelines. Already burdened by various guidelines from different plans, including the National Neurosurgery Guidelines, she wondered how difficult they would be. She called up CenturyCare’s neurological guidelines. Then, using the Neurosurgery Online service, she called up the National Neurosurgery Guidelines. She asked the computer to compare and print out the differences. Fortunately, she was surprised to find that the differences were minimal, often relating to the length of conservative care or the length of follow-up required. Now she could keep all the guidelines handy on her portable tablet computer for easy access.

While still on Neurosurgery Online, she down loaded reports on practice management: "How to Streamline Your Practice for Managed Care," and "Neurosurgery in a Managed Care Environment." This supplemented her biweekly online "Neurosurgery Managed Care Newsletter."

After a 45-minute session, she was satisfied that her approach had gained significant insight into her own situation. She reflected on how fortunate it was that a few years previously the national neurosurgical organizations had worked to develop this online neurosurgical community. It not only helped her assess her own practice in a managed care environment, it also provided a wealth of neurosurgical resources and a community of neurosurgeons with whom she could easily dialogue.

One particularly useful service was the Neurosurgical Online Consultation Service. Fourteen specialists within each subspecialty field of neurosurgery were each on 24-hour online call every 2 weeks. Although the service had an additional yearly charge, she had access to a neurosurgeon who specialized in any area of neurosurgery 24 hours a day, which had been useful the previous week when she had admitted a 24-year-old man with dizziness and a vascular malformation in the brain stem and cerebellum. After sending the magnetic resonance and digital angiogram images, along with the patient’s history, to the consultant's computer, she had been able to get an opinion.

This consultation service supplemented the National Neurosurgery Data Base. The Data Base was updated continuously. A wealth of neurosurgical information was available online, either through her desk-top computer or anywhere that she took her tablet computer. Wireless, while on the ward, she could type "search for low-grade glioma, English literature, past 10 years."

She particularly liked the open forums. The Neurospine Forum was always lively. At home in the evening, she could sit and participate in the discussions, sometimes arguments, of neurospinal cases with neurosurgeons at their desk-tops throughout the country. She could also ask questions regarding a particular case and get responses from the community.

Looking back, she realized that 1994 had been the threshold of the online revolution. In order to remain vital, neurosurgery had seized the opportunity. It had not only changed the way she handled the knowledge and the nature of her practice, but it changed the community of neurosurgeons itself. Although this new world was just beginning to be built, neurosurgery had become one of its prime builders.

John Oro
Columbia, Missouri


Iatrogenic Cerebrospinal Fluid Fistula to the Pleural Cavity: Case Report and Literature Review
To the Editor: I read with interest the article by Assietti et al. (1) in which a case of iatrogenic subarachnoid-pleural fistula secondary to the resection of an upper lobe carcinoma of the lung is reported. In 1986, another similar case was described by Soler et al. (2) in the Spanish literature. A 53-year-old man presented with headache and confusion 25 days after undergoing an upper left lobectomy for carcinoma of the lung through a left thoracotomy at the fourth intercostal space. A chest x-ray...
demonstrated a cavity with an air-fluid level in the upper lung field at the T4-T5 level. A computed tomographic scan of the head showed a significant amount of air in both lateral ventricles and in the subarachnoid space. A subarachnoid-pleural fistula was suspected. A radionuclide myelogram (technetium-99) failed to demonstrate any communication at this level. Metrizamide myelography showed displacement of the spinal cord to the right at the T4-T5 level and irregularity of the tectum; there was no leak of contrast medium. A valve mechanism was suggested to explain the accumulation of intracranial air without radionuclide or contrast medium leakage. A gas radionuclide (xenon-133) was introduced into the postsurgical cavity, which quickly revealed an extension of radioactivity in the head, confirming communication. There was no need for surgical exploration because spontaneous closure occurred. Considering the difficulty in diagnosing and treating this unusual complication, Assietti et al. should have included this case in their article.

Vicente Joanes
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REFERENCES: (1,2)


A Review of Brain Retraction and Recommendations for Minimizing Intraoperative Brain Injury

To the Editor: I wish to comment about some references to the possible detrimental effects of mannitol in the excellent article by Andrews and Bringas (1). In most instances, serum sodium concentration and osmolality change in the same direction. The transient decrease in serum sodium concentration and increase in serum osmolality that follows the administration of mannitol (2,3) is related to the increase of extracellular fluid volume and the added extracellular solute (mannitol) and is not known to be deleterious. In fact, the use of mannitol during neurosurgical procedures tends to obviate the hyponatremia and hypo-osmolality that frequently occur on the first postoperative day (4,5).

A continuous infusion of mannitol (rather than a bolus administration) during surgery was the method recommended when we introduced the use of mannitol in neurosurgery (6).

Burton L. Wise
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REFERENCES: (1-6)


In reply: We appreciate Dr. Wise's comments on our discussion of the effects of mannitol on serum sodium concentration and osmolality (1,2). We agree that the changes (a transient decrease in serum sodium and increase in osmolality) are likely to ameliorate the hyponatremia and hypo-osmolality that can occur in the early postoperative period after craniotomy (4,5).

The principal issue is whether mannitol is beneficial during neurosurgical procedures in terms of improved outcome. Even though mannitol in a bolus administration may improve cerebral blood flow to ischemic areas, several groups have shown no effect from mannitol on the preservation of brain or spinal cord electrical activity (3-5). Thus, the acute electrolyte changes with a bolus mannitol administration may not be quite as benign (with regard to neural integrity) as the longer-term effects of a bolus of mannitol on hyponatremia and hypo-osmolality might suggest.

With regard to bolus versus continuous administration, Dr. Wise cites his very interesting work on cerebrospinal fluid pressure plus urinary volume and sodium concentration after the intravenous administration of mannitol in patients with mass lesions and increased cerebrospinal fluid pressure (8). They infused mannitol (1.5-4.25 gm/kg) over 60 to 90 minutes, rather than our more rapid infusion of 2 gm/kg over 15 minutes. However, by "frequent, small doses or continuous infusion" (1), we implied dividing the usual bolus dose (e.g., 1 gm/kg) given every 4 to 6 hours, which would be on the order of 1/4 gm/kg/h. To our knowledge, a study of continuous low dose mannitol and long-term