Spinal Anesthesia for a Deaf–Mute Patient Undergoing Prostatic Surgery

Steven M. Shulman, M.D., Smita Polepalle, B.S.

Hearing impairment is probably the single most prevalent chronic physical disability in the United States. It is estimated that nearly 25% of the population older than age 75 yr have hearing difficulties. Yet physicians, in general, and anesthesiologists, in particular, are not trained to interact with these patients. A review of the literature revealed only two articles regarding anesthesia for the deaf, and neither of them stressed the important issue of communication. We present the case of a deaf–mute patient who underwent a transurethral resection of the prostate (TURP) under regional anesthesia.

Case Report

A 77-yr-old deaf–mute man was admitted because of urinary incontinence, abdominal discomfort, and gross hematuria. Cystoscopy, performed under local anesthesia and without the benefit of communication with the patient, confirmed the diagnosis of an enlarged prostate. A TURP was scheduled for the following day. The patient’s medical history was significant for emphysema, pulmonary fibrosis, deafness, and muteness. He had been deaf and mute his entire life. He also had mild dementia. His inappropriate behavior was subsequently considered to be related to his deafness and inability to speak.

At the preoperative visit, we communicated through writing. An interpreter skilled in sign language was scheduled to be present in the operating room throughout the procedure. Her presence was requested, not only to calm and reassure the patient, but also to transmit to us any complaints, particularly those suggesting TURP syndrome.

The interpreter was present in the operating room during the entire procedure, which lasted approximately 1 h. During the induction of anesthesia and operation, the patient was able to communicate with the interpreter with sign language. Spinal anesthesia using 15 mg of hyperbaric tetracaine was induced without difficulty in the sitting position. Then the patient was placed in the lithotomy position, and a sensory block extending to T8 was detected by diminished sensation to pinprick. Oxygen was administered by nasal cannula, and his hemoglobin oxygen saturation remained greater than 95%. The patient was able to maintain adequate communication except during a 10-min interval of drowsiness after intravenous administration of a 1-mg dose of midazolam.

There was no significant change in his serum sodium concentration, and his recovery room stay was uneventful. However, on discharge to the floor after the interpreter had left, the patient became agitated, which lasted several hours. There was no clinical evidence that the patient was hypoxic at this time. He was not cyanotic and appeared to be breathing adequately. Only the arrival of his sister, who was able to communicate with him, restored his normal mentation. He reported to her that he was not short of breath or in pain at that time.

Discussion

One of the objectives of using regional anesthesia during TURP is to enable the patient to transmit any signs and symptoms of TURP syndrome, such as dizziness, headache, nausea, tight feeling in the chest and throat, and shortness of breath. Some patients also have mental status changes. However, we should remember that disorientation and agitation may occur in deaf patients simply because they lack constant contact with background sounds.

Hearing impairment can have different social consequences, depending on its severity and onset time. Patients with prelingual deafness (before the onset of speech) tend to be more withdrawn from the rest of society. Although extensive research has shown that the capacity for intelligence and abstract thought in these patients is undiminished, their level of educational achievement tends to be low because of their inability to speak.

People with hearing impairments are stereotyped as having a paranoid personality. Previously, it was be-
lieved that "while deafness does not itself produce mental illness, it does by its very nature provoke paranoid ideas in sensitive individuals by keeping them from direct contact with what others in the environment are saying and thinking, thus laying the foundation for suspicion" (p. 44). Those with a hearing impairment were fourfold as likely to be classified as paranoid in one study. However, other issues (such as age or socioeconomic status) also may explain the association of deafness and paranoia. In evaluating deaf people, we must remember that psychologic tests using verbal language generally are not valid. The association between hearing loss and paranoid states has not been demonstrated conclusively in any study.

There are several modes of communication that are used by those with hearing impairments. Lip reading is encouraged widely, but few seem to benefit significantly because only some sounds actually can be "read." Most deaf people who have been educated in the United States use American Sign Language (ASL). This language is conceptual rather than alphabetical, and it omits articles of speech and verb tense. The language is based solely on visual signs, without lip reading and vocalization. Unfortunately, most family members of deaf people do not learn ASL, and as a result, themselves have problems with communication. Those not educated in this language can use gestures (mime) or pictures to communicate broad concepts.

Obviously, it is important for the physician to establish effective communication and interaction with patients. We should remember that many people with hearing loss may try to conceal their deafness, and those with hearing aids may still have residual defects. Thus, any time a patient gives an apparently inappropriate answer, it is important to consider whether the question has been heard. In speaking with the hearing-impaired patient, we should hold the patient's hand and sit close, maintaining the full facial view to facilitate lip reading.

There are federal and state laws that apply to the deaf patient requiring hospital care. Any federally funded hospital must not discriminate against disabled patients. The New York State Patient Rights Regulation mandates that an interpreter be available within 20 min for a patient in the hospital. However, because there is a shortage of certified ASL interpreters and other practical considerations in regard to implementing this regulation, each hospital has established its own policy. Some organizations for the deaf also offer limited free services by a social worker skilled in ASL.

To conclude, this case report illustrates the need for proper communication with a deaf-mute patient, particularly during surgery performed under regional anesthesia. We also discussed the advantages of having an interpreter available.

References