Facial nerve paralysis after superficial cervical block for tympanoplasty

Thomas J, Chatterjee D, Ciarallo C, Merritt C, Bielsky A, Merritt G
Childrens Hospital Colorado, Aurora, CO, USA

Introduction
Tympanoplasty is the repair of the eardrum and is required most often due to eardrum perforations. Regional anesthesia can be a useful and safe adjunct for post-operative pain control. The branches of the cervical plexus responsible for the sensory innervation of the external ear include the greater auricular nerve (GAN) and the lesser auricular nerve. While cervical plexus block is meant to be a sensory block, complications have been reported including facial nerve palsy. Additionally, the facial nerve courses though the middle ear. During a tympanoplasty, the surgeon must be careful not to injure this nerve, as they too can cause facial nerve palsy, a known complication of the procedure.

Case Report
A 7-year-old female was scheduled for surgical repair of a tympanic membrane perforation. After an uneventful anesthetic, a greater auricular/superficial cervical plexus block was performed for postoperative analgesia and to help minimize nausea.

In the PACU, the child's mother noticed facial asymmetry and informed the nurse who reassured her that facial weakness was common after the performance of regional anesthesia. No physician was notified. The following day the mother called to report continued weakness. She was reassured that blocks can last up to 2 weeks.

One week later, with continuing facial paralysis, the parents were referred to ENT and underwent urgent evaluation, possible exploration and nerve repair. The facial palsy subsequently resolved with expectant management.

Discussion
How well we communicate with care team members concerning our procedures is a critical component of patient safety. There is an expectation during the transfer of care in the surgical setting that those performing procedures will communicate the possible side effects.

Tympanoplasty is a common pediatric procedure with minimal risk. Similarly, greater auricular nerve and superficial cervical plexus nerve blocks are reported to have minimal risk. The goal of many peripheral nerve blocks is to aid in the recovery of patients by minimizing narcotic requirements. Although facial nerve paralysis following tympanoplasty and middle ear surgery is thought to have a low incidence, a study with 22 patients showed an injury rate of 14% after tympanoplasty1.

Conclusion
The importance of transfer of care communication and the use of checklists for these kinds of events are of high importance and are becoming standards emphasized by hospital credentialing organizations. This incident highlights the importance of thorough communication that directs attention to the common and uncommon events that surround surgical and anesthetic procedures. We hope to use this event as a catalyst for improving communication in handoff regarding regional anesthesia and creating specific surgical and regional anesthesia educational resources to improve patient care.

Reference