Posterior cervical decompression

Indications

Posterior cervical decompression is a procedure to relieve nerve compression in the cervical spine. This is most often caused by a condition called “cervical stenosis” which refers to narrowing or compression of the spinal canal. Cervical stenosis may be “central” (in the center of the canal) or “foraminal” (at the nerve exit tubes), or, commonly, both. Cervical stenosis may involve pressure on the spinal cord (causing “myelopathy”) and/or cervical nerve roots (causing “cervical radiculopathy”). Cervical myelopathy is a serious condition of progressive weakness, numbness, imbalance, and (in some cases) bowel and bladder dysfunction. Cervical radiculopathy is associated with neck pain and/or pain, tingling, and/or numbness radiating down from the neck to the shoulder, arm, forearm, and/or hand. The extent of symptoms depends on exactly which nerves are compressed or irritated, how severely, and on which side (may be right, left, or bilateral). Surgical treatment is indicated when cervical myelopathy (spinal cord compression) or cervical radiculopathy (cervical nerve root compression) does not respond to conservative measures such as anti-inflammatory medications and physical therapy (cervical traction and decompression). Progressive numbness or weakness is an urgent indication for surgery.

Surgery description

In a posterior cervical decompression procedure, the patient is placed under general anesthesia. Neuromonitoring (nerve monitoring) is routinely performed. The patient is placed in a device that firmly holds the head and then is turned prone (on their front) and all pressure points are padded. The cervical area (back of the neck) is prepped and draped in a sterile fashion. Intravenous antibiotics are given, taking care to avoid any drug allergies. Next, fluoroscopy (intraoperative X-ray) is used to localize the affected level (or levels in cases of multilevel posterior cervical decompression). This allows placement of a small (minimally-invasive) incision. The operating microscope is brought in for careful microdissection. The spine is accessed and then the appropriate amount of bone is removed (“laminectomy” in the case of central stenosis and “foraminotomy” in the case of foraminal stenosis) to accomplish nerve decompression. Importantly, the structural integrity of the spine is preserved, as there is no hardware placed (no fusion) during this procedure. At the conclusion of the decompression, the spinal canal and/or foramina have been decompressed, and the space for the nerves has been restored. Finally, the incision is closed in layers. Biocompatible glue (Dermabond) is placed over the skin sutures and a waterproof dressing is applied.

Postoperative care and outcome

This is minimally-invasive outpatient (same-day) surgery. Copious local anesthetic is placed around the incision at the end of surgery so that the patient wakes up as “numb” and thus comfortable as possible. In addition to standard pain medication, many

patients will temporarily need muscle relaxant medication to prevent cervical muscle spasm. Walking immediately is encouraged. Going up and down stairs is fine. The main thing is to avoid heavy lifting, particularly overhead lifting. Regarding dressing care, showering immediately is fine, just blot the dressing dry after each shower, take the dressing off in 1 week, and please avoid total immersion (like bath, jacuzzi, or pool) until after the sutures are removed (2 weeks).

The outcome from posterior cervical decompression is generally excellent. The vast majority (80-90%) of patients have relief from the symptoms of stenosis and nerve pain within a few weeks (and sometimes immediately). While it depends on the nature of the job, most patients can go back to work in approximately one week postoperatively. At the two-week postoperative visit, we inspect the incision, remove the sutures, adjust or wean medications, and start physical therapy. It varies among patients, but usually 6-8 weeks of physical therapy are indicated to optimize neuromuscular and functional outcome. We see patients again at 3 months postoperatively to reassess outcome and need for further medications or therapy.