Cranial Nerve Disorders in the Elderly

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The golden years ought to be an enjoyable time, but for patients suffering from trigeminal neuralgia (TN) and hemifacial spasm (HFS) life can become unbearable. Both of these disorders, which disproportionately affect older patients, are of particular interest at the Center for Cranial Nerve and Brainstem Disorders. TN and HFS are debilitating conditions that can severely reduce the quality of life of patients. Each affecting only one side of the face, TN and HFS result in searing jolts of pain and severe spasms, respectively. Since both disorders are typically caused by a blood vessel compressing the corresponding cranial nerve, surgeons performing an operation called microvascular decompression (MVD) can cure each disorder by interposing a synthetic barrier between the blood vessel and nerve.

A recent focus for the Center has been on improving the standard of care for elderly patients (over the age of 65) with trigeminal neuralgia or hemifacial spasm. Although microvascular decompression offers the best chance of a long-term cure with minimal morbidity, many patients over the age of 65 have been advised to avoid MVD because of a higher perceived risk in this subpopulation. As a result of this belief, elderly patients with TN are often offered a percutaneous procedure such as radiofrequency rhizotomy, glycerol rhizotomy, or balloon compression when medications fail. While such procedures are less invasive than MVD, they are also damaging to the trigeminal nerve and trade pain relief for sensory side effects. Because pain often recurs within several years of one of these procedures, they usually must be repeated many times. After all, many 65-year-old patients will live for another two decades. With each repeated procedure, the chance of devastating sensory dysfunction increases.

Additionally, elderly patients with hemifacial spasm often receive botulinum toxin therapy only. While many patients are satisfied with this treatment, many become frustrated because it does not provide a long-term cure and it weakens the facial muscles. Finally, some elderly patients with cranial neuropathies are offered no treatment at all.

Our team has recently published two prospective studies—one for trigeminal neuralgia and one for hemifacial spasm—showing that not only can elderly patients markedly benefit from MVD, but also that these benefits do not appear to come with any greater risk than in younger patients (Tables 1 and 2). In our practice, even patients in their eighties routinely undergo MVD with low morbidity. Although scrupulous patient selection is important in any surgical endeavor, the criteria for elderly patients need not be any more stringent than in younger patients. Additionally, thanks to recent advances in anesthesia techniques and the availability of an experienced team to care for post-MVD patients, patients in both the young and the elderly groups had a median hospital stay of only two days without the use of intensive care.

As a result of this focus, the Center has accrued substantial experience with microvascular decompression and other procedures in elderly patients. Recent and ongoing operative innovations include the use of endoscopy to improve visualization and surgery without rigid head fixation or retractors.

For further information regarding comprehensive surgical treatment of cranial neuralgias, please contact Ann Wilkinson, RN, at 412-647-3920.

Table 1: Complications of MVD for TN in the Elderly Cohort

Complication	No. of Patients (%) N=36
Numbness	5 (13.9%)
New or worsened dysesthesias	2 (5.7%)
Death	0
Cerebellar hematoma	0
Stroke	0
Hyponatremia	2 (5.7%)

Table 2: Complications of MVD for HFS in the Elderly and Non-elderly Cohorts

Complication	Elderly No. of patients (%) N=27	Non-elderly No. of patients (%) N=104
Death	0	0
Stroke	0	1 (1.0%)
Cerebellar hematoma	0	1 (1.0%)
Immediate facial weakness (transient/permanent)	1 (3.7%)/1 (3.7%)	5 (4.8%)/1 (1.0%)
Delayed facial weakness (transient/permanent)	1 (3.7%)/0	11 (10.6%)/1 (1.0%)
Vestibular nerve dysfunction (transient/permanent)	1 (3.7%)/0	1 (1.6%)/2 (1.9%)
Unilateral hearing loss (partial/complete)	2 (7.4%)/0	2 (1.9%)/3 (2.9%)
Dysphagia or hoarseness (transient/permanent)	4 (14.8%)/0	3 (2.9%)/2 (1.9%)

Table 1:
Adapted from Sekula RF Jr, Frederickson AM, Jannetta PJ, Quigley MR, Aziz KM, Arnone GD. Microvascular decompression for elderly patients with trigeminal neuralgia: a prospective study and systematic review with meta-analysis. J Neurosurg. 2011 Jan;114(1):172-9.

Table 2:
Adapted from Sekula RF Jr, Frederickson AM, Arnone GD, Quigley MR, Hallett M. Microvascular decompression for hemifacial spasm in patients >65 years of age: an analysis of outcomes and complications. Muscle Nerve. 2013 Nov;48(5):770-6.