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Congress of Neurological Surgeons Systematic Review and Evidence-Based Guidelines on Surgical Resection for the Treatment of Patients With Vestibular Schwannomas.

Hadjipanayis CG¹, Carlson ML, Link MJ, Rayan TA, Parish J, Atkins T, Asher AL, Dunn IE, Corrales CE, Van Gompel JJ, Sughrue M, Olson JJ.

1 Department of Neurosurgery, Mount Sinai Beth Israel, Icahn School of Medicine at Mount Sinai, New York, New York.

QUESTION 1: What surgical approaches for vestibular schwannomas (VS) are best for complete resection and facial nerve (FN) preservation when serviceable hearing is present?

RECOMMENDATION: There is insufficient evidence to support the superiority of either the middle fossa (MF) or the retrosigmoid (RS) approach for complete VS resection and FN preservation when serviceable hearing is present.

QUESTION 2: Which surgical approach (RS or translabyrinthine [TL]) for VS is best for complete resection and FN preservation when serviceable hearing is not present?

RECOMMENDATION: There is insufficient evidence to support the superiority of either the RS or the TL approach for complete VS resection and FN preservation when serviceable hearing is not present.

QUESTION 3: Does VS size matter for facial and vestibulocochlear nerve preservation with surgical resection?

RECOMMENDATION: Level 3: Patients with larger VS tumor size should be counseled about the greater than average risk of loss of serviceable hearing.

QUESTION 4: Should small intracanalicular tumors (<1.5 cm) be surgically resected?

RECOMMENDATION: There are insufficient data to support a firm recommendation that surgery be the primary treatment for this subclass of VSs.

QUESTION 5: Is hearing preservation routinely possible with VS surgical resection when serviceable hearing is present?

RECOMMENDATION: Level 3: Hearing preservation surgery via the MF or the RS approach may be attempted in patients with small tumor size (<1.5 cm) and good preoperative hearing.

QUESTION 6: When should surgical resection be the initial treatment in patients with neurofibromatosis type 2 (NF2)?

RECOMMENDATION: There is insufficient evidence that surgical resection should be the initial

treatment in patients with NF2.

QUESTION 7: Does a multidisciplinary team, consisting of neurosurgery and neurotology, provides the best outcomes of complete resection and facial/vestibulocochlear nerve preservation for patients undergoing resection of VSs?

RECOMMENDATION: There is insufficient evidence to support stating that a multidisciplinary team, usually consisting of a neurosurgeon and a neurotologist, provides superior outcomes compared to either subspecialist working alone.

QUESTION 8: Does a subtotal surgical resection of a VS followed by stereotactic radiosurgery (SRS) to the residual tumor provide comparable hearing and FN preservation to patients who undergo a complete surgical resection?

RECOMMENDATION: There is insufficient evidence to support subtotal resection (STR) followed by SRS provides comparable hearing and FN preservation to patients who undergo a complete surgical resection.

QUESTION 9: Does surgical resection of VS treat preoperative balance problems more effectively than SRS?

RECOMMENDATION: There is insufficient evidence to support either surgical resection or SRS for treatment of preoperative balance problems.

QUESTION 10: Does surgical resection of VS treat preoperative trigeminal neuralgia more effectively than SRS?

RECOMMENDATION: Level 3: Surgical resection of VSs may be used to better relieve symptoms of trigeminal neuralgia than SRS.

QUESTION 11: Is surgical resection of VSs more difficult (associated with higher facial neuropathies and STR rates) after initial treatment with SRS?

RECOMMENDATION: Level 3: If microsurgical resection is necessary after SRS, it is recommended that patients be counseled that there is an increased likelihood of a STR and decreased FN function. The full guideline can be found at: https://www.cns.org/guidelines/guidelines-management-patients-vestibular-schwannoma/chapter_8.

KEYWORDS: Acoustic neuroma; Neurofibromatosis type 2; Stereotactic radiosurgery; Surgical resection; Vestibular schwannoma

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