

Introduction

Intramedullary spinal cord ependymomas are often associated with capsular syrinxes. The natural history and prognostic implications and strategies for addressing a co-incident syrinx at the index surgery are unknown.

Methods

Patients with surgically treated spinal ependymomas diagnosed at the authors’ institution since 2001 were retrospectively reviewed. Patients with drop metastases or previously treated tumors were excluded. Patients were grouped to those with spinal syrinx (Group A) and those without (Group B). Continuous independent variables were assessed with unpaired student’s t-tests; independent categorical variables with Chi Squared analysis.

Results

Fifty-five patients were included: 27 had a syrinx (group A) and 28 had none (group B). Of the 55, 15 were WHO grade I (group A: n=2,13%), 38 were grade II (group A: n=23,60.5%), and 2 were grade III (group A: n=2,100%). Patients in group A more commonly presented with sensory symptoms (OR 5.77, 95%CI 1.6-21.2, p=0.0085), had a thoracic (OR 4.9, 95%CI:1.2-20.5, p=0.0293), or grade II lesion (OR 4.98, 95%CI:1.4-18.2,p=0.015). Gross total resection was achieved in 89% and 93% in groups A and B respectively (OR 1.5, 95%CI:0.2-9.7, p=0.67). Forty-five (82%) of patients had clinical follow-up , with an average of 27 months. Regression in size or length of the syrinx was seen 57.1% of Group A patients postoperatively. No patients in Group B developed a new syrinx. Persistent postoperative myelopathy and sensory symptoms were more common in Group A (OR 16.9, 95%CI:1.9-147,p=0.0104; OR 64, 95%CI:6.8-604,p=0.0003).

Learning Objectives

- 1)Spinal ependymomas are often associated with spinal syrinxes
- 2)Ependymoma associated syrinxes are more common in Grade II and III ependymomas, but may also be seen in Grade I lesions
- 3)The presence of a syrinx does not change the ability to achieve a gross total resection
- 4)Patients who have undergone surgery are more likely to have persistent or worsened myelopathy and sensory loss if their ependymoma was associated with a syrinx.

References

Boström A vLM, Hartmann W, Pietsch T, Feuss M, Boström JP, Schramm J, Simon M.: Surgery for spinal cord ependymomas: outcome and prognostic factors. Neurosurgery 68:302-308, 2011.

2.Kucia EJ, Bambakidis NC, Chang SW, Spetzler RF: Surgical technique and outcomes in the treatment of spinal cord ependymomas, part 1: intramedullary ependymomas. Neurosurgery 68:57-63; discussion 63, 2011.

3.Kucia EJ, Maughan PH, Kakarla UK, Bambakidis NC, Spetzler RF: Surgical technique and outcomes in the treatment of spinal cord ependymomas: part II: myxopapillary ependymoma. Neurosurgery 68:90-94; discussion 94, 2011.

4.Nagasawa DT SZ, Cremer N, Fong C, Lu DC, Yang I.: Complications associated with the treatment for spinal ependymomas. Neurosurg Focus 31:E13, 2011.

Conclusions

Patients with thoracic, and grade 2 ependymomas were more likely to have associated syrinxes and present with sensory loss. The presence of a syrinx is not associated with gross total resection. Patients with ependymoma related syrinxes are more likely to have higher grade tumors and have residual myelopathy and sensory symptoms following surgical resection.