

Foramen Magnum Meningiomas: Lateral Suboccipital Approach Without Condylar Drilling. A Series of 12 Patients José Carlos Lynch MD Servidores do Estado Hospital

Introduction: To describe our surgical technique, analyze its safety and the postoperative out come in 12 consecutive Foramen Magnum Meningiomas (FMM).

Methods: From 1986 to 2011, 12 patients with FMM underwent operations in the Department of Neurosurgery at Servidores do Estado Hospital (HSE). All patients were operated using a standard sub occipital craniectomy, preserving the occipital condyle, and ipsilateral removal of the posterior arch of C1.



Figure 1: (a) Sagittal and (b) axial T1weighted MRI with contrast enhancement.



Figure 2: (a) Sagittal CT scan revealing a homogeneously enhancing tumor located anterior to the FM. The medulla is dislocated in a posterior direction. (b) Postoperative sagittal CT scan demonstrating a complete resection of the tumor via a suboccipital retrocondylar craniotomy in addition to a partial removal of the posterior arch of C1. The spinal medullary junction returned to the normal position.

Results: There was no operative mortality, 9 patients achieved GOS 4 0r 5. Condylar resection was not deemed necessary in any case. Gross total tumor removal (GTR) was achieved in 9 patients. After surgery, 4 patients developed lower cranial nerve (LCN) weakness. There was no significant postoperative complication in the remainders. The average follow-up is 8,2 years.

Conclusions: The vast majority of foramen magnum meningiomas can be safely removed with a retrocondylar lateral suboccipital approach without condylar resection, using meticulous microsurgical techniques.

Figure 3



Figure 3: (a) Cervical CT scan detected a heavy calcified lesion. (b) Sagittal T1weighted MRI showing a tumor located anterior to the FM extending inferior to the body of C3. (c) A contrast-enhanced T1weighted MRI obtained at the 5-year follow -up examination showing an almost complete tumor resection. There is a minimal extra dural residual tumor. The patient made a GOS 4 recovery.

Learning Objectives: By the conclusion of this session, participants should be able to diagnose the FMMs, describe the principals symptoms and the importance of choosing the best surgical strategy.

References

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