THE CHANGING PARADIGM IN THE TREATMENT OF POSTERIOR FOSSA MENINGIOMAS

Tomasello F.

University of Messina, Messina – ITALY

ftomasel@unime.it

AIMS: Posterior cranial fossa meningiomas are still a surgical challenge because of anatomical relationships with neurovascular structures. However, since the pioneering report of Castellano and Ruggiero in 1953 on the Olivecrona series, the surgical results improved significantly.

METHODS: The personal surgical experience in 66 consecutive cases is reported with emphasis on the surgical nuances, clinical outcome and recurrence rate. The series includes 20 (30.3%) tentorial, 16 (24.2%) petro-tentorial and petro-clival (anterior to the Internal Acoustic Meatus - IAM), 16 (24.2%) posterior petrous bone (posterior to the IAM) and 5 (7.6%) foramen magnum meningiomas.

RESULTS: The follow-up ranges between 24 and 120 months. The extent of resection, clinical outcome and recurrence rate are reported for different subtypes according to dural attachment. The most complex cases were petro-tentorial, petro-clival and foramen magnum. In selected cases radiosurgery represents the initial treatment. Complete resection was achieved in 90% of cerebellar convexity, tentorial and posterior petrous bone meningiomas. This rate decreases to 60% in case of massive venous sinus invasion. The extent of resection further decreases to 45% in petro-tentorial and petro-clival meningiomas mainly due to cranial nerves encasement.

CONCLUSIONS: Monitoring of cranial nerves, endoscope assisted microsurgery, use of ICG video-angiography and judicious extent of resection, were useful in increasing the rate of removal and achieving better quality of life.

Moreover, the role of radiosurgery (Cyberknife™) as adjuvant post-operative treatment on residual or recurrent tumors and even as first choice in selected cases, is emphasized. The availability of radiosurgery and improvement in its methodology are major advances contributing to change the paradigm of treatment in complex posterior fossa meningiomas.