# EANO Guideline for meningiomas

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In recent publication for the Lancet Oncology (Lancet Oncol 2016; 17: e383–91) Goldbrunner and collaborators created a task force to establish EANO recommendations in the meningioma treatments. These Tumors are the most frequent in the CNS but there are few studies designed adequately comparing the therapeutic possibilities. The recommendations were suggested after systematic literature review, but limited to the degree of recommendation B, C, or experts' opinion.

## Diagnosis

- The radiological diagnosis should be done through magnetic resonance
- Angiography should be limited to specific and exceptional cases
- Tumor tissue should be kept for future molecular studies
- The histological verification, adequate gradation, is important but not mandatory in all cases

### Treatment

- Clinical monitoring through imaging could be suitable for asymptomatic patients, especially elderly
- If the treatment is suggested for any histological classification, the surgery should always be considered as first option
- Complete Resection (Simpson 1) should Always be the first surgical objective
- Resection degree should always be confirmed with post-operative MRI
- Radiosurgery can be the first option for patient with small injuries in specific locations with hard surgical access
- For patients with meningiomas grade 1 that cannot undergo surgery, a fractionated radiotherapy or radiosurgery should be considered
- Embolization should be used as pre-operative option only in restricted cases
- Combination of subtotal tumor Resection with fractionated radiotherapy or radiosurgery could be considered as treatment option for preventing adverse events in the disease progression
- Patient with incomplete Resection with grade II meningiomas should receive fractionated radiotherapy or radiosurgery
- Pharmacotherapy and experimental in meningiomas of any grade should only be considered as treatment option if a new radiotherapy or surgery is considered for the patient

### Follow-up

- Monitoring for grade I meningiomas should be done annually until five years and after that biannually.
- Monitoring for grade II meningiomas should be done every six months for five years and after that annually.

• Monitoring for grade III meningiomas should be done every three months

RANO criteria for meningiomas are being elaborated for optimizing radiologic interpretation in the treatment of these tumors.

Within the systemic treatment options, AKT inhibitors target Therapy, Hedgehog inhibitors, FAK inhibitors, anti-angiogenesis, PI3K inhibitors and trabected stand-out with good future perspective.

#### This publication is available at:

www.thelancet.com/oncology Vol 17 September 2016

The table below is an interesting fluxogram proposed by EANO :

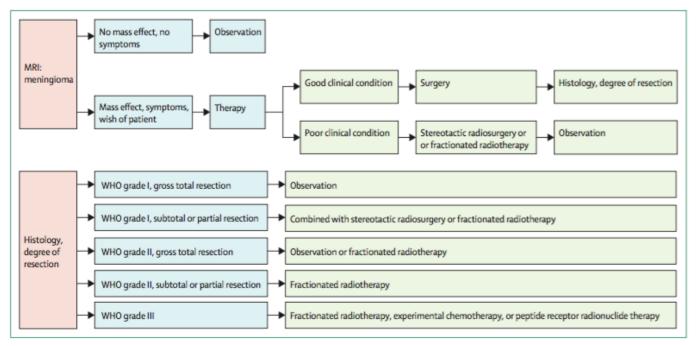


Figure 1: Recommendations for the therapeutic management of meningiomas of WHO grades I-III