

# Meningiomas

These are large, mostly benign tumors (rarely malignant forms - meningiosarcoma). They occur most often around 45 years of age, more often in women (2:1). They often have hormone receptors, and there is also a significant coincidence with breast cancer. If they occur in childhood, neurofibromatosis type 2 should be considered. They represent about 15% of all intracranial tumors.

Meningioma grows from the arachnoidea (spider web), dura mater grows through secondarily. It creates hyperostosis on the bone and later destroys it. The meningioma is pushed into the brain. The localization is most often on the convexity of the brain or on the cranial base (parasagittally in the anterior and middle fossa), falx, wing of the sphenoid bone, sellar region, pontocerebellar angle, tentorium, foramen magnum. The first three localizations form a group of superficial meningiomas. Near the veins, it tends to grow into them and obliterate them.

Forms:

1. **solitary** meningiomas;
2. **meningeomatosis** - multiple meningiomas.

## Clinical picture

The symptoms are related to focal neurological findings and intracranial hypertension. The localization of the tumor is important, from which the given symptoms depend.

- In ``superficial meningiomas, ``*focal symptoms* prevail - hemiparesis, hemihypesthesia, epileptic seizures;
- cranial nerves disorders are typical for meningiomas at the base of the skull - in the front and middle cranial fossa loss of smell, vision disorders, oculomotor disorders, in the posterior cranial fossa [[facial nerve palsy|paresis] ] nervus facialis, hearing disorders, tongue paresis;
- when localized **in the pontocerebellar corner** it imitates the symptoms of vestibular schwannoma;
- oppression of the cerebrospinal fluid leads to hydrocephalus, there is a rise in intracranial pressure;
- with a meningioma on the basis of the frontal lobe, there is the usual "organic psychosyndrome" with joking and not admitting difficulties.

## Diagnosis

CT and, above all, MRI with more detailed imaging are of main importance in the diagnosis of meningioma. The tumor is richly supplied with blood. After the administration of the contrast agent, there will be a homogeneous increase in density on both CT and MRI. Furthermore, angiography is performed, with the help of which embolization of the supply vessels of the tumor can also be performed. This will reduce the risk of intraoperative bleeding. During angiography, a meningioma is stained in the capillary phase - unlike gliomas, which are stained in the arterial phase.

- CT
- Mr
- Angiography

## Treatment

- The basis is **neurosurgical removal** - the entire tumor is removed, including the infiltrated dura mater. The dura mater defect is replaced by plastic. The infiltrated bone is also removed and replaced with polymethyl methacrylate plastic or titanium mesh. In some cases (cranial base meningiomas) it is necessary to perform only a partial removal and to irradiate the rest of the tumor with a gamma knife.
- Conventional irradiation is used in the case of aggressive and malignant forms of meningiomas.
- Recurrence depends on the radicality of the procedure, after complete resection about 10% of recurrences in 10 years.

## Links

### Related Articles

- Neurofibromatosis

### Source



Intrakraniální meningeom

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## References

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