Intracranial meningioma angiography

Classic pattern: appears early in arterial phase, blush persists beyond venous phase ("comes early, stays late"). Meningiomas characteristically have external carotid artery feeders.

Some notable exceptions that feed from the ICA:

- 1. low frontal median meningiomas (e.g. olfactory groove): feed from ethmoidal branches of the ophthalmic artery
- 2. suprasellar meningiomas: may also be fed by large branches of the ophthalmic arteries
- 3. parasellar meningiomas: tend to feed from the ICA. Secondary vascular supply may be derived from pial branches of the anterior, middle, and posterior cerebral arteries
- 4. petroclival meningiomas: Artery of Bernasconi and Cassinari

Artery of Bernasconi & Cassinari AKA artery of tentorium (a branch of the meningohypophyseal trunk) AKA the "Italian" artery: enlarged in lesions involving tentorium (e.g. tentorial meningiomas).

Angiography also gives information about occlusion of dural venous sinuses, especially for parasagittal/ falx meningiomas. Oblique views are often best for evaluating patency of the superior sagittal sinus (SSS). Angiography can also help confirm diagnosis by the distinctive prolonged homogeneous tumor blush. Angiography also provides an opportunity for pre-op embolization (see below). Pre-op embolization: Reduces the vascularity of these often bloody tumors, facilitating surgical removal. Timing of subsequent surgery is controversial. Some advocate waiting 7–10 days to permit tumor necrosis, which simplifies resection.

Complications include: hemorrhage (intratumoral and SAH), cranial nerve deficits (usually transient), stroke from embolization through ICA or VA anastomoses, scalp necrosis, retinal embolus, and potentially dangerous tumor swelling. Some meningiomas (e.g. olfactory groove) are less amenable to embolization.

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