

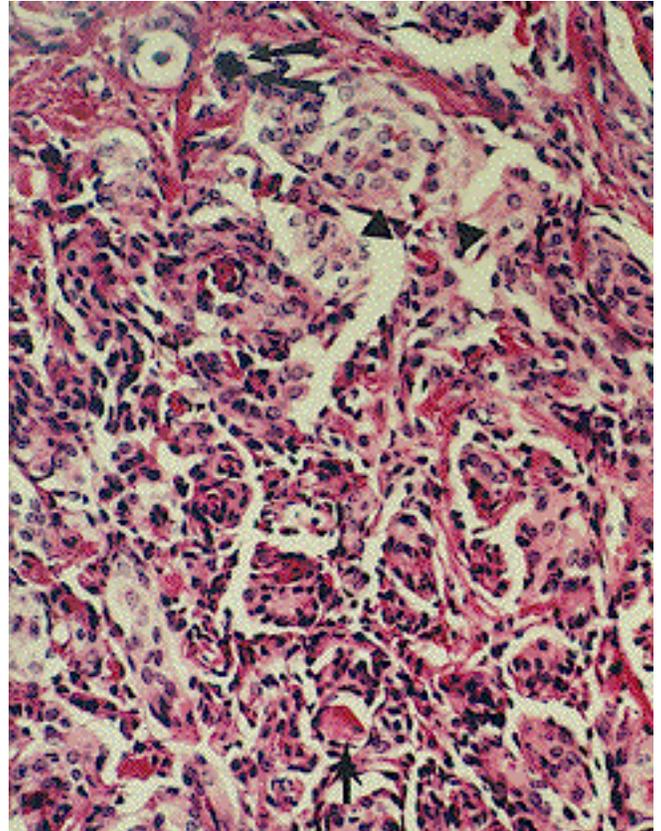
MENINGIOMA

Meningiomas arise from “arachnoid fibroblasts” of the arachnoid granulations which transfer cerebrospinal fluid to the bloodstream. In the brain meningiomas are firm, bosselated growths, occasionally plaque-like, that indent the brain but do not invade it. Calcification is common and may be seen on X-ray. Ectopic meningiomas also occur. Some are connected to similar tumors in the central nervous system and some stand alone. In the head and neck area, the middle ear and other parts of the temporal bone are sites of meningioma, and also the paranasal sinuses, orbit, and parotid gland.

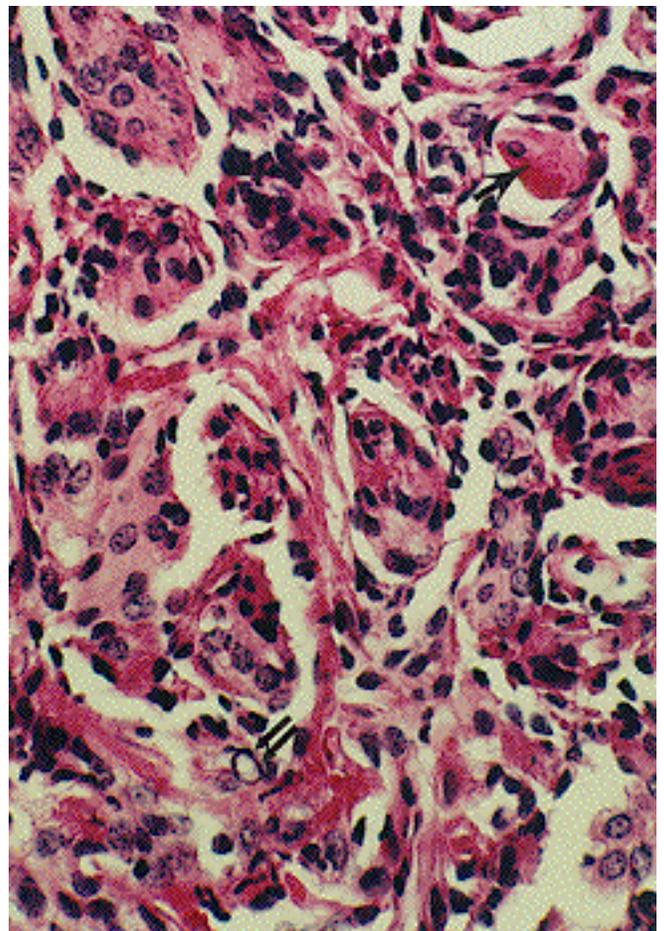
Grossly, meningiomas are gritty when cut and show a whorl-like pattern on the cut surface.

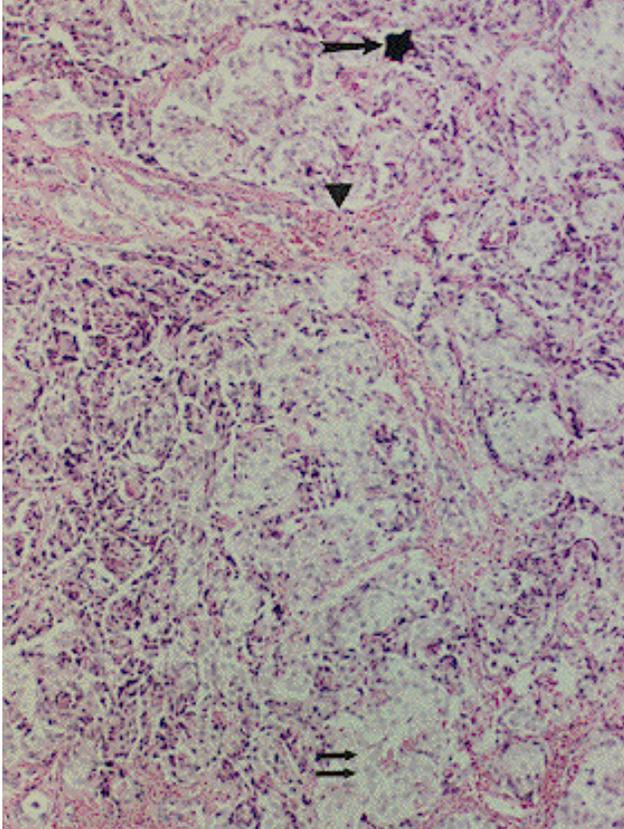
Microscopically, there are cells of different shapes, depending on the type of meningioma. Some authorities say the cell type is the same in all examples with overlapping and intermediate forms. Those of the middle ear represent the meningioepithelial type and have round to oval nuclei sometimes with a punched-out or empty appearance. Cell borders are indistinct. Pleomorphism and mitoses are not seen. There are whorls and lobules of cells separated by a variable amount of connective tissue. Psammoma bodies are not as common in middle ear as in intra-cranial tumors. Transitional meningiomas show whorls of epithelioid cells surrounded by spindle shaped cells. In the fibroblastic meningioma there are fibroblastic type cells and diligent search usually reveals meningioepitheliomatous elements.

Meningioma, middle ear. Small nodules of cells with round to oval nuclei (triangles) separated by connective tissue. The beginning of a psammoma body is seen as an ovoid pink mass (single arrow). Another shows a dark, already calcified area (double arrows) and a tiny calcification in an empty space just adjacent.

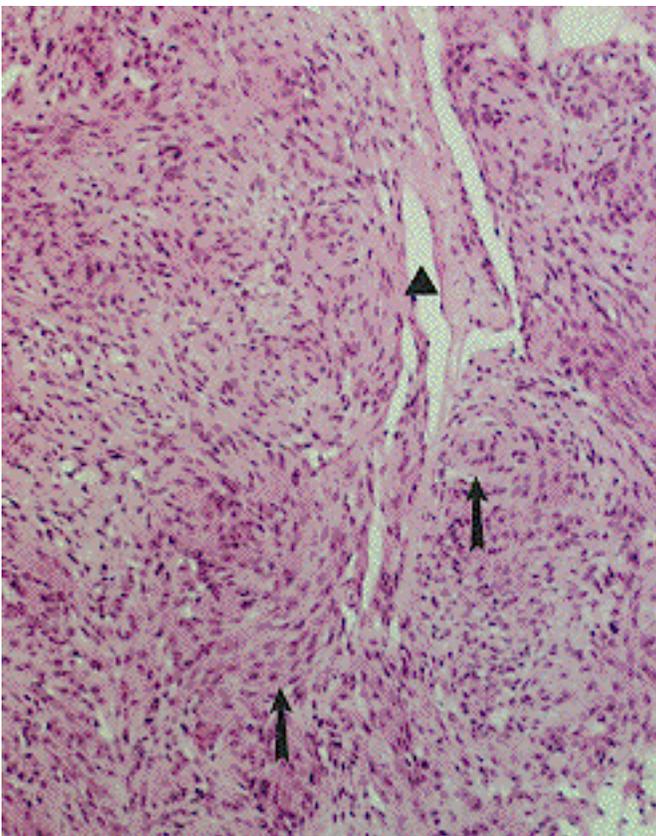


Meningioma, middle ear, high power photo. Large arrow points to what is likely the formation of a psammoma body. Double arrows indicate a “punched-out” nucleus. Lobules of cells are clearly seen.





Meningioma, middle ear, meningotheelial type, showing whorls and lobules of bland-looking epithelioid cells (double arrows) and fibrous septa (triangle). Single arrow points to a psammoma body.



Meningioma, fibroblastic type, sphenoid sinus. Whorling (arrows) is well developed and tumor cells are more elongated. Vascular spaces are prominent (triangle).

Meningioma, brain, transitional type, high power. Well-formed psammoma body. A small part of a whorl of epithelioid cells (triangles) is seen surrounded by spindle shaped cells (arrow).

