# Hemangiopericytoma

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Hemangiopericytoma is a rare (up to 1%) primary intracranial neoplasm. According to the WHO classification, hemangiopericytoma belongs to tumors of unknown origin, although some consider them to be histologically similar to angioblastic meningiomas. There is a hypothesis that they come from pericytes—cells surrounding capillaries (Casentino et al. 1993; Parker et al. 1999). Macroscopically hemangiopericytomas resemble meningiomas. Mostly these are dense tumors with a lumpy surface, often well demarcated, infiltrating the brain tissue, and attached to the dura mater with their wide base and are exceptionally well vascularized (Konovalov et al. 2005).

On CT, hemangiopericytomas have heterogeneously increased density without contrast enhancement and are characterized by marked contrast enhancement that further highlights the heterogeneity of the tumor structure, mainly due to the presence of cysts and areas of necrosis. A CT perfusion study demonstrates exceptionally high flow rates in the tumor stroma, with the heterogeneity of its distribution, more pronounced than that in meningiomas. Distinctive features of metastases are rather hyperostotic than destructive changes in the adjacent bone structures.

MR signs of hemangiopericytoma are variable. The heterogeneity of the tumor structure is best demonstrated on T2-weighted MRI, while on T1-weighted MRI, they may look almost isointense. The accumulation of the contrast agent has also pronounced and heterogeneous character. Very often large abnormal blood vessels can be detected in the tumor stroma (Fig. 32.1).

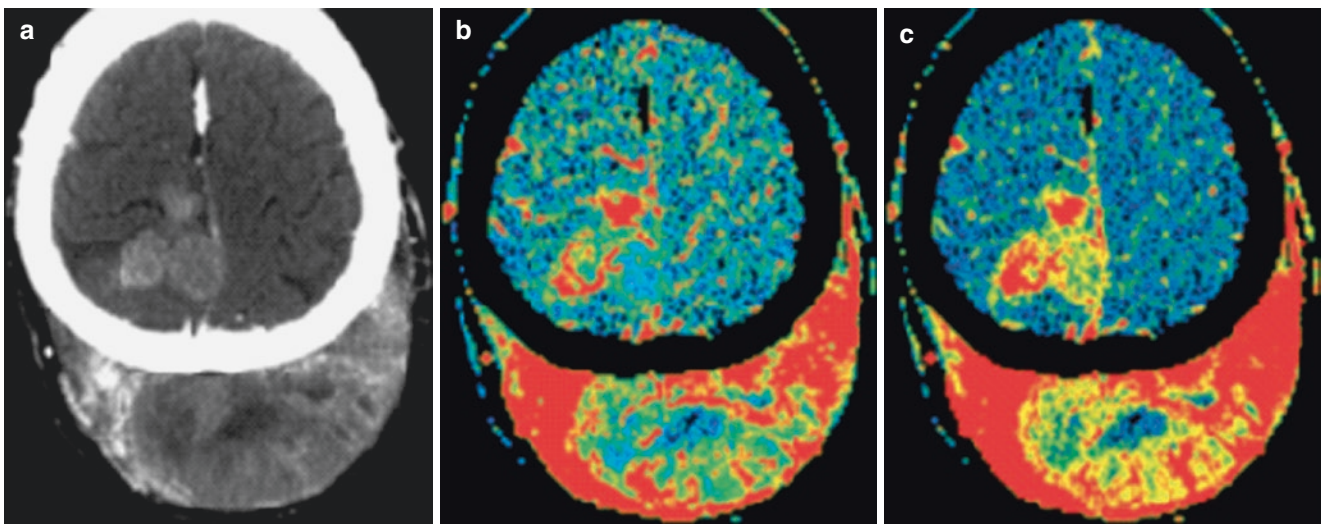


**Fig. 32.1** Hemangiopericytoma. On contrast-enhanced CT (**a**), in the parietal region, there is an extensive intra-extracranial tumor, as well as a multinodular lesion in the right parietal region without a significant perifocal edema. On perfusion maps of CBV (**b**) and CBF (**c**), the tumor is characterized by a sharp increase in the blood flow


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