

## Case 8

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### Clinical Abstract:

This 62 year old female physician was diagnosed with infiltrating ductal breast carcinoma. She underwent a right modified radical mastectomy. Eight months later the patient received chest wall radiation therapy of approximately 1000 rad for metastatic disease. She developed an idiosyncratic hypersensitivity reaction to the radiation therapy which was manifested by pericarditis, pleuritis and mediastinitis. These symptoms resolved after the radiation therapy was discontinued. She was placed on Tamoxifen. One year later, she developed occipital headaches and an MRI scan revealed multiple brain metastases. In less than one month, she was placed on Decadron and began a course of wide beam radiation therapy. She received a total of 2000 rad over 14 treatments. Three months later, she received an additional 1080 rad over 6 treatments without complications. An MRI scan at that time revealed gadolinium-enhancing mass lesions consistent with metastases without evidence of any vascular anomaly. Her subsequent course was complicated by recurrent pulmonary emboli and steroid myopathy.

The patient's past medical history is significant for hyperextensible joints, hyperelastic skin and a separation of the pubic symphysis during parturition.

Three months later, she was admitted to the hospital for terminal care. Physical exam at that time was notable for mild cognitive impairments, hyperextensible finger joints, a question of hyperelastic skin and generalized weakness. MRI revealed multiple CNS metastases. 4 days after admission, the patient suffered one generalized seizure and thereafter remained stuporous. Her condition deteriorated until she became deeply comatose. No further diagnostic tests were performed after the seizure. She expired 16 days after the seizure.

Autopsy revealed multiple CNS metastases which were microscopically consistent with the breast primary. A large, fresh subarachnoid hemorrhage was located over the base of the brain and extended over the parietal and occipital lobes (L>R) and posterior cerebellum (R>L). Microscopic sections of this lesion revealed occasional hemosiderin-laden macrophages. The Circle of Willis exhibited multiple aneurysms. Other blood vessels in the leptomeninges and the brain parenchyma, as well as small, medium and large systemic vessels, were histologically unremarkable. Gross and microscopic examination of both lungs and the heart revealed mild pleural thickening but no apparent difference between the right and left sides.

**Material Submitted:** One H&E stain slide of the M2 segment of the right middle cerebral artery.

**Point for Discussion:** Etiology of the lesions of the Circle of Willis.