D-18. A Case of "Juxta-Basal Abnormal Arteriolar Network"

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A fatal case of the "juxta-basal abnormal arteriolar network" in a 43 year old female with thorough postmortem examination was presented.

About 14 years ago, the house wife had a sudden subarachnoid hemorrhage and left hemiplegia, which improved in 3 weeks.

On Jan. 14, '62, she was admitted to our hospital because of the second attack. Bilateral carotid angiograms disclosed both internal carotid occlusions (C-1) and "juxta-basal abnormal retia". Six weeks later she was discharged, being improved.

On Aug. 28, '65, she abruptly developed the third subarachnoid hemorrhage associated with disturbed consciousness, right hemiplegia, motor aphasia and right homonymous hemianopsia. Bilateral carotid angiograms revealed the same findings. Ten weeks later she was improved by conservative treatments.

On April 6, '66, she had the fourth attack. The disease progressed rapidly to its termination in 27 days.

The principal autopsy findings were as follows:

1) The internal carotid arteries were markedly decreased in outer diameter just beyond the neck bifurcation on both sides.

2) Marked intimal thickening with fibrosis, and thrombi were seen in the bilateral distal portions of the carotid arteries (C-4 to C-1), proximal portions of the anterior (A-1 and A-2) and the middle cerebral arteries (M-1 and M-2), and in the left posterior communicating artery. Left C-2, bilateral C-1, left A-1, bilateral A-2, M-1 and M-2, and left posterior communicating artery were completely occluded.

3) Multiple necrotic and hemorrhagic foci were found elsewhere in the cerebral white matter and basal ganglia. Midbrain, pons, medulla oblongata and cerebellum were almost free from such lesions.

4) The vascular tangles were found in the pia-arachnoid covering the cerebral surface and sulci, but not in the cerebral parenchyma.

In conclusion, the "juxta-basal abnormal arteriolar network" should be regarded as collateral pathways via leptomeningeal arteries which developed when a serious circulatory disorder was present in the distal portion of the internal carotid artery and/or Willis' circle.