

The remainder of the material was obtained from the department of neuropathology of the University of Toronto with the aid of Prof. Eric Linell. It consisted of 3 hemorrhagic lesions of the cerebral arteries, each from a different case. Two were from the basilar artery, and the third was from the left middle cerebral artery. The latter was studied by partial serial section.

OBSERVATIONS

Intimal hemorrhages of sclerotic cerebral arteries have been found both with and without thrombosis of the adjacent arterial lumens. The hemorrhages were similar in all respects to those described in sclerotic coronary arteries. Serial section through several of them showed the hemorrhage to be confined to the deeper layers of the thickened intima, the more superficial intimal layers and the endothelium being intact (fig. 1A). The intimal hemorrhages were observed only in areas of atheromatous degeneration. In many instances small capillaries lay in proximity to the extravasated blood and to the lumen of the artery. Serial section showed these capillaries to arise from the arterial lumen (fig. 1B). Frequently, in individual cases, intimal hemorrhages were multiple in the cerebral arteries, and sometimes similar hemorrhages were found as well in other arteries of the musculoelastic type. For example, in 1 case there was an intimal hemorrhage at the site of thrombosis in a middle cerebral artery, 11 other intimal hemorrhages in various parts of the cerebral circulation, a large intimal hemorrhage resembling a localized dissecting aneurysm in the abdominal aorta and an intimal hemorrhage of the right coronary artery which produced stenosis of the lumen.

Certain possible sequelae of intimal hemorrhages in sclerotic cerebral arteries were suggested in the series. In the first place, 1 case presented an interesting association of symptoms resembling cerebral arteriospastic attacks, and at autopsy multiple intimal hemorrhages of varying ages were observed in the cerebral arteries. A summary of the history of this case follows:

CASE 1.—A 63 year old, obese woman, known to have had diabetes mellitus and hypertension for three years, complained of frequent headaches, fatigue, defective memory and numerous falls over the same period of time. Most of the falls occurred when she tripped over some object, but she had also fallen for no apparent reason when walking on level ground. She had fallen downstairs three times. She was admitted to the hospital with signs and symptoms of cerebral arterial thrombosis. The blood sugar on admission was 314 mg. per hundred cubic centimeters, and the blood pressure was 178 systolic and 118 diastolic. Forty-five days later she died with signs of bronchopneumonia.

The principal abnormalities noted at autopsy were atrophy of the pancreas with fibrosis of the islets of Langerhans, marked atherosclerosis of the aorta, coronary and cerebral arteries, multiple intimal hemorrhages of the aorta, coronary and cerebral arteries, thrombosis of a middle cerebral artery, softening of the right parietal lobe of the brain, thrombosis of the femoral veins and pulmonary embolism.