

Microscopically, 12 intimal hemorrhages, including the 3 noted on gross examination, were found in various parts of the principal cerebral arteries. Each hemorrhage had occurred into an area of atheromatous degeneration. Occasionally the lumen appeared to be stenosed by the hemorrhage. Many of the intimal hemorrhages lay in the outer zones of the thickened intima, in contact with the media (fig. 1A). The hemorrhages varied in age; some consisted of intact red cells, while in others the red cells had disintegrated, and stainable iron was present. One artery with an outside diameter of 2.5 mm. showed almost complete stenosis of the lumen by atherosclerotic thickening of the intima, recent hemorrhage into the outer zone of the intima and complete occlusion of the lumen by thrombus material of fairly recent formation. Capillaries lay in proximity to several of the intimal hemorrhages, and in 1 instance serial section showed one of these capillaries to arise from the lumen of the artery. Sections through the intimal hemorrhage in the right coronary artery showed marked stenosis of the lumen by an atheromatous plaque in which there was a large amount of hemorrhage, consisting of disintegrating red cells and yellowish pigment. The hemorrhage was so massive that it had obviously compressed the already stenosed coronary lumen. Sections through the intramural hematoma of the abdominal aorta showed the hemorrhage to be confined to a large intimal atheroma. Numbers of capillaries lay between it and the endothelial lining.

Six cases of cerebral thrombosis have been studied to date. The thrombosed segments of the arteries were sectioned serially throughout their length. Intimal hemorrhage was found at the point of thrombus precipitation in 4 of the 6 cases. When parts of a single thrombus varied in age (as determined by the amount of organization), the oldest part was attached to the arterial wall close to an intimal hemorrhage (fig. 2). Both the thrombi and the intimal hemorrhages were of recent origin in 3 of the 4 cases, while in 1 case the thrombus was organized and the intimal hemorrhage largely converted into pigment. In this case there was also an organized thrombus with an old intimal hemorrhage in the right coronary artery, as well as a number of fresh intimal hemorrhages in both branches of the left coronary artery. Each of the cerebral thrombi which were associated with intimal hemorrhages had formed at a point of stenosis of the lumen of the artery. Capillaries lay in proximity to the intimal hemorrhages and to the arterial lumens in several cases.

Finally, a case has been observed in which an intimal hemorrhage had ruptured through the medial coat of the artery and leaked into and through the adventitial fibers (fig. 3). A summary of the history and the observations at autopsy in this case follows:

CASE 2.—A 72 year old man gave a history of senile mental deficiency, poor memory and inability to move the left arm for many years. Just before admission swelling of the feet and ankles developed, with breathlessness on the slightest exertion. The blood pressure on admission was 150 systolic and 90 diastolic, but later it rose to 184 systolic and 100 diastolic. Signs of bilateral bronchopneumonia developed and the patient died about two weeks after admission.