

40. The early age at which they occur has been noted by several writers. Thus, of seventy-nine cases collected by Coats,\* there were forty-two between the ages of 10 and 40. Seven were males and three females. The arteries involved were: Left internal carotid, *Case I*; right Sylvian, *Cases II* and *V*; left Sylvian, *Cases III, V* and *IX*; basilar, *Cases IV, VII* and *VIII*; and anterior communicating, *Cases VI* and *X*. The aneurisms ranged in size from a small pea to a large cherry. With the exception of *Case IV*, they were sacculated, and communicated with the lumen of the vessel by an orifice smaller than the circumference of the sac. In *Case V*, there were two aneurisms, one on either Sylvian artery. In *Case III*, the aneurism was surrounded by thickened meningeal tissue; in the others the sac was free. In five cases the hemorrhage was meningeal, and the laceration of brain substance was slight. In *Case III* the hemorrhage was altogether into the substance, which, from Coats' account, seems not uncommon. The extravasation was usually basal, and beneath the arachnoid; the amount of blood considerable, except in *Case I*. In *Case X*, the hemorrhage extended along the right optic nerve and appeared as sub-conjunctival ecchymosis.

In *Cases III, VII, VIII* and *IX* there was heart disease; in *Case VIII*, ulcerative endocarditis. In *Cases I, V, VI, VII* and *IX* there were atheromatous changes in the branches of the circle of Willis.

Embolism, endarteritis and atheroma are the chief causes of aneurism, and the cases in this series afford illustration of each. Although it was suggested by Ogle,† Church‡ and others that embolism played an important part in the production of aneurism, the evidence was not very conclusive until the publication of Ponfick's observations in 1873.|| In several of his cases, the connection of the embolus with the aneurism was very clearly demonstrated. Of the cases here recorded, four were associated with heart disease, but in only one, *Case III*, was

\* Glasgow Medical Journal, 1873.

† Medical Times and Gazette, 1866.

‡ St. Bartholomew Hospital Reports, Vol. VI.

|| Virchow's Archiv, Bd. LVIII.