Aneurysm of a superior cerebral vein

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Among 880 specimens of cerebral dura mater with enclosed sinuses, one had a sharply delineated bulbous conformation of the distal segment of a superior cerebral vein. There was no evidence of an arteriovenous malformation. Early plaque formation was present in the inner aspect of the thick wall of the dilated segment of vein.

KEY WORDS • cerebral veins • venous aneurysm • cerebral varices

Among 880 autopsy specimens collected for a continuing study of the cerebral dural sinuses and their tributaries, we found one with a bulbous dilatation of a segment of a superior cerebral vein. The specimen was obtained from the cadaver of a 51-year-old woman whose death was due to massive pulmonary infarction. The general autopsy findings were not pertinent to the isolated and presumed developmental anomaly herein recorded.

Anatomical Observations

The fusiform dilatation involved the most caudal vein of the left middle group of superior cerebral veins and lay at the shoulder of the cerebral hemisphere. The dilatation extended from a point 8 mm lateral from the junction of the involved vein and the superior sagittal sinus and was 2.2 cm in length. The maximal diameter of the varix was 1.4 cm. The aneurysm-like mass was joined at its ventrolateral aspect by a small vein from the medial cerebral cortex. There were no arteries joining the varix, nor was there any evidence of a regional arteriovenous malformation. The orifice of the implicated vein, as viewed from the opened lumen of the superior sagittal sinus, was average in size and conformation. The superior sagittal sinus had been injected with a vinlylacetone mixture before the aneurysm was discovered. The lumen of the dilated segment of vein was partly filled. The mass of injected material and a part of the resultant cast may be seen projecting through the lateral opening of the aneurysm (Fig. 1).

FIG. 1. Photograph of the undersurface of the convexity dura mater showing the segmental varix (A) lying in the left parasagittal area. The distal part of the involved vein is seen joining the superior sagittal sinus just to the left of the folded falx cerebri. At the opening of the proximal part of the varix, one can see the projecting vinlylacetone mass.
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The histological section taken through the wall of the varix showed irregular thickening and early plaque formation (Fig. 2). The streak of foreign substance along the lower border of the section represents vinylite medium injected into the cerebral veins before the specimen was removed.

Discussion

LeGros Clark\(^1\) reported, as we have observed, that in some instances a short segment of a superior cerebral vein is dilated immediately before it joins the superior sagittal sinus. According to him, this may be mistaken for a lacuna lateralis. Our observations indicate that these two anatomical structures; that is, slight dilatation of the terminal part of a superior cerebral vein and a lacuna lateralis are totally dissimilar in position and conformation. The segmental dilatation of the superior cerebral veins herein recorded was approximately 10 times the size of an average or normal vein at this site. Such an aneurysmal dilatation should be readily identified on a phlebogram. It appears that the only import of a segmental enlargement of a cerebral vein as herein described is that the neuroradiologist and neurosurgeon should be aware of such an occurrence.

Reference