The So-Called Solid Hemangioblastomas of the Cerebellum and Vertebral Angiography

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Despite the extensive application of cerebral angiography during the last two decades, it is our impression that this method is used relatively little in the management of the diagnostic problems of expanding lesions of the cerebellar fossa. This may be ascribable to several reasons, such as the lack of a satisfactory technique to allow a regular and adequate visualization of the vertebrobasilar arterial system, the more difficult interpretation of the posterior circulation resulting most probably from insufficient familiarity with its angiographic patterns, and the fact that the yield of the angiogram in the expanding lesions of the cerebellar fossa is much less than in those located supratentorially.

Although the present techniques for filling the vertebral system still leave much to be desired, they have improved sufficiently to give data that otherwise are unobtainable by the rest of the preoperative investigations. This information has diagnostic value and is of great help in planning the surgical attack, the correctness of which will determine the success or the failure of the therapeutic procedure in a number of cases.

The so-called solid cerebellar hemangioblastomas are among such instances since they offer serious difficulties for their total excision in contrast with the so-called cystic hemangioblastomas in which the small neoplastic nodule in the wall of a large nontumoral cavity is of easy surgical control. Their incidence is small, but they are sufficiently significant, particularly if we take into consideration the fact that they can be removed at operation, totally and successfully.

The angiographic demonstration of this type of lesion was first shown by Olivecrona.

In his case the tumor was not found at the 1st operation, but was demonstrated by vertebral angiography carried out some days later. A detailed description of the radiographic appearance was made by Lindgren. We have considered it interesting to present 2 of our patients who, in our judgment, illustrate the usefulness of angiography in the diagnosis and treatment of these cases.

One of our patients was a 14-year-old girl, a fact which in itself represents an unusual instance since it is exceptional for cerebellar hemangioblastomas to manifest themselves in patients at this early age.

Case Reports

Case 1. #3-84-17. J.H.F., a 42-year-old white male, came to the J. Hillis Miller Health Center complaining of headache, mild vertigo, and weakness of both lower extremities. These symptoms had been progressing slowly for a period of 1 month. On the morning of admission he became aware of increased weakness of the lower extremities so that his knees buckled up under him. He also noticed an increase in the severity of his headache.

Examination revealed a horizontal nystagmus on both lateral gazes and a mildly ataxic gait with evidence of swaying anteriorly and posteriorly but without falling on the Romberg test. There was an extensor plantar response of the left big toe. The hematocrit was 49 per cent.

On the day of admission, Jan. 17, 1963, right retrograde brachial angiography was performed and a highly vascular lesion, 3 cm. in diameter, was demonstrated in the region of the cerebellar vermis (Figs. 1 and 2). This lesion retained the contrast material late into the venous phase and its main feeding vessels seemed to be the posterior inferior cerebellar artery bilaterally as well as the superior cerebellar artery. The radiographic appearance was that of a hemangioblastoma.

Operation. On the evening of the day of admission a suboccipital craniectomy was performed through a midline incision in the skin and a total extracapsular removal of the neoplasm was accomplished.
Fig. 1. Case 1. Lateral views (arterial and venous phases) of angiogram.

Fig. 2. Case 1. Towne's views (arterial and venous phases) of angiogram.