Angiographic Findings with an Intracranial Gumma

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Summary. The case of a syphilitic gumma in the cerebellopontine angle is reported. The angiographic appearance of neurosyphilis is similar to that of cerebral inflammatory processes of all varieties. The hypervascularity of the blush shown on angiography is due to hyperemia surrounding the focal necrosis. Vasoconstriction and dilatation may be seen with meningovascular syphilis and gummatas. This case showed a focal hypervascularized lesion unlike the avascular lesions described in the textbooks.

Key words: Syphilis — Gumma — Angiography — Cerebellopontine gumma.

Cerebral syphilitic gummatous disease was seen, not infrequently before, and even during, the first half of this century. The incidence declined remarkably after the discovery of penicillin [4, 8, 12]. The clinical picture and findings can mimic inflammatory disorders or neoplasms and many patients with cerebral gummatas have been operated upon because of a suspected intracranial tumor. The angiographic appearance of cerebral syphilitic gumma has not been documented specifically in textbooks of angiography [9]. We have found only one report [4] in which the angiographic findings in a patient with a parietal gumma have been described.

The following case report is an example of the angiographic findings in such a disorder.

Case Report

A 39 year old woman experienced sudden loss of hearing with tinnitus in the right ear while speaking on the phone four weeks before admission. She also complained about some incoordination of gait and double

![Fig. 1. a and b. AP tomograms of the right and left petrous bones show normal internal auditory canals and petrous tips](image-url)
Fig. 2. Magnification AP view of vertebral angiogram shows a small hypervascular lesion in the right CPA vision which had disappeared by the time of admission. Two days prior to admission she felt sharp, stabbing pain behind the right ear. Neurological examination on admission revealed nystagmus on left lateral gaze with the fast component to the left and a diminished right corneal response due to a profound peripheral facial weakness on the right. Tone was lateralized to the left with the Weber test and no sound was recognized on the right side. Audiometry and cold caloric testing showed no response from the right ear. Routine laboratory studies were normal. VDRL and FTA-ABS were positive. The CSF contained protein of 38 mg%, glucose of 70/110 mg%, and 125 WBC with 80% lymphocytes. The CSF cytology was class II and the serology was positive. Skull radiograms and tomograms of the petrous bones were normal (Fig. 1). Vertebral angiography showed a small focal hypervascular mass in the right cerebellopontine angle (CPA) (Fig. 2). Air encephalography and pantopaque cisternography demonstrated a mass measuring approximately 1 X 1.5 cm in the right CPA (Fig. 3).

The meninges of the posterior fossa appeared normal on exploration of the right CPA. A 1 cm sized mass was firmly adherent to the acoustic nerve. With microdissection, utilizing the operating microscope, the lesion, greyish in color, was removed from the acoustic nerve at the internal acoustic meatus. A small portion of the mass which extended into the meatus had to be brought forward with an angled grasping forceps. Some fascicles of the eighth nerve had been spread apart by the mass. The seventh nerve was immediately inferior to the eighth nerve and both nerves seemed to be flattened and compressed by the mass at the meatus. No other abnormalities were seen. The postoperative recovery was uneventful. Histological examination of the lesion showed macrophages and neuronal fibrils with necrosis and acute inflammatory cell infiltration (Fig. 4).

Discussion

According to Anderson [1], the evidence of syphilitic infection of the central nervous system may occur in the primary, secondary or tertiary stages. In the primary stage it is self limited and may disappear spontaneously. Clinical evidence of neurosyphilis most commonly occurs during the secondary stage with