Germinoma in the cerebellopontine angle

SIR: Germinomas of the central nervous system are rare. We describe here a patient with a clinical presentation indistinguishable from that of an acoustic neuroma. Only two previously reported cases of germinoma in this location have been found in the literature, both from Japan.

A 27-year-old man presented on 9 October 1981 with a one week history of right facial weakness and inability to close the right eye. Three weeks before he had similar symptoms for 48 hours. For 3 years, he had had right sided tinnitus with progressive deafness, mild dizzly spells and intermittent ache in the right ear. On examination, gait was normal and Robeg's sign not present. He had a divergent squint with colobomatosus malformation of both optic discs (Mr RJ Cooling). Visual acuities were N4/5 (corrected) on the right and "counting fingers" on the left. He had a left afferent pupillary defect. There was a partial right lower motor neuron facial palsy with inability to close the right eye fully and signs of aberrant re-innervation. He was deaf in the right ear. Conveal reflexes were symmetrical and there were no long tract signs.

Audiometry showed no remaining function on the right. Auditory evoked responses could not be obtained by stimulating the right ear. On stimulating the left ear, N1 wave had a latency of 6-0 ms (normal range 5-4 - 6-1 ms). Electroystagmogram with caloric testing showed no response on the right ear with absolute (100%) right canal paresis.

Plain radiographs of the skull and internal auditory meatus, tomograms of the meati, and CT scans, both plain and after intravenous contrast medium, showed no abnormality. CT metrizamide cisternogram showed a lobulated mass in the right cerebello-pontine angle, centred in the region of the internal auditory meatus with no erosion of the adjacent bone, slightly distorting the brain stem; the IVth ventricle was normal. Right vertebral angiography did not reveal any increased or abnormal vascularity.

At operation on 15 July 1982, an angle tumour of wide base arising from the posterior wall of the petrous, centred on the porus and indenting the pons was found. The right VIIth and VIIIth nerves traversed the substance of the tumour, which extended up to the tentorium compressing the Vth nerve. It was carefully dissected out and a complete removal achieved but it was not possible to preserve the facial nerve.

Post-operative recovery was uneventful apart from persisting complete right facial palsy. A course of post-operative radiotherapy was given over 45 days. (Total effective tumour dose 5040 cGy).

Histological examination showed tumour tissue composed of large spheroidal cells with oval nuclei containing prominent nucleoli and small amounts of eosinophilic cytoplasm. The cell margins are distinct. Mitotic figures are present. Infiltration with small lymphocytes is both diffuse and focal, especially in the fibrous tissue stroma. The appearances are those of a germinoma. (Fig)

Germinomas and teratomas constitute between 0-5% and 2% of all central nervous system tumours. Among them may be found examples of typical teratoma, but commoner are the germinomas (atypical teratomas) most frequently encountered in the region of the pineal gland, or as a midline suprasellar mass. In Japan there appears to be an especially high incidence of germinoma, fifty-eight (1-9%) being found in a series of 3072 intracranial neoplasms. Of these forty-two were in the pineal situation and three of these additionally involved the chiasm; only in one case was it apparent that the tumour had spread to the cerebellopontine angle from the pineal area. Of the 16 located away from the pineal, one was confined to the cerebellopontine angle, the case previously reported by Sato et al.

The nature of the germinoma has, in the past, been the subject of controversy. Since the majority of these neoplasms are close to, or may replace, the pineal gland it was assumed that they were of pineal origin and the characteristic appearances of large cells in groups with clusters of lymphocytes were interpreted as "two-cell type pinealoma". Russell and Rubinstein have constantly reiterated the fallacious nature of this interpretation and have firmly classified the lesions as teratomatous. In this context relevant data include the cases of mixed type in which both typical teratoma and germinoma are included, the close resemblance between the cells of the germinoma and those of the ovarian "dyserminoma", and the existence of less common examples of germinoma (so-called "ectopic pinealoma") without involvement of the pineal region.
Transient global amnesia after whiplash trauma

Sir: Transient global amnesia is characterised by an episode of spontaneously occurring confusion of several hours' duration, with loss of memory for recent events and inability to recall newly acquired information. The pathophysiological basis is incompletely understood. Epileptic aetiology has been suggested, but most recent authors favour transient vascular insufficiency in parts of the limbic system related to memory function.

Some cases of otherwise typical transient global amnesia but occurring in immediate relation to direct head trauma or whiplash neck trauma, have been reported. The present report, which is based on an accurate eyewitness description, concerns a patient with transient global amnesia precipitated by whiplash trauma. We believe this is the second published case of its type.

The patient was a 68-year-old woman in good health, except for mild hypertension and mild obstructive lung disease for which she received treatment with trichlormethazide and theophylline. She was employed in a bakery chain, working in different shops changing from day to day according to the owner's need. On the day of the accident (day 1) she was riding in a bus to visit a relative, having ended that day's work. The following account was given by one of the fellow passengers, who watched the patient closely during the incident. The patient was standing near the driver, facing the back of the bus, when the bus stopped abruptly. She fell straight backwards, and hit the edge of the entrance steps with her shoulders. Her head was thrown sharply backwards down into the steps. There was no direct head trauma. For a few seconds the patient did not move, but was then helped onto her feet and was immediately fully alert. She held her head and said repeatedly "it feels so strange". She then complained about stiffness in her shoulders and asked "where am I?-why am I on this bus?" Despite being answered, she repeated the questions several times. She knew her name and address. She denied being injured, and did not want to be brought to the city emergency centre. However, the driver called for an ambulance, and upon the arrival the patient stepped down from the bus without support.

On admission to the Department of Neurology a few hours later she was confused and had a deficient recent memory. She knew her name and address, recalled that she had been at work, but did not remember in which shop she had been that day. She remembered bringing the bakery's money to a bank as usual, and thought that she had planned to visit a relative. Neurological examination disclosed no other abnormalities. General medical examination was normal, and she had no sign of head trauma. The next morning her memory function was normal. The retrograde amnesia was less; she was now able to remember all events of the previous day up to a moment immediately after she had entered the bus, one step before the accident. She had, however, a loss of memory from that moment until the next morning, with only glimpses of recollection from the time at the city emergency centre and the first evening in the hospital. During the rest of her stay, she complained of dizziness, which gradually improved. EEG performed on day 4, was normal, as was a cerebral CT scan on day 7. Radiological examination of the cervical spine showed severe degenerative changes, but no fracture or other traumatic lesion. Blood count and serum chemistry were normal. The patient was discharged from hospital on day 8. At follow-up on day 18 she still had some dizziness, but no headache or other disability. At a second follow-up, 2 weeks after the accident, she was without residual complaints. Her amnesia was unchanged from day 2.

The two essential clinical features of this case are the traumatic incident and the amnestic episode. The eyewitness account leaves no doubt that the patient experienced a whiplash trauma, and not a cerebral concussion. The amnesic episode presented all typical clinical characteristics of transient global amnesia except the spontaneous occurrence. To our knowledge, only one case of this kind has been published earlier. Miller Fisher in 1982 reported a patient who experienced a period of global amnesia, starting acutely after whiplash trauma caused by the car she was sitting in being struck from behind by a truck. The person sitting beside the patient observed that the patient's head made a whiplash movement, but did not strike the windshield. The patient recovered within 72 hours, without sequelae. Miller Fisher felt that more such cases, to which he designated the term 'whiplash amnesia', would be necessary to draw any conclusions whether this represented a distinct clinical entity. We think that our case, which is essentially identical, lends support to such a concept. Furthermore, the condition may not be uncommon, but rather rarely recognised owing to lack of adequate eyewitness observations. Although inferences about the pathogenesis of a disease on a purely clinical basis may seem inadequate, we think that the amnesia, occurring momentarily after hyperextension neck trauma, most probably was caused either by direct mechanical injury or by acute vascular insufficiency, and not by epileptic discharge. Hyperextension of a severely spondylarthrotic neck may well impair vertebral artery blood flow, causing ischaemia of parts of the vertebrobasilar supply area within which the structures involved in memory are located.

References