bilateral paralysis of superior rectus function based on his experimental result that the axons from the superior rectus subnucleus of one side crossed the midline and passed through the same subnucleus of the other side. However, isolated paralysis of the bilateral superior recti found in our case is a rare ocular finding. To our knowledge, no other case has been reported in the literature. The above anatomical and clinical evidence and CT findings suggest that the most probable lesion in our case is the superior rectus subnucleus in the left ocular motor complex.

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References


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Fluid chronic epidural haematoma: a rare complication of ventriculo-peritoneal shunt.

Sir: Epidural haematoma is a rare complication of ventricular shunting procedures. Fluid chronic epidural haematoma occurring after a shunt has not been described before. Recently, we encountered such a case following a ventriculo-peritoneal shunt in a young adult with obstructive hydrocephalus due to a giant-cell astrocytoma of the third ventricle. CT scanning was invaluable in achieving prompt diagnosis and treatment.

A 16-year-old right-handed student was admitted with a three month history of morning headaches and rapid deterioration of vision one week prior to admission. Examination showed multiple hair moles all over the body, but no overt stigmata of tuberose sclerosis. The boy was intelligent, alert and orientated. Bilateral sixth nerve palsy and severe papilloedema were evident. Visual acuity was markedly diminished to 6/24 in both eyes. There was otherwise no motor or sensory impairment. Blood chemistry was normal. Skull radiographs showed erosion of the sella turcica. Computerised scanning with contrast demonstrated a large contrast-enhancing tumour at the foramen of Monro, projecting upwards and more to the left (fig. a and b). Marked dilatation of both lateral ventricles was evident.

Because of rapid deterioration in vision, a ventriculo-peritoneal shunt was performed as an emergency through a right posterior parietal burr-hole. A medium pressure (60 to 90 mm of water) Holter valve was used. Intraoperatively, about 20 ml of cerebrospinal fluid was collected for biochemical and cytological analysis. Following the shunt there was rapid relief of headache and improvement of visual acuity. On the eleventh post-operative day, he noticed recurrence of headache. Examination revealed a left homonymous hemianopia and a mild left hemiparesis. Computerised scanning with contrast was repeated which demonstrated a large hypodense biconvex extracerebral collection with an enhancing inner membrane. It was situated at the right frontal parietal region, anterior to the burr hole site (fig a). A large epidural dark brown fluid collection measuring about 150 ml was evident at operation. The dura was adherent to the site of the previous posterior parietal burr-hole, and no bleeding point could be identified. Complete drainage of the fluid haematoma was achieved via a small craniectomy measuring 4 × 4 cm. He made a prompt recovery after the drainage of the haematoma. One week later, he underwent a left frontal transventricular approach for a subtotal removal of the tumour, which proved to be a giant cell astrocytoma. He was subsequently discharged from hospital without any neurological deficit.

Subdural haematoma is a known complication of ventricular shunts. Its incidence is reported to vary from 0.4 to 1.2 percent.1 2 In contrast, epidural haematoma is extremely rare. On reviewing the literature, we found only three reports describing this complication following valve regulated internal shunts.2 3 4 The details of these cases are summarised in the table. These haematomas occurred mostly in young adults. The underlying cause was chronic obstructive hydrocephalus in each case. The haematoma was usually distant to the site of burr-hole with predilection for the anterior half of the cranial vault. Presentation varied from 6 hours to three weeks after the insertion of the shunt.

The mechanism of formation of epidural haematoma in these situations is unclear. It is generally believed to be the result of intracranial pressure after ventricular decompression. This may create a potential space between the dura and the inner table of the skull with subsequent bleeding. An unusual feature in our case is the presence of liquid blood which was apparent both on the CT scan (hypodense) and also at operation. Although chronic subdural haematoma is almost always fluid, it is extremely rare to find fluid in a chronic epidural haematoma. Jameison stated that secondary liquefaction in a chronic epidural haematoma is virtually unknown.5 However, three such cases have been recorded,6 7 8 but no satisfactory explanation on its pathophysiology has been offered. In chronic subdural haematoma, the mechanism of formation is believed to be related to increase fibrinolysis and repeated microhaemorrhages within the haematoma capsule.6 8 The inner layer of the dural mater is important in squiggle.7 8 Conversely, it can be argued that in the case of a chronic epidural haematoma, the outer layer of the dura mater does not have the same potential for cellular organisation, so secondary events leading to liquefaction of the haematoma does not occur to the same extent. The role of cerebrospinal fluid remains controversial.9 10 In our case, CSF might have leaked around the ventricular catheter into the epidural space, thus forming a mixed hygroma and haematoma, and epidural hygroma associated with a small clot and a
tars in the dura has been reported. It is interesting to note that before the introduction of valve regulated shunts, epidural haematoma had been reported to occur following ventriculography and external ventricular drainage. Prognosis for these cases was poor. Mortality was 57% and only 19% of the patients recovered completely. However, all patients who had had valve regulated ventricular shunts survived, and three of the four patients showed complete recovery (table). The apparent better outcome could be related to slower ventricular decompression, or to better diagnostic facilities like the use of CT scan. The management should lie in prevention. Free drainage of cerebrospinal fluid during cannulation of the ventricle must be avoided. The choice of valves with the appropriate opening pressure may also be important. Some authors recommend routine use of the high pressure systems (90 mm to 120 mm water) to minimise sudden changes in cerebrospinal fluid dynamics.

References

Letters


Accepted 15 December 1984.

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.1 2

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 dizzy spells and intermittent ache in the right ear. On examination, gait was normal and Roberg’s sign not present. He had a divergent squint with colobomatous 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. Corneal 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, NV wave had a latency of 6-0 ms (normal range 5.4-6.1 ms). Electronystagmogram with caloric testing showed no response on the right ear with absolute (100%) right canal paresis.

Plain radiographs of the skull and internal auditory meati, 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 spheroid 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)

Teratomatous tumours constitute between 0.5% and 2% of all central nervous system tumours.3 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.4 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.5 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.6

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’.7 Russell and Rubinstein have constantly reiterated the fallacious nature of this interpretation8 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.

Fig Microscopy of tumour showing large cells with irregular outlines and a large nuclei with prominent nucleoli. (HE × 700)

The commonest tumours in the cerebello-pontine angle are acoustic neuromas, meningiomas, gliomas and cholesteatomas. In two large series of these tumours7 and in standard textbooks, no reference is made to germinoma as occurring in the cerebellopontine angle. Germinomas should be considered in the differential diagnosis of cerebellopontine angle tumours.

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