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Case report

Medulloblastoma with suprasellar solitary massive metastasis: Case report

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ARTICLE INFO

Article history:
Received 2 December 2015
Accepted 6 February 2016
Available online 18 February 2016

Keywords:
Medulloblastoma
Metastasis
Suprasellar region

ABSTRACT

It is extremely rare for metastasised medulloblastoma to form a large tumour in the suprasellar region. We present a case of medulloblastoma with large suprasellar metastasis at initial presentation. A 3-year and 5-month-old boy presented with a 1-month history of vomiting and loss of appetite, and body weight. Computed tomography and magnetic resonance imaging revealed a 20 mm × 20 mm mass in the suprasellar region and a 30 mm × 30 mm mass in the fourth cerebral ventricle. We performed endoscopic biopsy of the suprasellar tumour, and subsequently totally removed the vermian tumour through a suboccipital craniotomy. The histopathological findings revealed that both the suprasellar and vermian tumours were classic type and non SHH/WNT type medulloblastoma. The postoperative course was uneventful. The patient showed complete remission after chemotherapy. The tumour in the suprasellar region was most likely metastatic from the vermis. Endoscopic biopsy of the tumour in the suprasellar region and total removal of the tumour in the vermis in a one-stage operation followed by intensive chemotherapy with reduced dose radiotherapy may provide a satisfactory outcome.

1. Introduction

Medulloblastoma is the most common paediatric brain tumour with invasive and metastatic potential. The presence of metastatic disease in patients newly diagnosed with medulloblastoma remains one of the most important prognostic factors [1]. Although leptomeningeal metastasis of medulloblastoma is frequent, suprasellar metastasis is uncommon [2–6]. We report here an extremely rare case of medulloblastoma that formed tumours of similar size in the suprasellar region and vermis.

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http://dx.doi.org/10.1016/j.pjnns.2016.02.001

2. Case report

2.1. History and examination

A 3-year and 5-month-old boy presented with a 1-month history of vomiting and loss of appetite and body weight. The patient was originally healthy and had no developmental abnormalities. His only medical history was of bronchial asthma. Although headache and vomiting were observed, no other neurological abnormalities were evident on admission. Laboratory studies showed negative serum tumour markers, and endocrinological examination detected incomplete hypopituitarism. The posterior pituitary function was preserved. Thyroid hormone was replaced preoperatively. Ophthalmological examination showed no optic atrophy or papilloedema.

2.2. Imaging findings

Two tumours in the suprasellar region and cerebellar vermis were evident on screening computed tomography (CT). Cranial CT revealed a 20 mm × 20 mm mass in the suprasellar region and a 30 mm × 30 mm mass in the fourth cerebral ventricle with mild ventricular enlargement. Small punctate calcifications were noted in the tumours. Enhanced CT showed homogeneous enhancement of the tumours without subarachnoid or intraventricular metastatic lesions (Fig. 1). Cranial magnetic resonance imaging (MRI) showed isointense tumours on T1 weighted, T2 weighted, and FLAIR images in both the suprasellar region and fourth cerebral ventricle. The size of the suprasellar tumour was 20 mm × 20 mm × 32 mm and the size of vermian tumour was 30 mm × 30 mm × 35 mm (Fig. 2a). Because the patient experienced an asthma attack during contrast-enhanced CT, gadolinium-enhanced MRI was not performed. No clear dissemination was apparent on the FLAIR image of either cranial or spinal MRI.

2.3. Operation and postoperative course

Endoscopic biopsy was performed on the suprasellar tumour and an indwelling ventricular drain was placed. Intraoperative pathological diagnosis of this tumour was not germinoma but

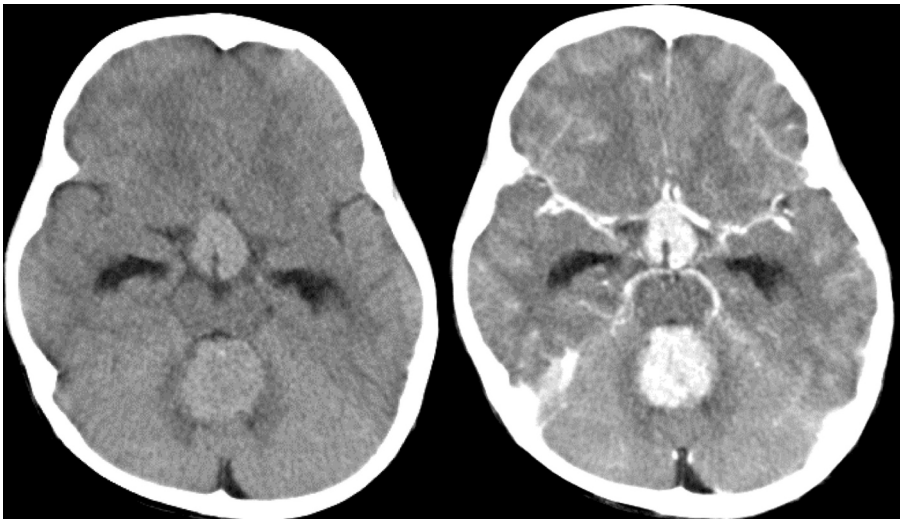

Fig. 1 – Preoperative images. Preoperative axial computed tomography scan showing tumours in the suprasellar mass and vermis, with mild hydrocephalus (Left). Homogeneous enhancement on contrast-enhanced images without evidence of dissemination (Right).

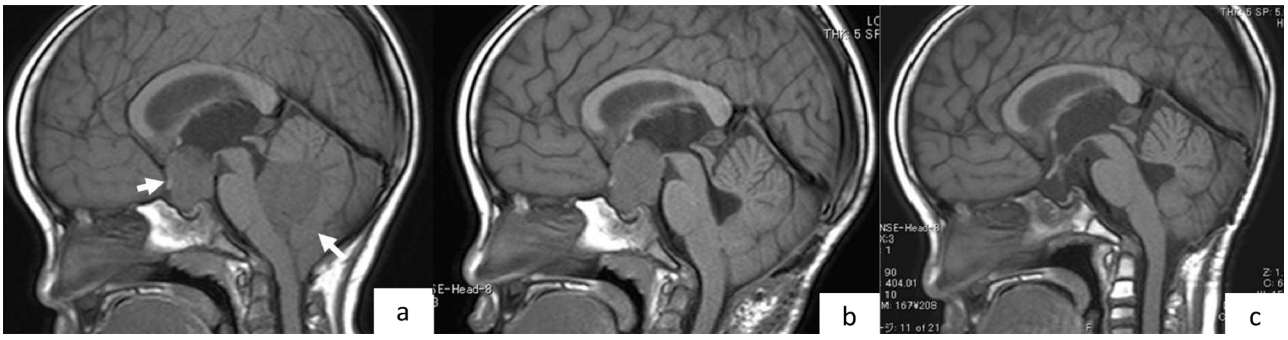

Fig. 2 – Sagittal magnetic resonance T1-weighted images obtained at the initial presentation. Arrows indicate homogeneous hypointensity in tumours in the suprasellar region and vermis (a). Image after removal of the tumour in the vermis (b) and following chemotherapy and radiation therapy, showing resolution of the tumour in the suprasellar region (c).