SUPRATENTORIAL METASTASIS OF MEDULLOBLASTOMA

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SUMMARY :

Medulloblastoma is a neuroectodermal tumor. It spreads particulary to the spinal cord. Supratentorial metastasis of medullablastoma is a rare form that generally occurs in subfrontal area and may be due to the low dosage of irradiation of this region.

KEY WORDS:

Medullablastoma, metastasis, radiotherapy.

INTRODUCTION

Medulloblastoma is a primitive neuroectodermal tumour (9,3) and represents about 15-20 % of all intracranial malignant tumours in children (7,9,13). It spreads within the central nervous system via the cerebrospinal fluid pathway (7) and rarely causes haematogeneus metastasis, particulary to the skeleton (5). Supratentorial metastasis of this tumor is uncommon. In this paper, we report a case of medulloblastoma with supratentorial metastasis that occurred thirty five months after combined therapy.

CASE REPORT:

In December 1987, an eight-year old female underwent posterior fossa craniectomy with gross total resection of medulloblastoma. Postoperative treatment consisted of craniospinal irradiation with a Cobalt 60 unit over six weeks (3500 Rads to the whole brain, 3500 rads to the spinal cord and additional 1500 rads to the posterior fossa). Chemotherapy was carried out for one year with CCNU (100 mg/m2) and vincristine (1 mg/m2). The patient was asymptomatic until November 1990, when she experienced a generalized seizure. Neurological examination was normal. Computed tomography showed a subfrontal mass on the cribriform plate (Fig.1). Myelography performed to eliminate the possibility of spinal metastasis and was normal. A left pterional craniotomy was performed and the tumour was gross totally excised (Fig.2). The postoperative period was uneventful and the patient was discharged without any neurological deficit. Radiotherapy was not performed again, to avoid radiation damage to the neural structures. Still, a second chemotherapy protocol was carried out with MOPP regimen (Nitrogen mustard, oncovin, procarbazin and prednisolon). The patient has been followed up for three months and has no further signs of central nervous system relapse.

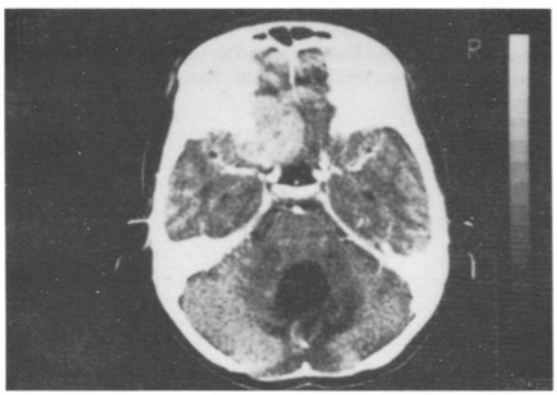

Fig.1 : Supratentorial metastasis of medullablastoma was seen at the subfrontal area after thirty five months the first operation.

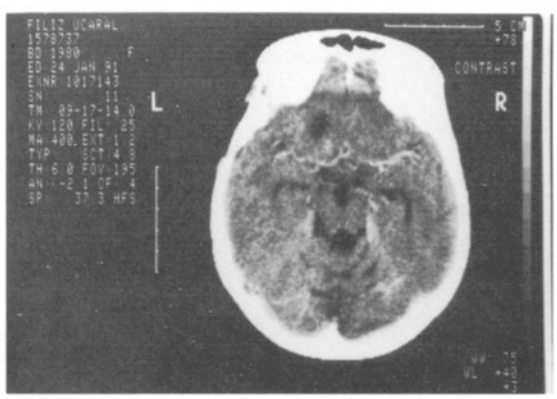

Fig. 2 : The subfrontal area was seen after the second operation.

DISCUSSION:

In spite of all therapy methods (surgery, irradiation and chemotherapy) five-year survival for medulloblastoma has been reported as 25 % to 59 % (4,6,12,14). The posterior fossa is the most common site of the first recurrence of this tumour (8) and local recurrence is the main cause of death (1,2).

Supratentorial metastasis is rare with a rate of 6 % to 15 % (8,11) in the literature and 0.7 % in our series (of 255 operated medulloblastomas 2 supratentorial metastases were seen between 1965 and 1990). Supratentorial metastases are generally seen at the subfrontal area as in our case (7,8,9,13). The pathogenesis of this metastasis is related to low dosage radiotherapy applied to this region, caused by shielding the eyes (7,10). Therefore, the subfrontal area must be irradiated with additional doses (7,9).

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