

Medulloblastoma with Subcutaneous Spread: A Rare Entity

Siddharth Srinivasan¹ Ajay Hegde¹ Rajesh Nair¹ Girish Menon¹

¹Department of Neurosurgery, Kasturba Medical College, Manipal Academy of Higher Education, Manipal, Karnataka, India

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Address for correspondence Ajay Hegde, MCh, DNB, FRCS, Department of Neurosurgery, Kasturba Medical College, Manipal Academy of Higher Education, Manipal, Karnataka, India 576104 (e-mail: Dr.ajayhegde@gmail.com).

Abstract

Keywords

- ▶ extraneural metastasis
- ▶ medulloblastoma
- ▶ pediatric
- ▶ subcutaneous spread

Medulloblastoma is the most common malignant pediatric brain tumor. Histological subclassification and adjuvant therapy have improved prognostication and outcome. Extraneural metastasis remains a poor prognostic factor and subcutaneous seeding is rarely encountered and reported in the pediatric population. We report a 3-year-old child who rapidly presented with subcutaneous seeding a month following gross total resection of his tumor.

Medulloblastomas are the most common pediatric malignant brain tumor. Extraneural metastasis of medulloblastoma, although uncommon, has been reported before. However, medulloblastoma with subcutaneous spread is a rare entity. We report a 3-year-old child who presented with decreased conscious levels and raised intracranial pressure. Evaluation with magnetic resonance imaging of the brain was suggestive of a posterior fossa midline space occupying lesion with gross obstructive hydrocephalus. He underwent emergency suboccipital craniotomy and near total resection of the tumor. Histopathology was confirmed as World Health Organization grade 4 medulloblastoma. The child made an uneventful postoperative recovery and was discharged home. Postoperatively in 6 weeks the child presented with a tense pseudomeningocele (→Fig. 1A) and worsening hydrocephalus. Computed tomography of the brain revealed recurrence of tumor with subcutaneous spread along the posterior fossa incision line and skin over the occipital region (→Fig. 1B). Cytology of fluid aspirated from the collection was also positive for tumor cells. The child underwent a palliative ventriculoperitoneal shunt for the hydrocephalus. The child succumbed to the disease shortly within a week.

Leptomeningeal and subarachnoid spread of medulloblastoma is well documented in literature. Incidence of



Fig. 1 (A) Clinical image demonstrating a pseudomeningocele along the posterior fossa in an operated case of central nervous system grade 4 medulloblastoma at 6 weeks follow-up. (B) Sagittal midline image of the computed tomography brain showing the pseudomeningocele, hydrocephalus, subcutaneous tumor deposits (red arrow).

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extraneural metastasis is 7 to 10%.¹ Most common sites are bone, bone marrow, lymph nodes, lung, and liver.² The mechanisms of spread are due to perineural lymphatics and by direct seeding.³ Hematogenous route of spread is accepted as the most likely mechanism to distant locations. Extraneural metastasis with subcutaneous spread is likely due to direct seeding and remains a poor prognostic factor even with adjuvant chemoradiation.

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Conflict of Interest

None declared.

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