

# Medulloblastoma with Subcutaneous Spread: A Rare Entity

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Asian J Neurosurg 2023;18:698–700.

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## Abstract

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.

## Keywords

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

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).

article published online  
September 27, 2023

DOI <https://doi.org/10.1055/s-0043-1774822>.  
ISSN 2248-9614.

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extraneural metastasis is 7 to 10%.<sup>1</sup> Most common sites are bone, bone marrow, lymph nodes, lung, and liver.<sup>2</sup> The mechanisms of spread are due to perineural lymphatics and by direct seeding.<sup>3</sup> 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.

**Funding**

None.

**Conflict of Interest**

None declared.

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