

18-F-FDG PET/CT Finding of Intramedullary Spinal Cord Metastases from Cerebellar Medulloblastoma - Case report

Fatema Al Sawafi; Naima Al Bulushi*

Department of Nuclear Medicine and Molecular Imaging Centre, Royal Hospital, Oman.

Received Date : Sep 26, 2022
Accepted Date : Oct 31, 2022
Published Date : Nov 21, 2022
Archived : www.jcmimagescasereports.org
Copyright : © Naima Khamis Al Bulushi
2022

***Corresponding Author:** Naima Khamis Al Bulushi, Department of Nuclear Medicine and Molecular Imaging Centre, Royal Hospital, Oman.
E-mail: nkd004@hotmail.com

Case Report

A 20- years old female patient, diagnosed case of right cerebellum medulloblastoma, post excision, adjuvant chemotherapy, and radiotherapy in 2018. Presented with right eye swelling in 2021. Brain MRI revealed a right frontal parasagittal mass lesion and left lateral cerebellar mass, highly suggestive of disease recurrence. Total spine MRI showed interval development of new intra-axial lesion at the level of the cervical medullary junction, highly suggestive of Intramedullary spinal cord metastasis (Figure 1).

The patient received palliative radiotherapy for the brain lesions. Post-therapy 18-F-FDG PET/CT scan was done and revealed multiple hypermetabolic lesions seen in the supra and infratentorial regions, representing the known metastatic lesions (Figure 2). In addition, there is interval development of multiple hypermetabolic spinal cord lesions in keeping with Intramedullary spinal cord metastasis (Figure 3). The patient developed lower back pain with neurological deficits. She was referred to palliative team follow-up and palliative radiotherapy to the sacral area.

Discussion

Intramedullary spinal cord metastasis (ISCM) or what used to be called "Drop metastasis" is rare, constituting only about 8–9% of all CNS metastases [1,2]. Those can be seen in association with extracranial as well as primary intracranial tumors. ISCM from primary intracranial and is very rare [3]. Some CNS primary neoplasms can metastasize and seed inferiorly to the spinal cord spaces, most commonly glioblastoma (GBM), anaplastic astrocytoma, medulloblastoma, ependymoma, and choroid plexus carcinoma. The ISCM from the extracranial tumors most originates from lung cancer (50%), with the remaining from breast cancer (11%), colorectal cancer (3%), kidney cancer (10%), melanomas (8%), and lymphomas (4%) [1,4]. Early suspicion of spinal drop metastasis and early start of treatment is required to improve the neurologic deficit, quality of life, and survival of these patients [5].

In our case, the 18-F FDG PET/CT scan showed good diagnostic value in detecting spinal cord metastases in a patient with relapsed medulloblastoma. 18-F FDG PET/CT is useful in the diagnosis and characterization of central nervous system tumors and the uptake intensity correlates with the type of tumor, histological grade, and survival outcomes [6]. Although High-quality spinal MR imaging with contrast is considered the method of choice to detect spinal cord metastasis, there is growing evidence with cases published in the literature demonstrating 18F-FDG PET/CT imaging in detecting ISCM. Whole-body 18F-FDG PET-CT can serve as an essential adjunct to MRI in identifying FDG avid metastatic spinal cord lesions and directing an enhanced MRI study for precise localization and confirmation of such tumors [7]. Hence, it is worth studying the future potential clinical utility and diagnostic value of 18 F FDG PET/CT versus MRI in the diagnosis and detection of ISCM.

Disclosure

No potential conflict of interest relevant to this article was reported.

References

1. Kalayci M, Cagavi F, Gul S, Yenidunya S, Acikgoz B. Intramedullary spinal cord metastases: diagnosis and treatment - an illustrated review. *Acta Neurochir (Wien)*. 2004; 146: 1347-54
2. Pellegrini D, Quezel MA, Bruetman JE. Intramedullary spinal cord metastasis. *Arch Neurol*. 2009; 66: 1422.
3. Piyush Chandra, Nilendu Purandare, Sneha Shah, Archi Agrawal, et al. Drop Metastases from an Operated Case of Intracranial Anaplastic Ependymoma Identified on Fluoro-2-deoxyglucose Positron Emission Tomography/Computed Tomography. *Indian J Nucl Med*. 2017; 32(1): 68-70.
4. Potti A, Abdel-Raheem M, Levitt R, Schell DA, Mehdi SA. Intramedullary spinal cord metastases (ISCM) and non-small cell lung carcinoma (NSCLC): clinical patterns, diagnosis and therapeutic considerations. *Lung Cancer*. 2001; 31: 319-23.

Citation: Naima Al Bulushi. 18-F-FDG PET/CT Finding of Intramedullary Spinal Cord Metastases from Cerebellar Medulloblastoma - Case report. *J Clin Med Img Case Rep.* 2022; 2(6): 1300.

5. Ana Simas, Carolina Sales, Maria Fragoso. Drop metastasis: A rare diagnosis. A case report and review of the literature. Instituto Português de Oncologia do Porto Francisco Gentil, E.P.E., Porto (Portugal) *Galia Clin.* 2017; 78 (1): 23-25.

6. Borgwardt L, Højgaard L, Carstensen H, Laursen H, Nowak M, Thomsen C, et al. Increased fluorine-18 2-fluoro-2-deoxy-D-glucose (FDG) uptake in childhood CNS tumors is correlated with malignancy grade: A study with FDG positron emission tomography/magnetic resonance imaging coregistration and image fusion. *J Clin Oncol.* 2005; 23: 3030-7.

7. Bhatt G, Jain A, Bhatt A, Civelek A. Intramedullary spinal cord metastases and whole body 18F-FDG PET-CT-A case report *Quant Imaging Med Surgery.* 2019; 9(3): 530-534.