

# MEDULLOBLASTOMA DEVELOPMENT IN A YOUNG MAN WITH RELAPSING-REMITTING MULTIPLE SCLEROSIS: A CASE REPORT

*Anna Favero MD, Arianna Sartori MD, Lucrezia Rossi MD, Alessio Bratina MD, Antonio Bosco MD PhD, Paolo Manganotti MD PhD*

Poster code: 705

Clinical Unit of Neurology, Department of Medicine, Surgery and Health Sciences, ASUGI, University of Trieste, Trieste, Italy

## Objective

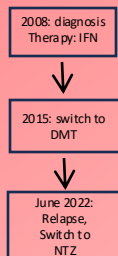
Central nervous system (CNS) tumors are exceptional conditions in multiple sclerosis (MS) patients and this comorbidity poses significant diagnostic and therapeutic challenges, complicating patient management. We report a case of medulloblastoma detection in a patient with relapsing-remitting MS during natalizumab therapy.

## Materials and methods

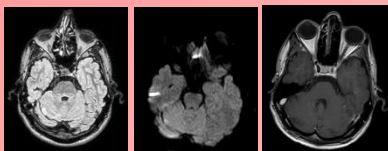
A 36 years-old male patient with RRMS undergoing therapy was monitored for the development of an enlarging right cerebellar lesion. Clinical assessments and periodical neuroimaging were performed to guide diagnosis and treatment.

## Results

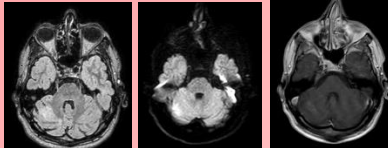
### Neurological history



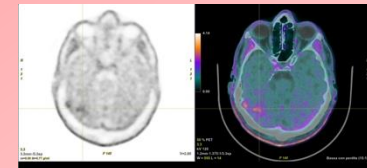
**Figure 1. RMI April 2022**



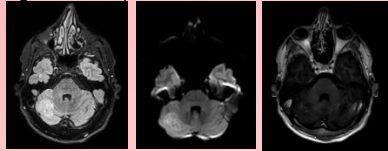
**Figure 2. RMI June 2023**



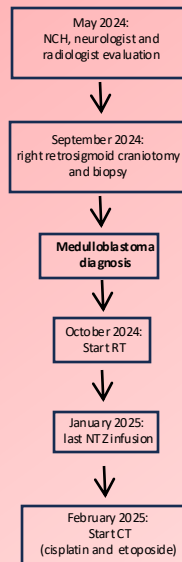
**Figure 3. PET/TC March 2024**



**Figure 4. RMI April 2024**



### Oncological history



### Suspicious MRI features

A right cerebellar lesion continued to enlarge despite natalizumab treatment, showing mild diffusion restriction and faint enhancement on 2023 MRI. Given the atypical progression, a neoplastic process was suspected.

PET/TC in March 2024 showed low uptake, while MRI in April 2024 revealed further growth with cystic and vascular features.

## Discussion

Differential diagnosis between demyelinating and tumoral lesions requires both clinical and radiological assessment. Nevertheless, medulloblastoma is rare after the fourth decade. On MRI, it often shows cysts, hemorrhage, heterogeneous contrast enhancement, diffusion restriction and increased perfusion. Moreover, natalizumab has proven highly effective in reducing lesion burden, achieving NEDA in up to 80% of patients. Therefore, the appearance or enlargement of new lesions should raise suspicion of alternative diagnoses. Given the elevated risk of opportunistic infections inherently associated with natalizumab therapy, temporary discontinuation during chemotherapy is recommended.

**Conclusions** This case highlights the need to distinguish between active demyelinating disease, opportunistic infections, and tumors. Regular MRI scans and biopsies when needed are essential for timely diagnosis.

### References

- O'Connor P. et al. Long-term safety and effectiveness of natalizumab re dosing and treatment in the STRATA MS Study. *Neurology*, 2014;
- Butzkueven H. et al. Efficacy and safety of natalizumab in multiple sclerosis: interim observational programme results. *J. Neurol. Neurosurg. Psychiatry*, 2014.

### Disclosures

- A. Favero: received funding for travel from Fidia.
- L. Rossi: received funding for travel/accommodation/course participation from Novartis, Roche, Sandoz, Merz and AbbVie.
- A. Sartori: received funding for travel and/or speaker honoraria from Biogen, Novartis, Roche; she is Principal Investigator in clinical trials of Novartis and Roche.
- A. Bosco: received funding for travel from Biogen, Roche, Sanofi and MSB.
- A. Bratina: received speaker honoraria from Argenx.
- P. Manganotti: nothing to disclose.