Differentiation of recurrent spinal ependymoma from post radiation treatment necrosis through multiparametric PET-MR and perfusion MR imaging

Mojgan Hojjati, Vasant Garg, Chaitra A. Badve, Salim E. Abboud, Andrew E. Sloan, Leo J. Wolansky

PII: S0899-7071(16)30119-X
DOI: doi: 10.1016/j.clinimag.2016.09.002
Reference: JCT 8109

To appear in: *Journal of Clinical Imaging*

Received date: 30 January 2016
Revised date: 24 August 2016
Accepted date: 8 September 2016

Please cite this article as: Hojjati Mojgan, Garg Vasant, Badve Chaitra A., Abboud Salim E., Sloan Andrew E., Wolansky Leo J., Differentiation of recurrent spinal ependymoma from post radiation treatment necrosis through multiparametric PET-MR and perfusion MR imaging, *Journal of Clinical Imaging* (2016), doi: 10.1016/j.clinimag.2016.09.002

Differentiation of recurrent spinal ependymoma from radiation necrosis using multiparametric PET-MR and perfusion MR imaging.

Mojgan Hojjati[1] MD, Vasant Garg[1] MD, Chaitra A Badve[1] MD, Salim E Abboud[1] MD, Andrew E Sloan[2] MD, Leo J Wolansky[1] MD

Diagnostic Neuroradiology, Department of Radiology[1], Department of Neurosurgery[2], Cleveland, Ohio

Corresponding author:
Dr. Leo John Wolansky MD
Department of Radiology
University Hospital Case Medical Center
Cleveland, Ohio 44106
Tele: (216) 844-8140
Fax: (216) 844-3905
Email: Leo.Wolansky@UHHospitals.org

Keywords: spinal ependymoma, radiation necrosis, multiparametric PET-MR, perfusion MRI

TITLE:

Differentiation of recurrent spinal ependymoma from post radiation treatment necrosis through multiparametric PET-MR and perfusion MR imaging.

INTRODUCTION:

Spinal ependymoma is an intramedullary tumor that accounts for 40-60% of primary spinal cord tumors [1]. Magnetic resonance imaging (MRI) is currently the standard imaging modality for initial diagnosis and to assess the adequacy of surgical resection and/or the response to radiation therapy. However, as in case of brain tumors, post treatment conventional MRI might not be able to differentiate between radiation necrosis and recurrent tumors [2]. Advanced neuroimaging is technically challenging in the evaluation of spinal cord neoplasms, particularly after surgical and radiation treatment and hence not yet widely used as in the brain. Although