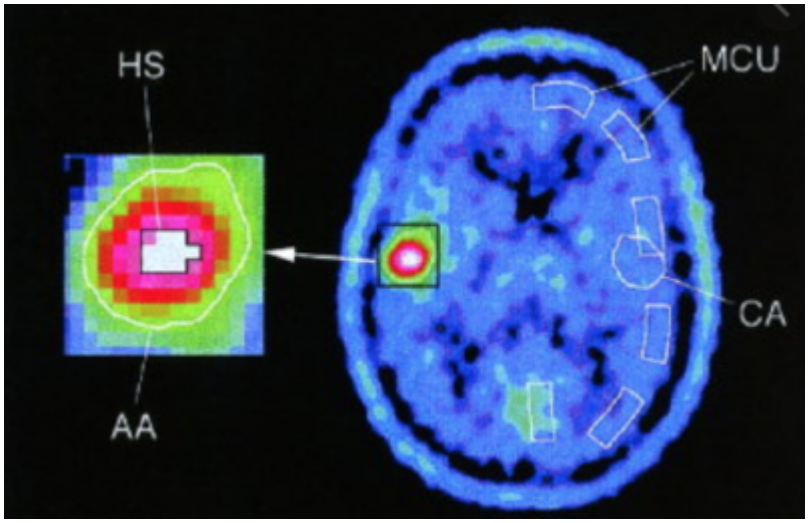
11C methionine positron emission tomography

- Visualization of P2X7 Receptors in Living Human Gliomas: An 18F-GSK1482160 PET Imaging and Neuropathology Study
- Thyroid nodule with cytological outcome of indeterminate lesion with low risk of malignancy found to be parathyroid adenoma. A case report and minireview of literature
- Comparison of Imaging Modalities in Differentiating Cerebral Neoplastic Lesions and Post-radiation Necrosis
- Three-dimensional amide proton transfer (APT) imaging appliable to navigation surgery can present comparable metabolic activity of glioblastoma to ¹¹C-Methionine PET
- Higher Uptake of Preoperative 11C-Methionine Positron Emission Tomography Related to Preoperative Seizure in Patients With Oligodendroglioma
- Diagnostic value of 11C-Methionine PET-CT imaging in persistent or recurrent Cushing's disease after surgery
- 11C-Methionine PET/CT in Cryptococcus Meningoencephalitis
- The Role of 11C-Methionine PET Imaging for the Evaluation of Lymphomas: A Systematic Review

Tumor to normal tissue ratio (T/N ratio) on 11C-methionine (11C-MET) positron emission tomography/computed tomography (PET/CT) is affected by variable factors.



Indications

Glioma

11C methionine positron emission tomography for glioma.

Recurrent brain tumors

The visual assessment showed no significant difference from quantitative assessment of MET-PET with a relevant cut-off value for the differentiation of recurrent brain tumors from radiation-induced necrosis [1)].

Meningioma

see 11C methionine positron emission tomography for meningioma.

Acromegaly

MET-PET is a sensitive technique for diagnosing persistent acromegaly and its coregistration with 3T MRI has demonstrated a better definition of the interface, extension and location of the lesion in the management of active postoperative acromegaly [2].

1)
Minamimoto R, Saginoya T, Kondo C, Tomura N, Ito K, Matsuo Y, Matsunaga S, Shuto T, Akabane A, Miyata Y, Sakai S, Kubota K. Differentiation of Brain Tumor Recurrence from Post-Radiotherapy Necrosis with 11C-Methionine PET: Visual Assessment versus Quantitative Assessment. PLoS One. 2015 Jul 13;10(7):e0132515. doi: 10.1371/journal.pone.0132515. eCollection 2015. PubMed PMID: 26167681; PubMed Central PMCID: PMC4500444.

2)
Rodriguez-Barcelo S, Gutierrez-Cardo A, Dominguez-Paez M, Medina-Imbroda J, Romero-Moreno L, Arraez-Sanchez M. Clinical Usefulness of Coregistered 11C-Methionine Pet/ 3t Mri at the Follow Up of Acromegaly. World Neurosurg. 2013 Nov 13. pii: S1878-8750(13)01431-9. doi: 10.1016/j.wneu.2013.11.011. [Epub ahead of print] PubMed PMID: 24239736.