

## 68Ga-DOTA-D Phe1-Tyr3-Octreotide (DOTATOC)-PET/CT in a Suspected Case of Recurrent Meningioma

Sir,

We present a case of 45-year-old female who presented with headache for last 1 month. She was a follow-up case of left frontal meningioma that was operated 4 years back. CEMRI of the brain suggested post-surgical changes with no obvious enhancing residual/recurrent lesion. The patient was then referred for 68 Ga DOTANOC PET/CT to rule out recurrent disease. PET/CT revealed a focus of somatostatin receptor expressing lesion in the left frontal region at the post-operative site suggesting recurrent disease.

Meningioma is the most common non-glial brain tumor. It arises from the cap cells of the arachnoid membrane. However, 90% of meningiomas are benign. Surgery often with adjuvant radiotherapy is the usual treatment.<sup>[1]</sup> MRI is the imaging method of choice for diagnosis and radiotherapy planning. Somatostatin receptors (SSTR) are present in normal leptomeninges<sup>[2]</sup> and have been shown to be over expressed in meningiomas.<sup>[3]</sup> The major receptor subtype over expressed is SSTR 2.<sup>[4]</sup> This fact has been exploited for SSTR scintigraphy (SRS) and more recently for 68Ga-DOTA-peptide PET/CT in meningioma. Even after complete removal, meningiomas tend to recur in 10% to 32% of the cases within 10 years.<sup>[5,6]</sup> MRI fails to differentiate between post-therapy radiation necrosis and recurrent disease in majority of the cases. Recurrent brain tumors are typically characterized by intravenous contrast enhancement, mass effect, and associated vasogenic edema. However, treatment necrosis also presents with similar characteristics, making it difficult to reliably distinguish from tumor recurrence. Because of the high tumor to background ratio and expression of the somatostatin receptor by the tumor, 68Ga-DOTA-peptide PET/CT helps in differentiation between the post-operative scar and recurrent disease in meningioma. It also helps in selection of patients for somatostatin-based analog-based therapies.

### Financial support and sponsorship

Nil

### Conflicts of interest

There are no conflicts of interest

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Website: [www.indjsp.org](http://www.indjsp.org)

DOI: 10.4103/0972-3919.202241

### Quick Response Code:



**How to cite this article:** Jain S, Gupta A, Jain A. 68Ga-DOTA-D Phe1-Tyr3-octreotide (DOTATOC)-PET/CT in a suspected case of recurrent meningioma. *Indian J Nucl Med* 2017;32:164.