Cervical nodal metastasis in head and neck cancer: a clinical conundrum

Swaroop Revannasiddaiah,¹ Ashwani Sood,² Sudesh Kumar,³ Priyanka Thakur⁴

¹Department of Radiation Oncology, Swami Rama Cancer Hospital and Research Institute, Haldwani, Uttarakhand, India

²Department of Nuclear Medicine, Postgraduate Institute of Medical Education and Research, Chandigarh, India

³Department of Otolaryngology and Head Neck Surgery, Sultan Qaboos University Hospitals, Muscat, Oman

⁴Regional Cancer Centre, Shimla, Himachal Pradesh, India

Correspondence to

Dr Swaroop Revannasiddaiah; swarooptheone@gmail.com

DESCRIPTION

Within a month of being treated with a partial maxillectomy for a stage T₂N₀M₀ (staged as per preoperative MRI and CT) left maxillary antral carcinoma, a patient suffered symptoms of 'sore throat' and also tested positive for a streptococcal infection on a swab test. Though appropriate antibiotics relieved symptoms, a minimal dysphagia persisted which was conveniently attributed by the patient as 'being related to the streptococcal infection'.

However, after two months, the ¹⁸F-fluorodeoxyglucose positron emission tomography/CT (¹⁸F-FDG-PET/CT) which was performed as part of a post-treatment follow-up, demonstrated multiple contralateral avid neck-nodes (levels II–IV). This was histopathologically confirmed to be harbouring metastatic deposits of squamous cell carcinoma (figure 1).

Given the sparsity of lymphatics to the maxillary antrum, the possibility that lymph nodal spread from a T₂-staged maxillary antral carcinomas is very unlikely.¹ In this described case, the post-operative histopathology demonstrated negative-margins also the FDG-PET scans ruled out recurrence at the primary site.

The use of FDG-PET for the assessment of the N₀ neck may be constrained by the combination of limited sensitivity for small metastatic deposits and a relatively high number of false-positive findings in PET/CT, thus highlighting the point that the surgical management of the clinically N₀ neck should not be

solely based on the findings on a standard CT or a FDG-PET/CT scan.²

Owing to the low likelihood of the metastatic neck nodes having originated from the maxillary antral cancer, that too to the contralateral side, a search for another site of head and neck mucosal malignancy was performed. However, as no other aerodigestive mucosal malignancy was found, he has since been initiated on chemoradiotherapy on the lines of a 'metastatic-neck-node from unknown-primary'.

Learning points

- ▶ Malignancy of the head and neck can often hide under the symptomatology of common diseases.
- ▶ The assessment of the N₀ neck by imaging techniques such as CT and ¹⁸F-fluorodeoxyglucose positron emission tomography (FDG-PET) may be constrained by the combination of limited sensitivity and poor positive predictive value for small metastatic deposits.
- ▶ The use of FDG-PET scan in the follow-up of patients treated for cancer is likely to provide higher sensitivity and higher negative predictive value in the detection of disease recurrence in comparison to the use of standard CT alone (figure 2).³

Figure 1 ¹⁸F-fluorodeoxyglucose positron emission tomography/CT obtained 3 months postoperatively demonstrating no metabolic activity in the tumour bed (A), whereas a highly avid (maximum standardised uptake value 16.4) mass is found in the contralateral aspect of the neck (B).

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Figure 2 Comparison of CT alone and positron emission tomography/CT (PET/CT) slices at two different levels. While the enlarged lymph nodes in the right level II area can easily be visualised on a simple CT scan (A), it must be noted that at a lower level in the neck, though the transverse CT section appears normal with no abnormal mass, the complementary PET/CT section has registered a highly avid (maximum standardised uptake value 11; B). This depiction by PET of metabolically active disease at locations appearing normal on CT emphasises the importance of integrating PET/CT in the routine follow-up of patients with head and neck cancers.

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