Indication sheet

SIEMENS Healthineers

Identifying recurrent disease in head and neck cancer in PET imaging

In head and neck cancer with unknown primary disease, PET/CT[1]

- Detects the primary tumor in 25% of patients where a conventional clinical work-up was unsuccessful
- Enables directed surgical or radiation therapy to the tumor, sparing or minimizing toxicity to uninvolved tissue

PET/CT reveals residual or recurrent tumors when the neck anatomy is distorted after treatment.[2]

PET/CT showed significant benefit in detecting residual disease among high-risk patients: 75% Negative Predictive Value (NPV) compared to 37.5% for CT alone.[1]

"For patients who initially present with lymph node involvement, after chemoradiation PET/CT can distinguish those who do not require adjuvant neck dissection from those who do."[3]

Medicare recognizes the utility of PET and PET/CT in head and neck cancers.[4]

Initial Treatment Strategy (formerly Diagnosis and Staging)

- To determine if the beneficiary is an appropriate candidate for an invasive diagnostic or therapeutic procedure; or
- To determine the optimal anatomic location for an invasive procedure; or
- To determine the anatomic extent of tumor when the recommended anti-tumor treatment reasonably depends on the extent of the tumor.

Subsequent Treatment Strategy (Restaging)

PET is covered for restaging:

- After completion of treatment for the purpose of detecting residual disease
- For detecting suspected recurrence or metastasis
- To determine the extent of a known recurrence
- If it could potentially replace one or more conventional imaging studies when it is expected that conventional study information is insufficient for the clinical management of the patient.

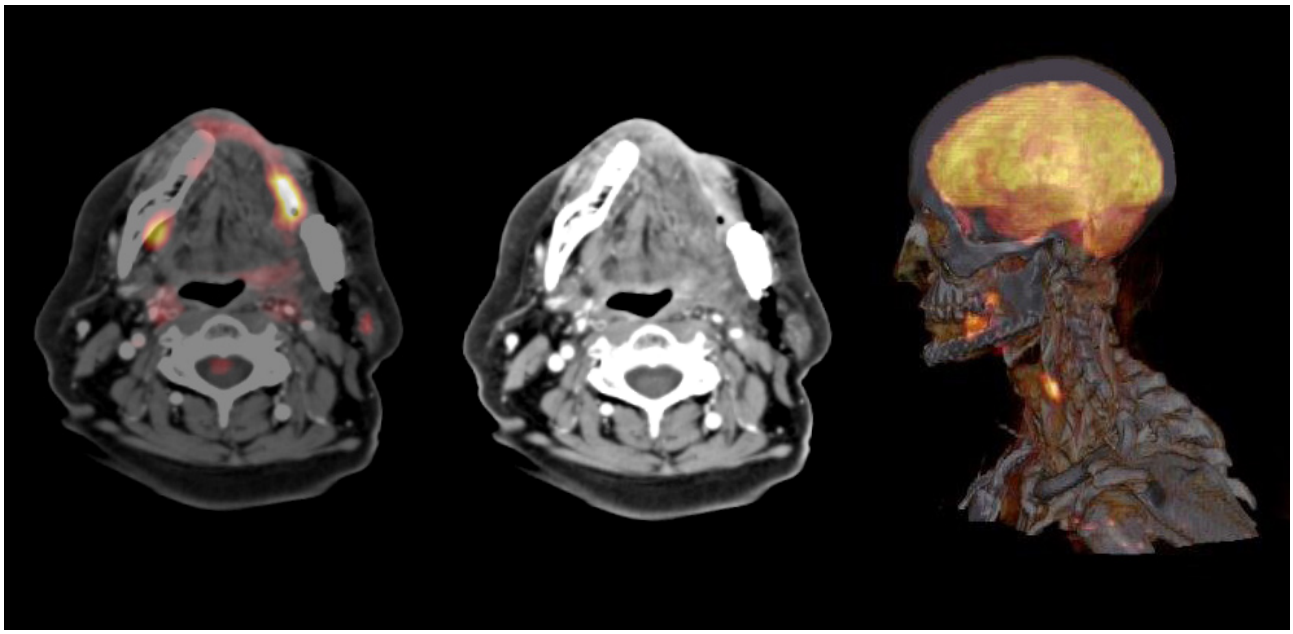
Restaging applies to testing after a course of treatment is completed, and is covered subject to the conditions above.

Monitoring response to therapy

PET is covered for monitoring tumor response to treatment during the planned course of therapy (ie, when a change in therapy is being considered).

The ordering physician is responsible for documenting the medical necessity of the PET scan and that it meets these criteria.

PET/CT reveals recurrent disease in patients with head and neck cancers



Data courtesy of University of Tennessee Medical Center, Knoxville, Tennessee, USA.

History

A 65-year-old female with a history of squamous cell carcinoma of the left mandible with surgical resection of left neck followed by chemoradiation.

Imaging findings

A PET/CT was ordered for subsequent treatment strategy to assess residual disease of the oral cavity. The study reveals surgical changes of interval left mandibular osteotomy, gingival mass resection, and left neck dissection. Hypermetabolic activity associated with persistent disease in the region of prior left mandibular osteotomy. Recommend further clinical assessment.

Overall evaluation

The utility of PET/CT directed management of the post-treatment neck after definitive radiation therapy and chemoradiation is of paramount importance in the follow-up. PET/CT is the diagnostic modality of choice in identifying residual disease and recurrence and differentiating them from post-radiation changes.[5]

[1] Siddiqui F, et al. Application of fluorodeoxyglucose positron emission tomography in the management of head and neck cancers. *World J Radiol.* 2014 Jun 28;6(6):238-51.

[2] Tantiwongkosi B, et al. Role of (18)F-FDG PET/CT in pre and post treatment evaluation in head and neck carcinoma. *World J Radiol.* 2014 May;28;6(5):177-91.

[3] Cabrera AR, et al. Contemporary radiotherapy in head and neck cancer: balancing chance for cure with risk for complication. *Surg Oncol Clin N Am.* 2013 Jul;22(3):579-98.

[4] CMS Publication 100-03, Medicare National Coverage Determinations Manual, Chapter 1, Part 4, Section 220.6). Available at http://www.cms.hhs.gov/manuals/downloads/ncd103c1_part4.pdf

[5] Mohandas A, et al. FDG PET/CT in the management of nasopharyngeal carcinoma. *AJR.* 2014 Aug;203(2):W146-57.

Please contact your local Siemens Healthineers sales representative for the most current information or contact one of the addresses listed below. Note: Original images always lose a certain amount of detail when reproduced.

Siemens Healthineers Headquarters
Siemens Healthcare GmbH
Henkestr. 127
91052 Erlangen, Germany
Phone: +49 9131 84-0
siemens-healthineers.com

Published by
PETNET Solutions Inc.
810 Innovation Drive
Knoxville, TN 37932
Phone:+1 877 473 8638
petnetsolutions.com