

갑상선암 환자에서 전종격동의 전이성 암처럼 보이는 흉선의 방사성옥소 섭취

아주대학교 의과대학 핵의학과
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Thymic Radioiodine Uptake Mimicking Metastatic Papillary Carcinoma in the Anterior Mediastinum

Chan H. Park, M.D., Myoung-Hoon Lee, M.D.

Department of Nuclear Medicine

School of Medicine, Ajou University, Suwon, Korea

Abstract

A 30 year-old female patient with papillary thyroid carcinoma received her fifth radioiodine ablation therapy after the subtotal thyroidectomy. The scan, which was performed one week after the last therapy, revealed residual uptake in the thyroid bed and uptake in the anterior mediastinum suggesting metastasis. However, further evaluation of the thorax with chest CT and camera-based FDG PET confirmed normal thymus without metastatic focus. Occasionally thymus remains intact in adult and has avidity for I-131 and FDG. Therefore, normal thymus (instead of metastasis) should be considered in patients with well differentiated thyroid carcinoma and anterior mediastinal radioiodine uptake. (*Korean J Nucl Med* 2002;36:87-89)

key words : thymus, radioiodine, FDG, PET, thyroid cancer

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Corresponding author: Chan H. Park, M.D.

Department of Nuclear Medicine

School of Medicine, Ajou University

San 5, Wonchon-dong, Paldal-gu

Suwon 442-749, Korea

Tel: 031-219-5948(7)

Fax: 031-219-5950

E-mail: chpark@madang.ajou.ac.kr

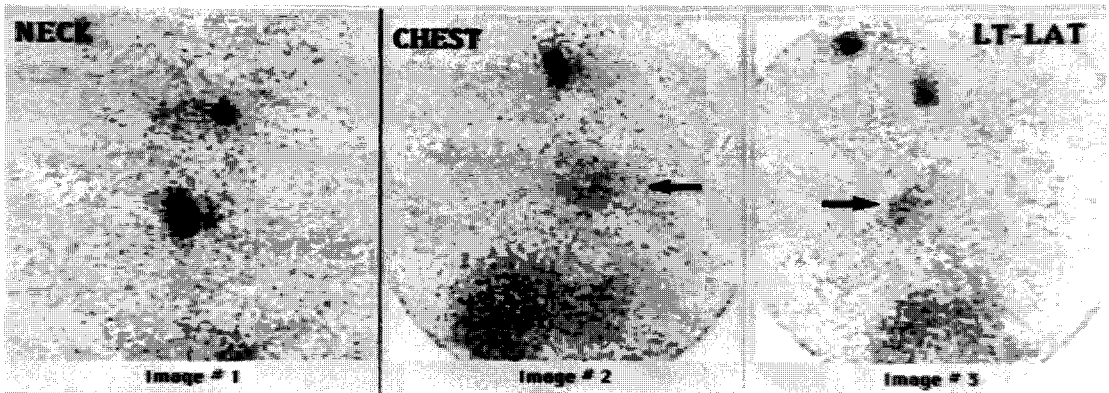


Fig 1. A 30 year-old female patient had received 30 mCi I-131 four times in the past for ablation of residual thyroid after subtotal thyroidectomy for papillary thyroid carcinoma. At six-year routine follow-up, she presented with elevated serum thyroglobulin level. A whole-body I-131 scan was performed and showed residual thyroid uptake in the thyroid bed. The patient was then referred to us for a high dose I-131 therapy. Radioiodine scan one week after 150 mCi therapy depicted residual uptake in the thyroid bed and I-131 retention in the left submandibular gland. Chest scan in the anterior and left lateral (Lt-LAT) projections revealed I-131 uptake in the anterior mediastinum (arrow), suggesting metastasis. Computed tomography of the chest was obtained for further evaluation of the mediastinal uptake and this demonstrated persistent thymus.

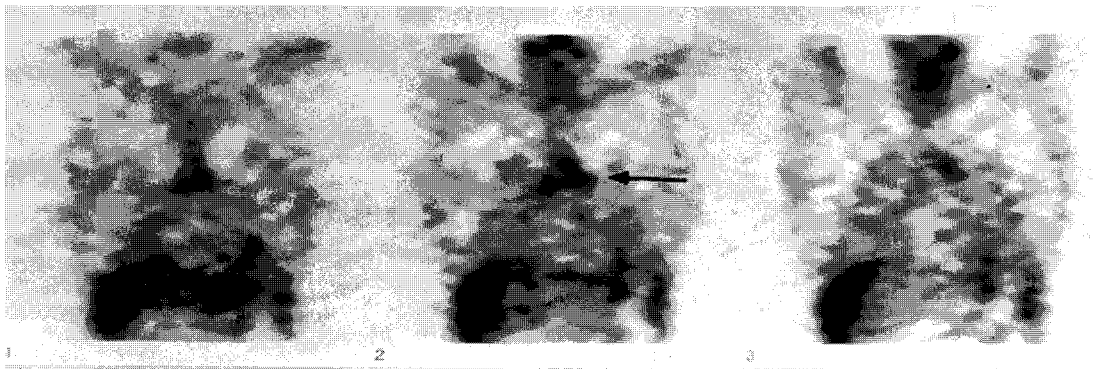


Fig 2. FDG-PET was done using a dual-head gamma camera (Varicam, Elscint, Haifa, Israel) two month after the I-131 therapy. One hour after the IV administration of 148 MBq (4mCi) F-18-FDG in fasting for more than six hours, PET imaging of the thorax was performed. Three coronal slices of FDG-PET of the thorax revealed typical inverted Y appearance of normal thymus (arrow). There have been several reports of increased I-131 uptake in the thymus of adults undergoing I-131 ablation therapy for thyroid carcinoma (1-5). Although FDG uptake in the thymus after puberty can be associated with neoplasms involving the thymus, thymic uptake in this patient is more likely due to physiologic uptake considering normal thymic CT appearance (6).

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