

Contaminated Handkerchief Artifact on I-131 Whole Body Scan

B Wosnitzer, R Gadiraju, G Depuey

Citation

B Wosnitzer, R Gadiraju, G Depuey. *Contaminated Handkerchief Artifact on I-131 Whole Body Scan*. The Internet Journal of Nuclear Medicine. 2009 Volume 5 Number 2.

Abstract

One role of the whole body thyroid scan is to follow patients with a history of thyroid carcinoma to assess for recurrence. It is essential for physicians to differentiate between contamination artifacts and true pathology when interpreting these studies. Contamination from I-131 in nasal secretions has been reported in the literature. Knowledge of such contamination may provide insight for improving future scan acquisition technique and image interpretation. We present the whole body I-131 images of a 66 year-old male with previous thyroid carcinoma to reiterate the importance of examining patients for accessories that may lead to scan misinterpretation.

INTRODUCTION

One role of the whole body thyroid scan is to follow patients with a history of thyroid carcinoma to assess for recurrence. It is essential for physicians to differentiate between contamination artifacts and true pathology when interpreting these studies. Contamination from I-131 in nasal secretions has been reported in the literature. Knowledge of such contamination may provide insight for improving future scan acquisition technique and image interpretation.

CASE REPORT

We present the whole body I-131 images of a 66 year-old male with previous thyroid carcinoma to reiterate the importance of examining patients for accessories that may lead to scan misinterpretation.

Figure 1

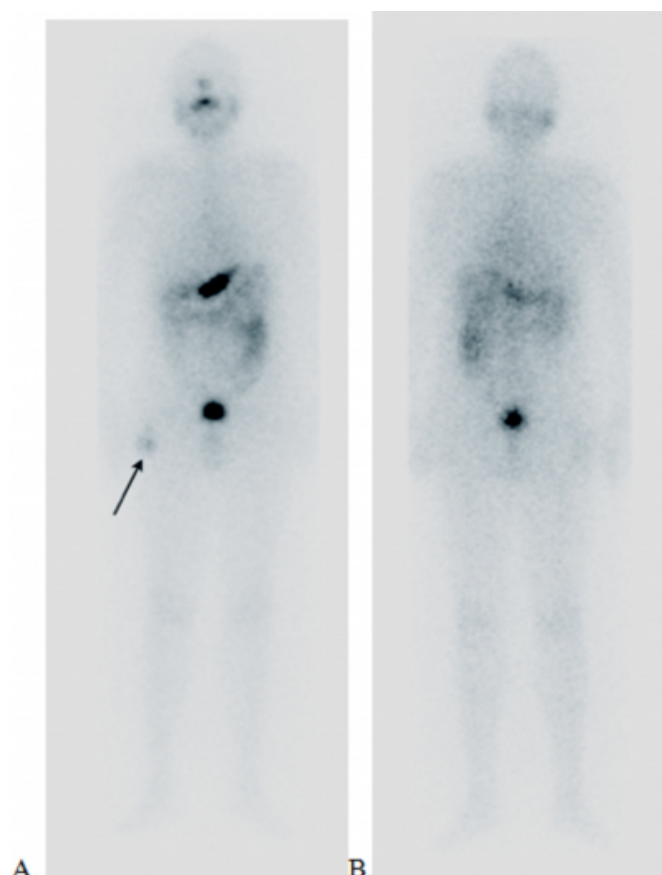


Figure 1 (A&B): 66 year-old male with history of thyroid carcinoma, status post thyroidectomy, and status post radioactive iodine ablation presents for whole body iodine scan to evaluate possible recurrence or metastases. The

patient received two 0.9 mg intramuscular Thyrogen injections on two consecutive days and a 4 mCi I-131 capsule on the third day. Anterior (left) and posterior (right) whole body planar images were obtained 48 hours after capsule administration. Images show no focal abnormal uptake in the neck area to suggest local recurrence. The 48 hour uptake in the neck was 0.2%. Tracer uptake is physiologic in the chest, abdomen, and pelvis. There is a focus of increased tracer uptake in the region inferior to the greater trochanter of the right femur appreciated best in the anterior view (see black arrow).

Figure 2

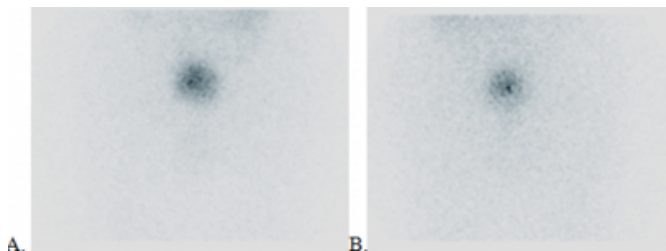


Figure 2 (A&B): Anterior (left) and posterior (right) planar images of the pelvis were acquired after removing a handkerchief from the patient's pocket. Since I-131 is present in nasal secretions, the possibility of contamination artifacts from patients' accessories should always be considered when interpreting "hot spots" on whole body I-131 scans [1,2,3].

References

1. Boxen I, Zhang ZM. Nasal secretion of iodine-131. Clin Nucl Med. 1990 Sep;15(9):610-1.
2. Pochis WT, Krasnow AZ, Isitman AT, Cerletty JM, Kir KM, Hellman RS, Collier BD. The radioactive handkerchief sign. A contamination artifact in I-131 imaging for metastatic thyroid carcinoma. Clin Nucl Med. 1990 Jul;15(7):491-4.
3. Chandramouly BS, Scagnelli T, Burgess CK. Artifact on iodine-131 whole body scan due to contaminated handkerchief. Clin Nucl Med. 1989 Apr;14(4):301-2.

Author Information

Brian Wosnitzer, MD

Division of Nuclear Medicine St Luke's Roosevelt Hospital Center New York, NY, 10025.

Ramesh Gadiraju, MD

Division of Nuclear Medicine St Luke's Roosevelt Hospital Center New York, NY, 10025.

Gordon Depuey, MD

Division of Nuclear Medicine St Luke's Roosevelt Hospital Center New York, NY, 10025.