

# False positive post RAI scan in a subject with papillary thyroid cancer secondary to urine contamination

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## INTRODUCTION

Radioactive iodine (RAI) for remnant ablation and post RAI scanning are frequently employed modalities in differentiated thyroid cancers (DTC). Radioactive iodine is secreted into physiological secretions such as tears and urine. In this case report we present a case who received RAI for DTC with a surprising post RAI scan compatible with multiple metastases

## CASE REPORT

A 53 year old male subject underwent total thyroidectomy and ipsilateral lymph node dissection after being diagnosed as papillary thyroid cancer (PTC) via fine needle aspiration cytology (FNAC). He received 150mCi of RAI due to lymph node metastases. His stimulated thyroglobulin level (Tg) was 33.3 ng/ml and was positive for anti thyroglobulin antibodies. In the post RAI scan we visualized suspicious metastases in the thyroïdal area together with the mid abdominal, proximal right femoral, mid left femoral and distal left tibia areas (See Figure). The metastatic findings were atypical and were localized anteriorly. Also the patients' general situation was fine so we planned a bone scan and PET CT to confirm these findings. Both bone scans and FDG PET was negative for metastases. The subjects' socioeconomic status and personal hygiene was very low thus we suspected these findings were secondary to urine contamination. Six months later he underwent a whole body scan which was negative for metastases as expected. His stimulated Tg was 1.16ng/ml and anti Tg was positive during the scan

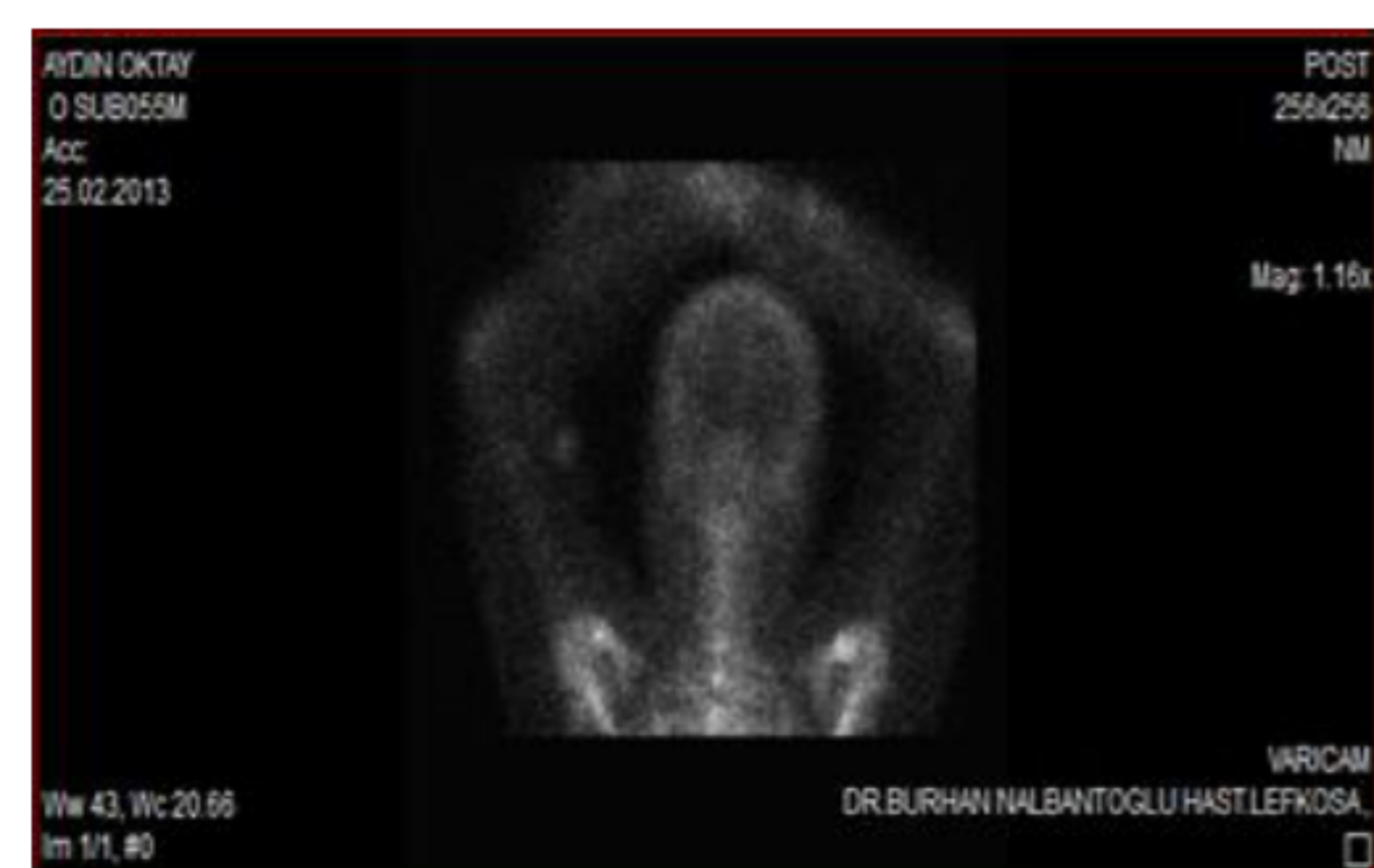
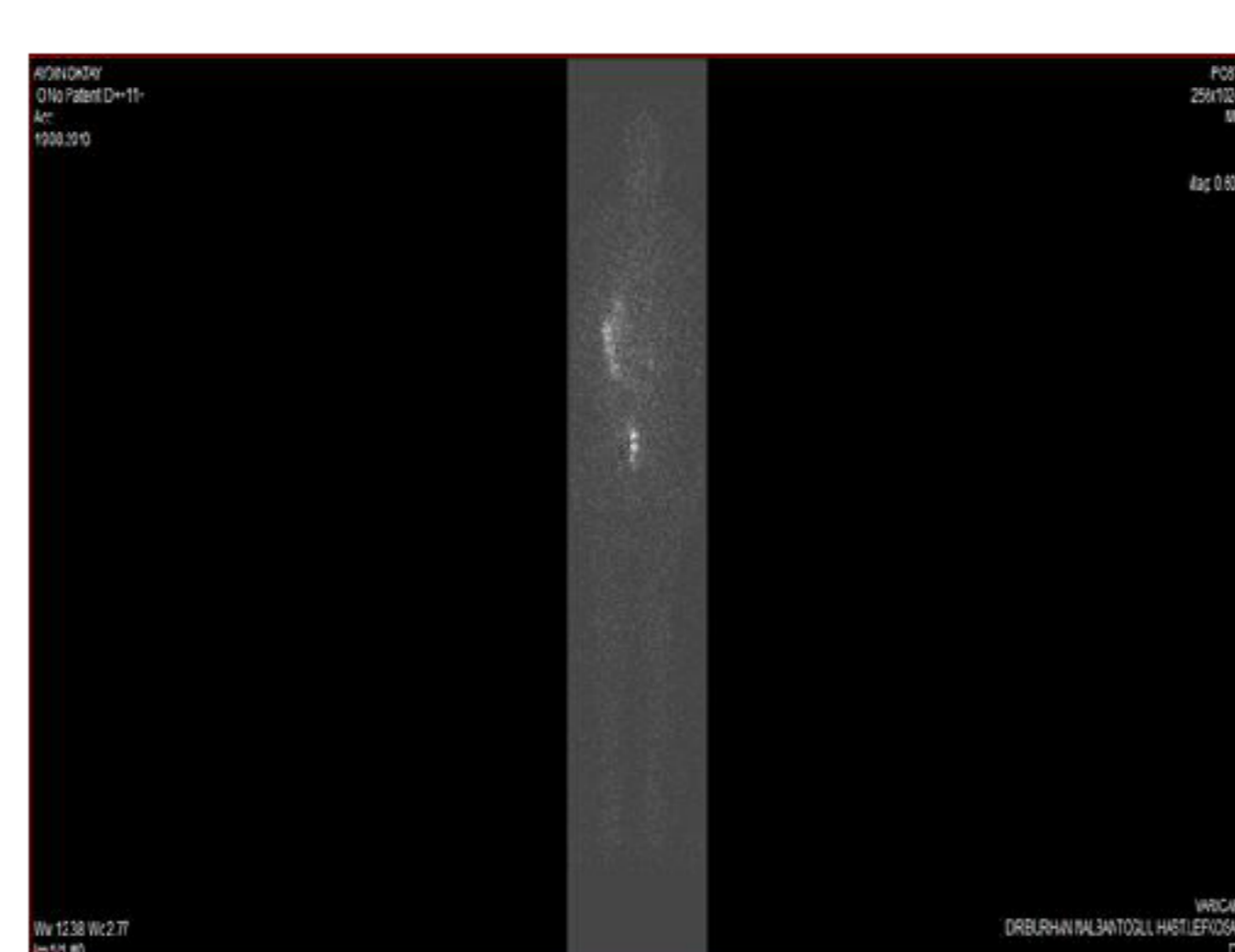
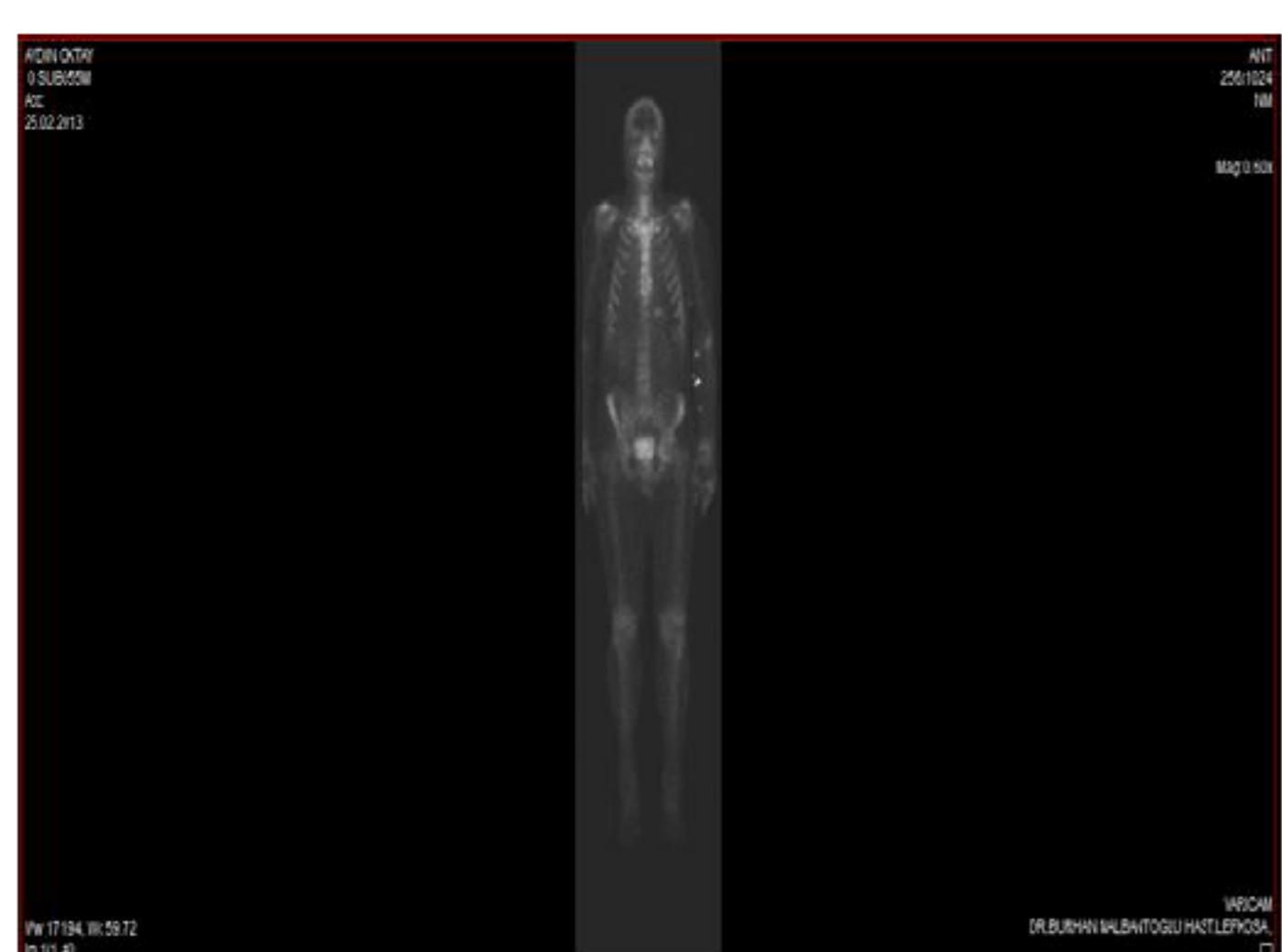


Figure: Suspicious metastases in the whole body scan

## CONCLUSIONS

Post RAI scanning is a very important technique for determining metastases in subjects with DTC. Contamination with body fluids can cause false metastatic findings in which other radiological methods and personal history can aid the physicians in making a decision

