

I-131 false positive uptake in a huge parapelvic renal cyst

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Abstract

A male patient had undergone total thyroidectomy for thyroid papillary carcinoma. He was administered thyroablation activity of radioiodine. Whole body imaging after diagnostic activity of ¹³¹I demonstrated intense radioiodine uptake in the right side of the upper abdominal region. The serum thyroglobulin level was low. Ultrasonography demonstrated a large irregular anechoic structure in the centre of the right kidney — a cyst in the parapelvic region. Renal cysts can lead to erroneous interpretation of radioiodine scintigraphy.

Key words: I-131 scintigraphy, I-131 abdominal uptake, renal cyst, thyroid cancer, I-131 therapy

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Introduction

Whole-body I-131 scintigraphy remains an important technique for diagnosing metastases from differentiated papillary or follicular thyroid carcinoma. We present a case of intense I-131 uptake in a previously unsuspected huge parapelvic renal cyst.

Case report

A 65-year-old man had undergone total thyroidectomy for thyroid papillary carcinoma. He was administered thyroablation

activity of 3.7 GBq (100 mCi) radioiodine for thyroid remnant. Whole body imaging 3 days after diagnostic activity of 300 MBq (8.1 mCi) ¹³¹I demonstrated only intense abnormal focal radioiodine uptake in the right side of the upper abdominal region (Figure 1). The serum thyroglobulin level was low at 0.4 mg/l, and the level of antithyroglobulin was < 50 U/ml.

Ultrasonography demonstrated a large irregular but well-defined anechoic structure (59 x 63mm) in the centre of the right kidney. Conclusion: There was a simple cyst in the parapelvic region (Figure 2).

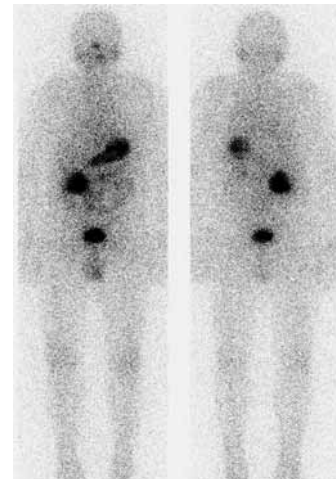


Figure 1 Whole body radioiodine scintigraphy after diagnostic activity of ¹³¹I.



Figure 2. Ultrasound imaging of the right kidney.

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Retained urine in a dilated renal collecting system, and ureteral and bladder diverticulum have been reported as false-positives for thyroid cancer in the abdominal and pelvic areas [1, 2]. Renal cysts are additional renal pathologies which can lead to erroneous interpretation of radioiodine scintigraphy [3–5]. I-131 activity within the renal cyst supports the concept that iodide is subject to an active secretory process by the renal tubule [5].

References

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