A 48-year-old man, known for well-controlled hypertension over the past 8 years, was evaluated for low back pain. The clinical examination was unremarkable except for a 4 cm right-sided nodule in the region of the thyroid gland. So a clinical diagnosis of right solitary thyroid nodule was made and investigated. His biochemistry showed a high serum calcium level of 11.4 mg/dL (8.3–10.3) and phosphate of 1.4 mg/dL (2.5–5.5) with intact parathyromone (PTH) of 877.8 pg/mL (8.0–74). His 24 h urine calcium level was high for his weight, with a tubular maximum excretion of phosphate <2.5%. Ultrasonography of the neck revealed a right solitary thyroid nodule (figure 1) and also bilateral renal calculi in the abdominal sonography. However, parathyroid scintigraphy and single-photon emission CT (SPECT)-CT confirmed a large right parathyroid adenoma (figures 2 and 3). His bone mineral density showed a low bone mass with a Z score of <−2 in all regions. He did not have clinical or biochemical evidence of any syndromes. He underwent localised right parathyroid adenoma removal and was intraoperatively found to have a 4.5×4.9×3.2 cm enlarged right inferior parathyroid gland. The histopathological specimen was also confirmatory of right parathyroid adenoma with atypical features. Even though our patient had clinical and radiological features of a simulating right side thyroid nodule, the scintigraphy image was highly suggestive of a large right parathyroid adenoma. Clinically palpable benign parathyroid adenoma is very rare, as only 2% of benign primary hyperparathyroidism cases have an enlarged, palpable parathyroid gland. Palpable parathyroid adenomas are parathyroid carcinomas unless proven otherwise.1–3

Learning points
- A palpable parathyroid adenoma does not always have a malignant nature.
- A large palpable parathyroid adenoma can mimic a thyroid nodule on clinical examination.
- Parathyroid scintigraphy is a very useful investigative tool for localising parathyroid adenoma.
Figure 3  Single-photon emission CT (SPECT)-CT of the neck revealing a right parathyroid adenoma (shown with arrows).

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REFERENCES