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# Isolated Tuberculous Thyroiditis as Solitary Thyroid Nodule

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## ABSTRACT

Isolated involvement of the thyroid by tuberculosis is very rare as reported in literature. We are presenting a case of isolated tuberculous thyroiditis presented as a solitary thyroid nodule. The patient was treated with anti-tuberculous regimen and he responded well with disappearance of the nodule and normalization of the thyroid scan.

**Key words:** Tuberculous thyroiditis. Solitary nodule. Tuberculous thyroid nodule.

## INTRODUCTION

Extra-pulmonary tuberculosis (TB) rarely affects thyroid gland and Lebert published the first paper on tuberculous thyroiditis in 1862.<sup>1</sup> Bolis in 1970 found only two cases of caseous TB in 74,393 thyroid biopsies.<sup>2</sup> Thyroid tuberculosis is rare and is found in about 0.1% of cases of tuberculosis, with very few cases reported recently even in Asian countries where tuberculosis shows high prevalence.<sup>3</sup> Symptom-free thyroid involvement may occur as a part of generalized miliary spread or, more rarely, diffuse or localized swelling of the gland.<sup>4</sup> We report this case of tuberculous thyroiditis presenting as a solitary thyroid nodule.

## CASE REPORT

A 32 years old male was referred for a thyroid scan for evaluation of non-tender solitary nodule over the right side of lower neck. This appeared 3 months back with progressive enlargement. He had no history of fever, weight loss and tuberculosis.

On examination, there was a solitary, non-tender and firm swelling of 5 x 4 cm on the right side of neck moving with deglutition with no evidence of lymphadenopathy (Figure 1a). Systemic examination was unremarkable and clinically he was euthyroid.

His hematology revealed hemoglobin 14.2 gm/dl, TLC  $9.0 \times 10^9/L$  (Neut. 58% and lymph 30%), platelet  $328 \times 10^9/L$  and ESR 6 mm/hr. His biochemistry including urea, creatinine, LFTs and bleeding profile all were within normal limits. His thyroid profile (TSH, FT4 and FT3) revealed status euthyroid.

His thyroid scintigraphy performed with 200 MBq of Technetium-99m pertechnetate revealed multi-nodular goiter involving both lobes. Ultrasound of thyroid revealed multi-nodular goiter with the largest nodule (4 x 4 cm) in the right lobe of thyroid. Ultrasound guided fine needle aspiration cytology (FNAC) revealed extensive caseous necrosis suggestive of tuberculosis. His X-ray chest was within normal limits.

He was started on anti-tuberculous treatment (rifampicin, ethambutol, INH and pyrazinamide) with pyridoxine for 3 months followed by 3 drugs regime (rifampicin, ethambutol and INH) for next 6 months.

Follow-up examination after 6 months revealed remarkable regression of the size of the nodule (Figure 1b). Repeat ultrasound study revealed multi-nodular goiter with the largest nodule size of 0.5 x 0.4 cm in the right lobe and 0.8 x 0.6 mm in left lobe of thyroid. Follow-up thyroid scan done with 210 MBq of Tc-99 pertechnetate revealed diffuse tracer uptake by the normal sized gland.



**Figure 1:** (a) Large solitary nodule over the right lower neck before treatment. (b) Complete resolution of the swelling 6 months after anti-tuberculous treatment.

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## DISCUSSION

Extra-pulmonary tuberculosis rarely affects thyroid gland.<sup>5</sup> Symptom-free thyroid involvement may occur as a part of generalized miliary spread or more rarely

diffuse or localized swelling of the gland.<sup>6</sup> In Pakistan, although tuberculosis is quite common but isolated involvement of the thyroid gland is very rare as reported in the various reported studies from the different part of the globe.

The diagnosis of tuberculous thyroiditis is not easy because there are not any specific symptoms to show this entity.<sup>7</sup> In contrast to bacterial thyroiditis, tuberculous thyroiditis has a sub-acute history with a solitary non-tender swelling. In this clinical scenario differentiation from neoplastic growth is mandatory to avoid unjustified surgery. In this regard, FNAC has a very vital role to play as dictated by Mondal *et al.*<sup>8</sup> Complete resolution usually follows an appropriate anti-tuberculous drug treatment. But in cases with large abscess, surgical drainage or resection followed by anti-tuberculous treatment is considered the optimal treatment choice.

Isolated tuberculous thyroiditis, therefore, should be considered in the differential diagnosis of a thyroid nodule especially in developing countries like Pakistan.

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