

# RECURRENT SUB ACUTE THYROIDITIS LACKING DIAGNOSTIC IMAGING FEATURES – ATYPICAL SCENARIO

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## INTRODUCTION

- ❖ A diagnosis of sub-acute thyroiditis (SAT) is based on history and clinical features supported by laboratory investigations and imaging studies.
- ❖ Presence of SAT with normal thyroid scintigraphy findings is exceedingly rare.

## OBJECTIVES

We discuss the possible explanations for normal thyroid scintigraphy and the utility of imaging studies in such presentations.

## MATERIALS & METHODS

We report the history, exam findings, laboratory results, and imaging studies of a 51 year old post-menopausal female with SAT.

## RESULTS

51 years old female having history of recurrent sub-acute thyroiditis 10 years back. She presented with pain in her neck for one and half month, fever since three days, heat intolerance, sleep disturbances and restlessness. Physical examination revealed enlargement and marked tenderness over the thyroid. Thyroid profile showed TSH 0.023uIU/ml, FT4 2.31ng/dL, FT3 2.74 ng/dL. Tc-99m pertechnetate scintigraphy showed bilateral normal homogenous uptake in both lobes of thyroid. Patient was started on 1 tablet carbimazole 5 mg TID but she returned 2 weeks later with persistence of symptoms. Repeat labs showed TSH 0.008 uIU/ml, FT4 2.64ng/dL, and FT3 2.5ng/dL with ESR of 94 mm/hr. Carbimazole was stopped and prednisolone was started in tapering doses for 6 weeks. Improvement in symptoms with normalization of ESR to 08 mm/hour and FT4 to 1.04 ng/dl occurred after taking prednisolone for six weeks at follow up.

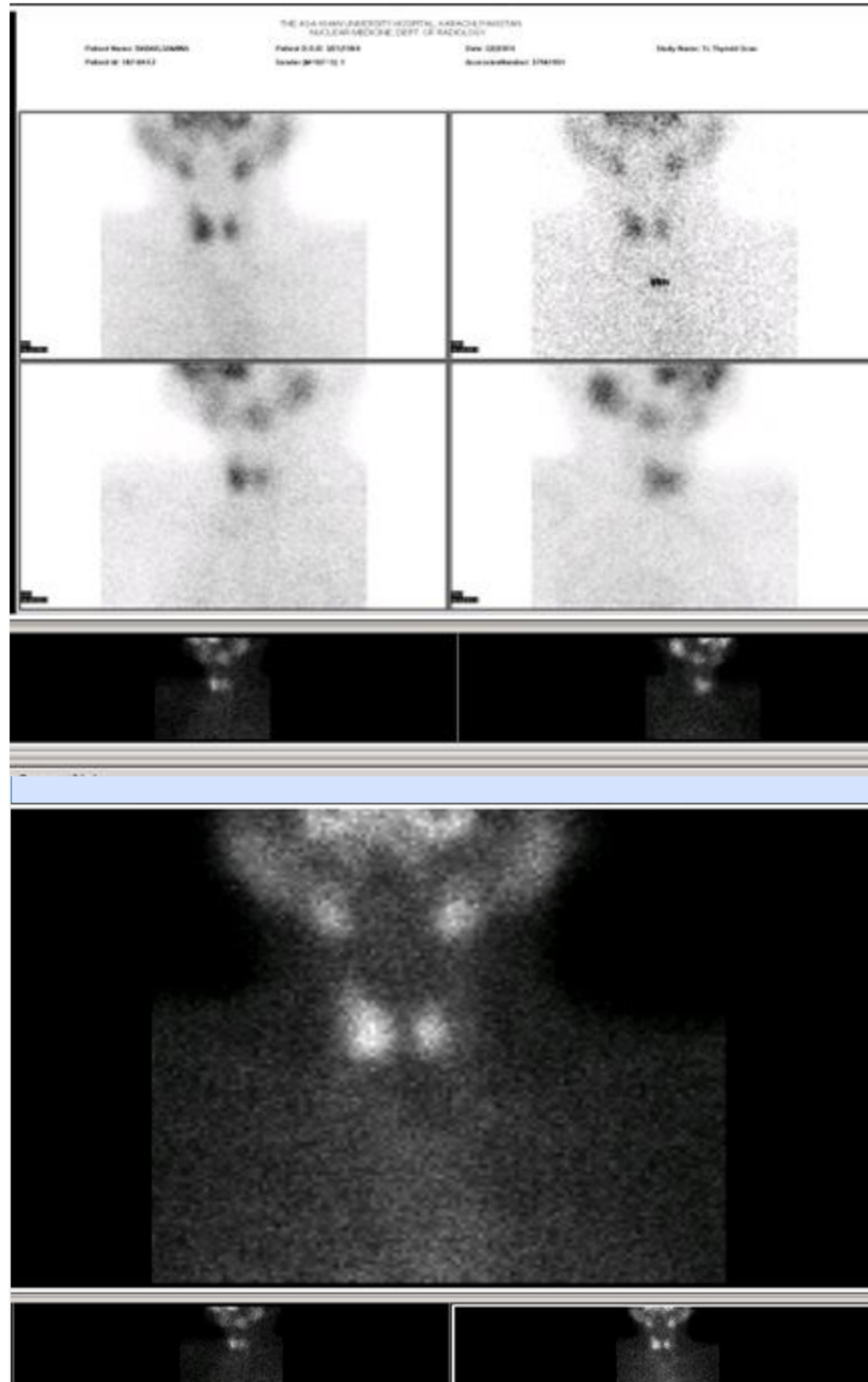


Figure 2: Tc-99m thyroid scintigraphy scan of the patient

## DISCUSSION

Our patient was diagnosed with SAT based on the basis of neck pain with an enlarged, tender thyroid gland, increased FT4 and decreased TSH and a raised ESR. It was confirmed by the immediate response to prednisolone. However, nuclear scintigraphy lacked the classical findings of reduced uptake of Tc-99m which is highly unusual and against the rule in case of subacute thyroiditis.

Due to the initial thyrotoxicosis associated with SAT, TSH levels are suppressed. Consequently, thyroid uptake of radioactive technetium or radioactive iodine should be markedly diminished; therefore, we cannot explain the normal, homogenous uptake of Tc-99m that was observed in our patient.

During the early phase of a mild illness, normal thyroid tissue might have compensated for the hyper functioning part, therefore TSH and Tc-99m uptake may have been normal, but this is highly unlikely in our patient who has developed overt symptoms of thyrotoxicosis (1). Shigemasa et al studied 15 patients suspected of SAT and found that Tc-99m uptake was not completely suppressed in 6 patients, decreased in 7 patients and increased in two of the patients: these two patients had thyroid stimulating antibody and thyroid binding inhibitory immunoglobulin in their serum which may have caused increased uptake of Tc-99m (2). Zhang et al described a similar case of SAT with increased uptake of Tc-99m in the right lobe of thyroid and attributed this to the presence of thyroid receptor antibodies and left lobe fibrosis (1). Other factors associated with SAT such as increased production of prostaglandins and cytokines like IL-4 may also increase TSH mediated Tc-99m uptake (3).

## CONCLUSION

Our case report emphasizes that SAT may have variability in diagnostic nuclear imaging which is due to factors not fully understood; therefore, the diagnosis of SAT should be considered strongly on clinical grounds, thyroid function tests and inflammatory markers even in the absence of characteristic thyroid scintigraphy results.

## REFERENCES

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