

## CASE REPORTS

weeks. This compound works by short-term reticulo-endothelial blockade diminishing platelet sequestration. In the recommended dose of 0.4 mg/kg daily for 3 - 5 days, it results in consistent predictable response in 80 per cent of reported cases<sup>2</sup>. Platelet counts rise on or about four days later. Remission is said to last for about three weeks. Platelet response was immediate in this case report.

Immunoglobulin therapy is expensive but needs to be kept in the armamentarium of the obstetrician especially

in life threatening thrombocytopenia, refractory to standard steroid therapy. Intravenous infusion is best started about 10 - 14 days prior to planned pregnancy, aiming for vaginal delivery in the absence of obstetric indications for Caesarean section.

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## <sup>99m</sup>Tc Trivalent (III) Dimercaptosuccinic Acid Uptake in Medullary Carcinoma of the Thyroid

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### Summary

This is a case report of an accumulation of <sup>99m</sup>Tc trivalent (III) dimercaptosuccinic acid (DMSA), a known agent for renal scintigraphy, in medullary carcinoma of the thyroid (MTC). This observation has not been reported.

**Key Words:** Medullary carcinoma of thyroid, <sup>99m</sup>Tc(III) DMSA

### Introduction

All thyroid carcinomas, irrespective of histological types present as cold nodule in a Tc-99m pertechnetate and

Iodine thyroid scans. <sup>201</sup>Thallium Chloride scan has been shown to be taken up by all types of thyroid carcinomas, including medullary type, while a newly developed radiopharmaceutical <sup>99m</sup>Tc-labelled

pentavalent (V) dimercaptosuccinic acid (DMSA), has been shown to be selectively accumulated into sites of primary and recurrent medullary thyroid carcinoma (MTC) (Ohta *et al* 1984)<sup>1</sup>. This radiopharmaceutical has been used for the diagnosis and follow up of patients with MTC. To our knowledge, uptake of <sup>99m</sup>Tc (III) DMSA has not been reported. Here we report a case of primary MTC showing accumulation of <sup>99m</sup>Tc (III) DMSA, which is primarily used for renal imaging.

### Case Report

A 33-year-old lady presented with a painless thyroid swelling for 5 months. She has no symptoms of thyrotoxicosis. No loss of appetite or weight. She has no complaint of bony pain, flushing of face or diarrhoea. There is no family history of thyroid disease and she is not hypertensive. Physical examination revealed a solitary left thyroid nodule measuring 2.0 cm x 2.0 cm which was smooth and firm in consistency. No evidence of retrosternal extension or cervical lymphadenopathy. She has no signs of thyrotoxicosis. Her blood pressure was 120/80 and pulse rate of 72/min, regular in rhythm.

The serum T<sub>4</sub>, parathyroid hormone, calcium and 24 hours urine VMA were normal. Ultrasound of the neck revealed a single solid nodule in the upper pole of the left lobe of the thyroid gland measuring 2.1 cm x 1.8 cm x 2.9 cm. <sup>99m</sup>Tc pertechnetate thyroid scan showed a cold nodule (Fig. 1).

Fine needle aspiration cytology of the nodule revealed medullary carcinoma of the thyroid. Thyroid scan using <sup>99m</sup>Tc (III) DMSA was then performed which showed an increased tracer accumulation by the cold nodule seen on <sup>99m</sup>Tc pertechnetate (Fig. 2). Subsequently, the patient underwent total thyroidectomy and the histopathological examination showed MTC.

### Discussion

MTC is uncommon tumour, accounting for less than 10% of thyroid malignancies. <sup>99m</sup>Tc pertechnetate and Iodine thyroid scans demonstrate a photon deficient area corresponding to the site of the tumour. Increased

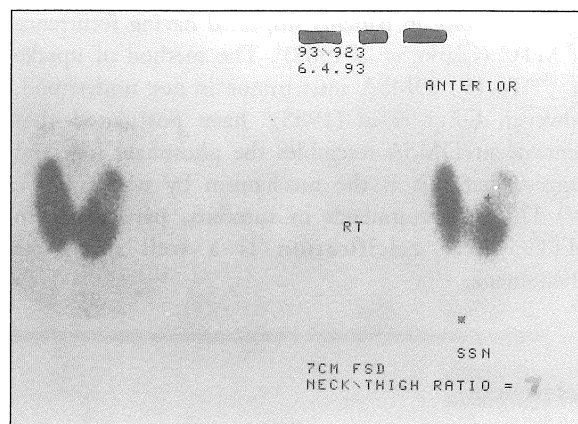


Fig. 1: <sup>99m</sup>Tc Pertechnetate thyroid scan showing a cold nodule in the upper pole of the left thyroid

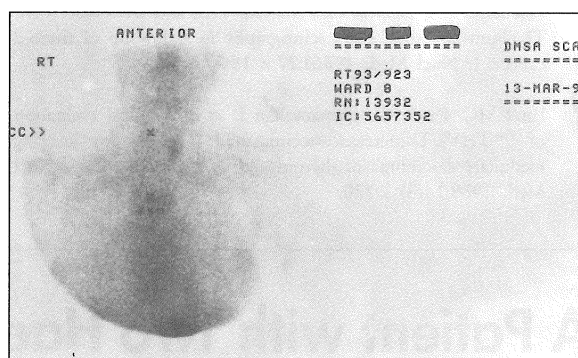


Fig. 2: Thyroid scan using <sup>99m</sup>Tc (III) DMSA taken two hours post-injection showing increased tracer accumulation in the upper pole of the left lobe of the thyroid corresponding to the cold area in Fig. 1.

tracer accumulation is seen with <sup>201</sup>Tl - thallous chloride. Hoefnagel *et al* (1986a)<sup>2</sup> showed 100% sensitivity when imaging MTC with <sup>201</sup>Tl Chloride. However, it has its drawbacks which include poor imaging characteristic, it is also accumulated in normal thyroid tissues and limited availability, particularly in our institution. A newly developed radiopharmaceutical, <sup>99m</sup>Tc (V) DMSA has been shown to be selectively taken up into sites of primary and recurrent MTC (Ohta *et al* 1984)<sup>1</sup> with sensitivity variably reported as 65% (Patel *et al*)<sup>3</sup> to 95% (Clarke *et al* 1988)<sup>4</sup> and specificity of 75%, (Clarke *et al* 1989)<sup>5</sup>. This agent is recommended as the imaging

agent of choice in patients suspected having recurrence of MTC (Clarke *et al* 1988)<sup>4</sup>. The method of uptake of <sup>99m</sup>Tc (V) DMSA into tumor is not understood, however, Ohta *et al* (1985)<sup>6</sup> have postulated that pentavalent DMSA resembles the phosphate ion, and suggest that this is the mechanism by which <sup>99m</sup>Tc (V) DMSA accumulates in tumours, particularly in MTC where calcification is a well recognised phenomena.

This case illustrates an uptake of <sup>99m</sup>Tc (III) DMSA, a known agent for kidney imaging, by a primary MTC. Unlike pentavalent form of DMSA, which needs special preparation, trivalent form is easily prepared and available in all nuclear medicine department. It is not a recognised agent for tumour imaging. To the best of my knowledge, no such case has been reported. Perhaps, this agent can be used to diagnose primary and recurrent MTC.

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# A Patient with Two Haematological Malignancies

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## Summary

This is a patient with a double diagnosis of Acute Myeloid Leukaemia and Multiple Myeloma. In our patient the plasma cells were clonal and could clearly be distinguished from the myeloblasts. Treatment using the anti-myeloma regimen resulted in rapid clinical deterioration and progression of the acute myeloblastic leukaemia.

**Key Words:** Acute myeloid leukaemia, Plasma cells, Monoclonal gammopathy, Chemotherapy

## Introduction

An excess of plasma cells in the bone marrow of

patients with AML is a recognised phenomenon. The plasma cells in the marrow are in a minority of the cells, are not clonal and there is no paraprotein, the