

Case Report



A Case Report on Carbimazole Induced Myositis

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Accepted on: 05-04-2015; **Finalized on:** 30-04-2015.

ABSTRACT

Carbimazole is an anti-thyroid drug commonly used to treat hyperthyroidism. Carbimazole is a pro-drug as after absorption it is converted to the active form, methimazole. Methimazole prevents the thyroid peroxidase enzyme from coupling and iodinating the tyrosine residues on thyroglobulin, hence reducing the production of the thyroid hormones T3 and T4. Here we are presenting a case report of carbimazole induced myositis.

Keywords: Carbimazole, hyperthyroidism, arthralgia, myalgia.

INTRODUCTION

Carbimazole is an anti-thyroid drug commonly used to treat hyperthyroidism and is a relatively safe medication. Carbimazole is a pro-drug after absorption it is converted to the active form, methimazole. Several side effects have been reported and usually develop within 3 months of therapy¹. Well-known adverse reactions include agranulocytosis, hepatitis, skin eruptions, and musculoskeletal complaints such as myalgia, arthralgia, and arthritis. Musculoskeletal complaints are common in thyroid disorders and are also described as side effects to anti-thyroid drugs². We present a case of myositis in a hyperthyroid patient which started shortly after initiating carbimazole and resolved after its withdrawal.

CASE HISTORY

21 year old female patient a Known case of hyperthyroidism on Neomercazole (carbimazole) 5 mg came to the tertiary care teaching hospital with complaints of swelling in front of the neck more towards the right side since 3 years. She could notice from last 5-6 months that her eyes are protruding and also had complaints of severe joint pain and muscle pain always, cold intolerance and tremors. No h/o dysphagia/change in voice/breathlessness. On examination we could found out another swelling lateral to the previous swelling. For further evaluation she was asked to do FNAC and USG neck to rule out malignancy.

FNAC results showed I) right thyroid nodule: Papillary thyroid carcinoma. Category VI (Malignant) according to the Bethesda system for reporting thyroid cytopathology. II) FNAC right- level IV lymph node involvement. Interpretation is limited due to low cellularity.

Blood test results on admission revealed a raised creatine phospho kinase 1791.2 iu/l [normal level in females (60-174 iu/l)], corrected calcium=8.1mg/dl, and Alkaline Phosphotase =406 iu/l, Thyroid function tests (TSH

=0.0117 mU/l, Free T₄=1.15ng/dl) were compatible with adequate control of thyrotoxicosis. Because of the persistence of muscle pains and also elevated blood test results the suspected drug Carbimazole was stopped and planned for total thyroidectomy. After stopping the drug the muscle pains resolved slowly and after the surgery the patient symptomatically improved and she was discharged from hospital with a review after 3 weeks. During review time the laboratory results improved progressively, with further decrease in the creatine kinase 190 iu/l, corrected calcium 9.1mg/dl and alkaline phosphatase 140 iu/l. The patient's arthralgia and myositis resolved completely and feeling better.

DISCUSSION

Muscle complaints are frequent in patients with thyroid disease³. There are very few cases reporting the association between carbimazole therapy and myositis. Our study has demonstrated a similar finding as that of a case report published in Endocrinology, Diabetes and Metabolism Case Reports 2013 - Methimazole-induced myositis⁶. Naranjo Adverse Drug Reaction probability scale was applied to quantify the degree of association between carbimazole and arthralgia and myalgia and it was found to be 8. The underlying mechanism between carbimazole and myositis is not well understood. Some related it to a direct effect of carbimazole on muscle and others related it to a rapid decrease in thyroid hormones resulting in a relative local hypothyroid state within the muscle, which may contribute to the creatine phosphokinase elevation^{4,5}

CONCLUSION

In conclusion, carbimazole is a relatively safe medication. myalgia and arthralgia are infrequently encountered side effect of which physicians should be aware in a hyperthyroid patient with muscle complaints. Early diagnosis allows prompt withdrawal of the offending drug and resolution of symptoms.



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Source of Support: Nil, **Conflict of Interest:** None.

