

CASE REPORT

PREGNANCY, THYROTOXICOSIS AND POLYMYOSITIS

Muhammad Hafeez, Tariq Sarfraz*, Muhammad Azhar**, Raja Ghayas Khan***, Humaira Tariq[†]

Department of Gastroenterology, *Department of Pathology, **Department of Medical Administration, ***Department of Medicine, [†]Department of Gynaecology, Combined Military Hospital, Kharian-Pakistan

A young pregnant lady of 26 years age, presented with recent onset weakness of legs. On examination, she was only able to move legs from side to side and lift the arms with difficulty. Rest of neurological and systemic examination did not reveal any abnormality. On investigations, there were raised serum muscle enzyme levels, hyperthyroid hormone profile, myopathy on electromyography and myositis on muscle biopsy. Common conditions of myositis were excluded. She was given glucocorticoids and methimazole to which she responded well.

Keywords: Pregnancy, Thyrotoxicosis, Polymyositis

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INTRODUCTION

Polymyositis is inflammation of the muscles characterized by weakness, pain and swelling of muscles. It is symmetric proximal muscle weakness characterized by raised serum muscle enzymes, myopathy changes on electromyography, characteristic muscle biopsy abnormalities and the absence of histopathological signs of other myopathies.¹ Patient presentation varies from severe muscular weakness to incidental detection on muscle biopsy. Polymyositis association ranges from idiopathic to malignancies. Polymyositis isolated correlations with thyrotoxicosis and pregnancy had been elaborated previously.^{2,3} In hyperthyroidism presumed mechanism of myopathy is muscle degradation by effecting motor end plate on muscular or nervous system side by acetyl cholinesterase enzyme inhibition leading increase acetylcholine levels, fatigue and degradation of muscles.² We are going to report a unique case of a pregnant lady having thyrotoxicosis, developing acute polymyositis and showing dramatic response on the introduction of steroids and antithyroid drugs.

CASE REPORT

Twenty-eight year young four month pregnant lady presented with sudden onset weakness of limbs for last one day. She didn't have any history of muscle pain, trauma, flu, cough, vomiting, diarrhoea, joint pains or rash. She had anxiety, palpitation and heat intolerance for a couple of years. She was diagnosed thyrotoxicosis one month back, advised methimazole, but her compliance to drug was poor. She was not on any other medications. This was her fifth pregnancy with two live issues and two abortions. Her last pregnancy was five years back and did not have any complication in the previous pregnancies. On examination, power of upper limbs was 4/5 and lower limbs 2/5. Muscles tone, deep

tendon reflexes and sensations were intact. Rest of the systemic examination was normal. Investigations revealed normal blood counts, ESR 36 mm fall at the end of 1st hour and C Reactive Protein (CRP) was less than 6. Creatinine Phosphokinase was 1546 IU/L. There was no myoglobinuria. Electromyographic picture was suggestive of myopathy. On Muscle biopsy, there was perifascicular infiltration by lymphocytes with mild increase in endomyseal fat (Figure-1 & 2), Histopathological features were suggestive of Polymyositis. Her T3 was 3.6 IU/l, T4 22.4 IU/L and TSH <0.1 IU/L; consistent with thyrotoxicosis. Serological studies including anti-thyroglobulin antibodies, anti-microsomal antibodies, Anti-Nuclear Antibodies (ANA), Anti Double Stranded Deoxyribose Nucleic Acid (Anti-Ds DNA) antibodies, Rheumatoid Arthritis (RA) factor and Anti Human Immune Deficiency Virus (HIV) antibodies were normal. Anti-extractable nuclear antigen antibodies including Anti-Smooth Muscle Antibodies (ASMA), Anti Sjogren's Syndrome Antigen A (SSA/Ro) Antibodies, Anti Sjogren's Syndrome B (SSB/La) antibodies, Anti Jo antibodies, anti Ribonucleoprotein (RNP) antibodies and Anti Systemic Scleroderma (SCL 70) antibodies were also negative. Other investigations including renal function tests, liver function tests, blood sugar levels, abdominal ultrasound and X-Ray chest done with shield cover were also normal. She was given tab methimazole 20 mg twice daily along with prednisolone 25 mg twice daily, to which she responded well and had quick recovery. On third day, she was able to walk with support and on day 7, she could stand up from chair. After two weeks, she was able to walk around and meet her basic needs. Steroids were tapered down and methimazole was advised to be continued with monthly follow up in outpatient medical and obstetrics department for maternal and baby well-being.

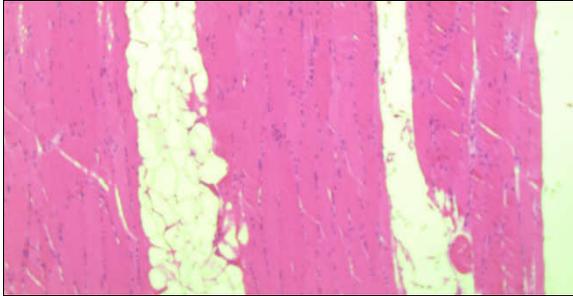


Figure-1: Muscle biopsy showing perifascicular lymphocytic infiltrate (Low power; 10x Obj)

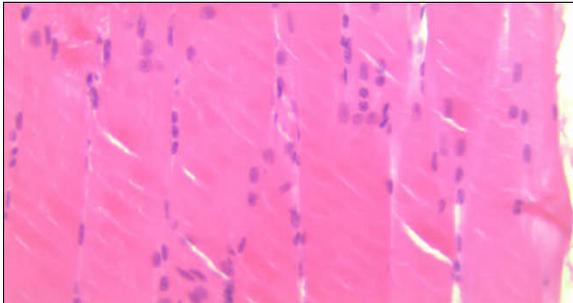


Figure-2: Muscle biopsy showing perifascicular lymphocytic infiltrate (High power; 40x Obj)

DISCUSSION

Polymyositis is inflammation of muscles with variable causes that include infections, autoimmune diseases, certain drugs, injury, exercise and some chronic and idiopathic inflammatory conditions. Infections include bacteria especially mycobacteria, fungi and viruses particularly HIV associated myopathy has been reported.⁴ Polymyositis and dermatomyositis are associated with autoimmune diseases.⁵⁻⁶ Malignancies of ovaries, uterus, bladder, pancreas, lung and stomach have myopathies in 70% of cases.⁷⁻⁹ Other conditions are inclusion body myositis, drugs associated e.g., with alcohol, cocaine, glucocorticoids, lipid-lowering drugs, antimalarial (which is associated with vacuolar myopathies), colchicine and methimazole. Pregnancies in polymyositis and dermatomyositis should be considered high risk but if the disease is inactive foetal prognosis is good.¹⁰ Polymyositis has been found associated in a study with both hyperthyroidism as well as hypothyroidism; all were female patients.¹¹ Our patient had uneventful pregnancy five years back. She developed symptoms of thyrotoxicosis in two years, aggravated during this pregnancy led to acute myopathy. This condition resemble thyrotoxic periodic paralysis just like hypokalemic periodic paralysis but there was no

periodicity and serum potassium levels were normal as expected in the these conditions.¹² First line treatment in thyrotoxic myopathy is beta blocker. Antithyroid drugs like methimazole and propylthiouracil block the release of thyroxin and effect of thyroxin on muscle damage. She had a remarkable response to administration of methimazole along with steroids. This unique combination has rarely been reported before.

CONCLUSION

Thyrotoxic myopathy is an established entity. It is usually chronic but it can lead to acute myopathy when it is associated with other condition like pregnancy.

AUTHOR'S CONTRIBUTION

MH: Picked up the case and wrote the case report. MA, RGK: Helped in writing and editing. HT was obstetrician covered that aspect. All authors helped in the management of the patient.

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Address for Correspondence:

Lt Col Muhammad Hafeez, Consultant Medical Specialist & Gastroenterologist, Combined Military Hospital, Kharian-Pakistan

Cell: +92 331 551 2854

Email: dmhafeez@yahoo.com