

# Thrombocytopenic Purpura with Pulmonary Tuberculosis: A Case Report

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## Abstract

Thrombocytopenia induced by anti tubercular drugs is well known, but development of thrombocytopenia in association with tuberculosis without anti tubercular drugs is rare. We are reporting a 24 years male having thrombocytopenia with pulmonary tuberculosis.

## INTRODUCTION

Tuberculosis is associated with numerous hematological manifestations e.g. anaemia, leucocytosis, monocytosis, lymphopenia, leucopenia, thrombocytopenia, thrombocytosis, leukemoid reactions and pancytopenia<sup>1,2</sup>. But severe thrombocytopenia with pulmonary tuberculosis as thrombocytopenic purpura is rare<sup>3</sup>. To the best of our knowledge there are few case reports of tuberculosis associated with thrombocytopenia in the world literature<sup>4,5,6,7,8</sup>. We are reporting a case of thrombocytopenia in association with pulmonary tuberculosis without anti tubercular drugs.

## CASE REPORT

A 24 years old male, employee in Provincial Armed Constabulary (PAC), presented with history of purpuric rash over body for 12 months. There was no other symptom. He was non smoker. His parents, brother, sisters are alive and healthy. Patient does not have any past medical or surgical illness. General examination revealed that patient is of thin built with localized petechiae over the body. There were no signs of anaemia. There was no significant lymphadenopathy. His resting pulse rate was 92/min and blood pressure was 102/64 mmHg. Respiratory system examination revealed crepitations more on left upper part of chest. His Cardio Vascular System, Central Nervous System and Abdominal systems were in normal limit. His hemoglobin was 13 gm%; total leucocyte count was 8,400/cmm, neutrophils 68%, lymphocytes 32%, general blood picture was normocytic normochromic, platelet count was 8,000/mm<sup>3</sup>, blood sugar (Random): 99mg %, blood urea: 25 mg %, serum creatinine: 0.6 mg %, serum bilirubin: 0.9 mg % and serum alkaline

phosphate:222 IU/L. His coagulation profiles [prothrombin time (PT), activated-partial thromboplastin time (aPTT), fibrin degradation products (FDP) and clotting time (CT)] were normal; on dated 05-06-2005. His bone marrow aspiration was done that revealed M: E ratio 1:1 with increased numbers of megakaryocytes. His blood smear was negative for malaria/microbiological parasites. His blood was negative for HCV, HBV and Elisa for HIV was also negative. There was history of taking anti tubercular treatment (ATT) in the form of Streptomycin, Isoniazid, Rifampicin, and Ethambutol X 2 months, 5 years back. His sputum smear for AFB was done which was positive on three consecutive days. His chest X-ray PA View was done that revealed unilateral patchy infiltrate in the left upper zone. He was put on antitubercular drugs (Streptomycin, Isoniazid, Ethambutol and Pyrazinamide) and prednisolone (1 mg/kg/day). On day 8; platelet counts increased to 15000/mm<sup>3</sup> and on day 16 of the treatment; it reached to 21,000/mm<sup>3</sup>. On day 24 of the treatment; it reached to 69,000/mm<sup>3</sup> and on day 32; it reached to 1, 12,000/ mm<sup>3</sup>. Prednisolone tapered after 1 month of treatment. A complete blood count at 45 days demonstrated a WBC: 9,800, Hb: 14.6 g/dl and platelet count: 1, 72,000/ mm<sup>3</sup>. Injection streptomycin was stopped after 3 months as his sputum smear became negative for AFB and HZE stopped after further 9 months. Till now patients is asymptomatic.

## DISCUSSION

Thrombocytopenia induced by anti tubercular drugs is well known but severe thrombocytopenia with tuberculosis presenting as thrombocytopenic purpura is uncommon. Reduction in platelet number constitutes an important cause

of generalized bleeding. Platelet counts normally range between 1,50,000 to 4,50,000/mm<sup>3</sup> and count below 50,000/mm<sup>3</sup> defined as thrombocytopenia. Causes of thrombocytopenia are 1. Decreased production of platelets; (a) in Aplastic anemia: congenital and acquired, (b) Selective impairment of platelet by infections: measles and HIV and drug induced: alcohol, thiazide, cytotoxic drugs etc. (c) Ineffective megakaryopoiesis: megaloblastic anaemia, paroxysmal nocturnal haemoglobinuria. 2. Decreased platelet survival; it includes (a) Immunological destruction, autoimmune: Idiopathic Thrombocytopenic Purpura, SLE, Isoimmune: post transfusion, neonatal and drug induced: Quinidine; heparin; sulfa compounds; infections: bacterial and viral (b) Non immunological destruction: DIC, TTP, Giant haemangiomas, micro angiopathic haemolytic anaemias. 3. Sequestration- Hypersplenism. 4. Dilutional<sup>9,10,11</sup>.

A case report from Japan reported immune thrombocytopenia with pulmonary tuberculosis in a 22 years old patient. His antiplatelet antibodies level was elevated with normal bone marrow cytology<sup>12</sup>. Another case of immune thrombocytopenia with pulmonary tuberculosis in 48 year old female patient, presented as generalized purpura was reported in year 2002. Bone marrow aspirate was done that revealed increased cellularity with normal M: E ratios, A case of tuberculosis presented as immune thrombocytopenia in 29 year old patient presented with thrombocytopenia induced haemoptysis, macroscopic haematuria, generalized petechiae. Bone marrow aspirate was done that revealed hypercellularity with normal M: E ratio<sup>14</sup>. Four cases of, tuberculosis and immune thrombocytopenia having no history of antitubercular drug administration were reported. All patients had elevated antiplatelet antibodies level with normal bone marrow cytology<sup>6</sup>.

Out of all these cases only last one were reported from India and rest are from abroad. In the present case we did not go for antiplatelet antibodies test because patient refused to afford it. Any how it is interesting to find out thrombocytopenia in association with tuberculosis and whenever we found a case of thrombocytopenia in association with tuberculosis; we should try to find out if possible whether this thrombocytopenia is drug induced,

tubercular disease induced or is just an associated disease. In literature review we did not find any mention about description of antitubercular drugs. In the present case we did not give rifampicin because of fear of rifampicin induced thrombocytopenia. Our case responded well on 3SHEZ/9HEZ

## CORRESPONDENCE TO

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