

## Immune Thrombocytopenic Purpura: a Case Report

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### Abstract

Immune Thrombocytopenic Purpura also known as Idiopathic Thrombocytopenic Purpura or ITP, is an autoimmune disorder characterised by accelerated destruction and suboptimal platelet production that leads to reduced peripheral blood platelet counts. Females have a higher incidence than in Males with the ratio of 3:1. Here we present a case of 68-year-old female, with complaints of purpuric spots, ecchymosis, discolouration of tongue and history of melena. The treatment is initiated with IV dose of Corticosteroids followed by platelet infusions. Steroid dose must be tapered after one month of treatment schedule. Splenectomy is preferred in severe cases. ITP occurs because of platelet destruction abruptly by complex mechanisms in the immune system.

### Keywords

Thrombocytopenic purpura; Purpuric spots; Ecchymosis; Splenectomy.

## Introduction

Immune Thrombocytopenic Purpura also known as Idiopathic Thrombocytopenic Purpura or ITP, is an autoimmune disorder characterized by accelerated destruction and suboptimal platelet production that leads to reduced peripheral blood platelet counts. Females have a higher incidence than in Males with the ratio of 3:1. ITP is mainly classified as acute and chronic. Acute ITP (short term) are those which lasts for <6 months where Chronic ITP (long term) lasts >6 months and seen commonly in adults. Based on cause ITP can be primary and secondary. Primary ITP occurs its own in the body and secondary ITP occurs as a result of and autoimmune conditions, chronic infections, pregnancy and neoplasm. Most common symptoms of Immune Thrombocytopenic Purpura include easy bruising & bleeding, petechiae (pinpoint in appearance), epistaxis, gingival bleeding, hematuria, melena, menorrhagia and prolonged bleeding during cuts and injuries. Incidence of mortality with ITP higher in elderly population. The ITP is consistently diagnosed with thrombocytopenia ( $< 20,000$  cells/mm<sup>3</sup>), normal RBCs and normal WBCs.

## Case Report

A 68-year-old female patient was encountered to the department of General medicine in a tertiary care hospital with complaints of purpuric spots, ecchymosis and history of melena. The patient had appearance of purpuric spots and discolouration of the tongue one day earlier. She had a medical history of Systemic Hypertension and was on Tab. TELMISARTAN 40mg. Her vitals were stable and patient was afebrile.

Examination revealed purpura and petechia positive on the abdomen. Patient also had a history of IPA in childhood. Also, she had osteoarthritis, hence was on mechanical knee pads for 1 year and was on PIROXICAM for 2-3 months. A Complete Blood Count (CBC) revealed patient had severe thrombocytopenia with a platelet count  $< 20,000$  cells/mm<sup>3</sup>. Bleeding time, clotting time, Prothrombin and a PTT was normal. A provisional diagnosis of Thrombocytopenia, primary haematological can use was established (Figure 1).



**Figure 1:** Purpuric spots on lower limb.

The Blood picture showed normocytic normochromic anemia and marked thrombocytopenia. Stool observation showed positive blood content. A bone marrow infiltration was done and microbiological

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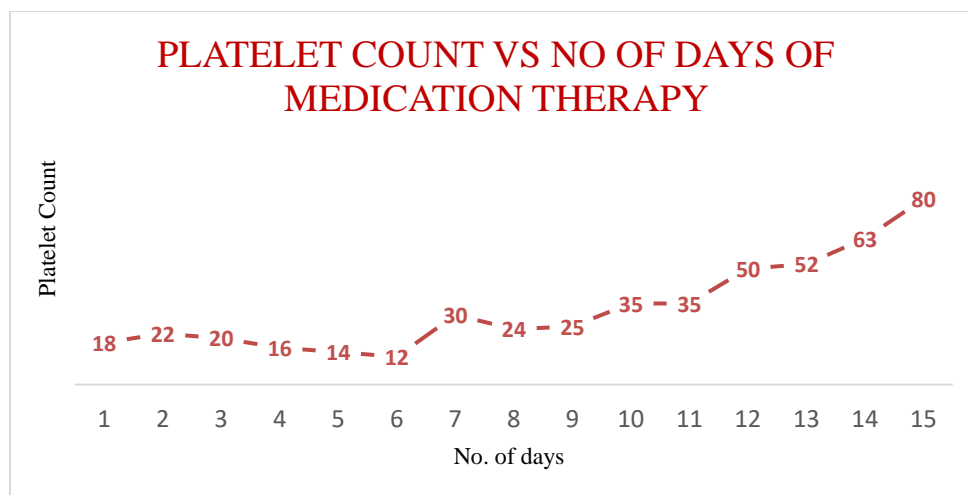
examination about Fungal/ AFB stain, AFB culture & fungal culture, Geno expert for MTB was done and showed no abnormal evidence. Bone marrow biopsy with IHC revealed increased number of megakaryocytes without morphological abnormality. No evidence of CLD on imaging but had a left renal cortical cyst was found. Based on the above investigation findings, the final diagnosis of ITP was made (Table 1).

Hematological tests	Coagulation test
WBC: 8080cells/mm <sup>3</sup>	Bleeding Time: 1min 45 sec
Polymorphs: 70 %	Clotting Time: 6min 40 sec
Eosinophils: 2.6 %	PT/INR: 1.12
Monocytes: 3.1 %	aPTT: 24.7
Lymphocytes: 24.1 %	<b>BLOOD CHEMISTRY</b>
Platelets: 18,000cells/mm <sup>3</sup>	Ferritin: 140mg/ml
RBCs: 335x 10 <sup>4</sup> /μL	ALT: 29 U/L
Haemoglobin: 9.9 g/dl	AST: 47 U/L
PCV: 33.5%	Total Bilirubin: 1.05mg%
RDW: 12.2%	BUN: 58mg%
ESR: 30mm/hr	Creatinine: 1mg%

**Table 1:** Final diagnosis of ITP.

On day 2, 2 units platelet transfusion was given. Patient's platelet count improved to 22,000 cells/μL. On day 3, Inj. METHYLPREDNISOLONE 1g OD was given. On day 4, Tab. PREDNISOLONE 20 mg OD was started, even though there was no improvement in platelet count and steadily decreased to 12,000cells/μL.

On day 6, 2 units of platelet was transfused and Tab. PREDNISOLONE 20 mg orally three times daily for 5 days was re-started. Up to 11<sup>th</sup> day there was a steady increase in platelet count of 35,000/μL. On day 11, Tab. PREDNISOLONE 20 mg orally TDS was tapered down to 1-1-0 (BD) for a course of 5 days. Totally 4 units of platelet was transfused during the hospitalisation period and at the end of 15<sup>th</sup> day patient's platelet count reached 80,000/μL. Patient was discharged with T. PREDNISOLONE 20 mg 1-0-0 Once Daily for a period of 5 days and was advised to review after 1 week with Blood Routine Examination (BRE) results (Figure 2).



**Figure 2:** Gradual increase in platelet count.

## Discussion

Immune Thrombocytopenic Purpura (ITP) also known as Idiopathic or Autoimmune Thrombocytopenic Purpura. In this condition, mostly bone marrow is in normal pattern. ITP is characterized by manifestations like petechiae, purpura, bleeding, ecchymosis, gingival bleeding, melena, brushing and other abnormalities. Both primary and secondary caused of haematological can lead to ITP. The incidence of ITP is higher in Females than in males. ITP occurs due to immune mediated mechanisms that destructs the platelets there by results in thrombocytopenia. When the platelet count drops below 20,000cells/mm<sup>3</sup> the manifestation arises and the treatment is initiated to raise the platelet count. ITP occurs most commonly after immunization or viral infection.

Patients with ITP recover mostly from it before 6 months. Treatment protocol initiate with primary goal to increase the platelet count. For correct diagnosis, the exact cause of thrombocytopenia should be ruled out. Usually, drugs are given either intravenously or orally, intramuscular route is avoided due to its increased chance of bleeding into the skin. The treatment is initiated with IV dose of Corticosteroids, followed by IV Ig, platelet infusions. Steroid dose must be tapered after one month of treatment schedule. Splenectomy is preferred in severe cases.

## Conclusion

ITP occurs because of platelet destruction abruptly by complex mechanisms in the immune system. Prompt diagnosis should be carried out in order to rule out other impending factors and to render appropriate treatment at the earliest.

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