



## A Rare Case of steroid responsive ITP Post Dengue Fever in an Adult Female

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### Abstract

*ITP (immune or idiopathic thrombocytopenic purpura) is an acquired disorder in which there is immune-mediated destruction of platelets and possibly inhibition of platelet release from the megakaryocyte. ITP is characterized by mucocutaneous bleeding, low or very low platelet count, with an otherwise normal peripheral blood smear. Dengue cases generally present with thrombocytopenia and bleeding manifestations but thrombocytopenia generally recovers within 8 to 10 days of dengue, but in our case the thrombocytopenia is persistent and presented after months of recovery from dengue*

**Keywords:** Dengue, Persistent Thrombocytopenia, ITP, Steroids.

### Introduction

#### Case History

A 47 years old female presented with complaints of generalized weakness and Ill health since 1 month ,She's a known case of hypertension on medication since 5yrs (T. Amlodipine 2.5mg) And hypothyroidism on medication since 2 months (T. Levothyroxine 100mcg) Patient had past history of fever for 2 days followed by cutaneous bleeding on her lower limbs for 10 days and 2 episodes of mild rectal bleed then she visited a doctor and got tests done, she was dengue IgG positive and her platelet counts came out to be 13000/cu.mm, the doctor got platelet transfusions done and she was apparently normal for some days, then she came to us with generalized weakness and Ill health

### Physical Examination

Patient is conscious, coherent, cooperative, oriented, vitals are stable BP-130/90, PR- 84 bpm, ecchymotic patches are seen on her lower limbs and rest of physical examination was essentially normal

### Investigations

Pt came to us with previous reports of dengue IgG positive, platelet counts-13000/cu.mm (3 months back)

Now pt had Hb-11.9 gm%,

Platelets-30,000/cu.mm,

WBC-8000/cu.mm

RBC-4.1million/cu.mm

PVC-34%

MCV-82 fL

MCH-28.4 picogm

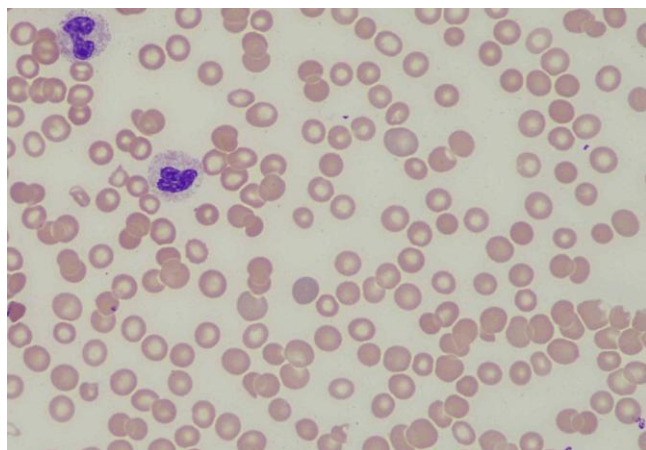
MCHC-34.6g/dl

On peripheral smear- 1. Normocytic normochromic blood picture 2. Mild Neutrophilic leukocytosis 3. marked thrombocytopenia with a few giant

Usg abdomen- mild hepatomegaly

LFT's- within normal limits

RFT's- within normal limits



**Fig. 1** peripheral smear in a case of ITP showing few platelets larger than normal size[5]



**Fig.2** showing petechiae and purpura

### Discussion

Dengue cases generally present with low platelet counts and bleeding manifestation but typically thrombocytopenia recovers by 8th to 10th day of Fever but in our case there is persistent thrombocytopenia which is a very rare complication to occur as a sequelae to dengue fever. The mechanisms for thrombocytopenia could be clearing of antibody coated platelets by immune mediated reaction and peripheral destruction of platelets, It is a type 2 hypersensitivity reaction where antiplatelet antibodies (mostly class IgG) against the platelet membrane glycoproteins gp2b9 and gp2b-3a are generated causing peripheral destruction of platelets

[4] and it occurs after the virus has been cleared from circulation. As in our case all other cell lineages are normal so it is a single lineage disorder, that is only platelets are affected, marrow is normal and reactive, as the peripheral smear showed isolated thrombocytopenia no schistocytes so we ruled out TTP and HUS, we ruled out haemolytic anemias as hb and LFTs were within in normal limits. Autoimmune conditions like SLE were ruled out, there's no history suggesting Infectious causes and drug induced thrombocytopenia

### Treatment

Patient is treated with 4 units of platelet transfusions, Inj. dexamethasone started with 6 mg IV and tapered, platelet counts started to rise and reached upto 80000/cu.mm, treatment changed to tab prednisolone 10 mg and tapered, she's discharged with a maintenance dose of Tab. Prednisolone 2.5 mg BD

### Conclusions

Though ITP is a rare complication in dengue patients, they should be educated about the danger signs like mucocutaneous bleeding, increased bleeding after injury, menorrhagia etc. and should be reassured about the possibility of spontaneous remission in a few cases. It is important to repeat platelet counts keeping in mind persistent thrombocytopenia as a rare sequelae of dengue fever, if not investigated and treated promptly, Patients may land up in near fatal conditions like massive intracerebral bleeds<sup>[2]</sup>. Most of the cases respond well to steroids, the combination of glucocorticoids with immunosuppressive drugs like mycophenolate mofetil appears to be more effective than glucocorticoids alone<sup>[1]</sup>. If there's no response to steroids or there's severe thrombocytopenia and severe bleeding manifestation we can go for IgG immunoglobulins and anti D<sup>[1]</sup>. If still refractive, now studies say Thrombopoietin receptor (TPO-R) agonists eg:eltrombopag and romiplostim help in increasing platelet count<sup>[3]</sup> and could be opted before going for splenectomy. For patients with Refractory ITP, Rituximab anti-CD20 (B cell)

antibody has shown efficiency, but long-lasting remission only occurs in approximately 30% of patients<sup>[1]</sup>

### References

1. Harrison's principles of internal medicine 21st edition
2. Sharma M, Chandan GS, Arayampambil PV, Gopalakrishna UK. Case of Near Fatal Massive Intracerebral Bleed Secondary to Cerebral Venous Thrombosis in a Patient with Dengue and Refractory Thrombocytopenia. *Indian J Crit Care Med.* 2020 Feb;24(2):138-140. doi: 10.5005/jp-journals-10071-23351. PMID: 32205948; PMCID: PMC7075060. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7075060/>
3. Roy S. Thrombopoietin Receptor Agonists: Can These Be the Future Answer to the Deadly Thrombocytopenia in Dengue Fever? *Cureus.* 2019 Apr 1;11(4):e4361. doi: 10.7759/cureus.4361. PMID: 31192066; PMCID: PMC6550512. <https://pubmed.ncbi.nlm.nih.gov/31192066/>
4. Robbins and Cotran pathologic basis of disease
5. Bennett J, Brown C, Rouse M, et al. (July 09, 2020) Immune Thrombocytopenia Purpura Secondary to COVID-19. *Cureus* 12(7): e9083. doi:10.7759/cureus.9083 <https://www.cureus.com/articles/33674-immune-thrombocytopenia-purpura-secondary-to-covid-19>.