Post Transfusion Purpura - Red Alert to Clinician

Harisha E.J.[1], Ajeya Kashyap C.A.[2], Shivakumar N.[3], Siddharth Gosavi[4], Garima Bhutani[5]

[1, 2, 3, 4, 5] Department of General Medicine, J.J.M. Medical College, Davangere, Karnataka, India.

INTRODUCTION

Incidence of Post Transfusion Purpura (PTP) varies between 1 : 50000 to 1 : 100000. It is a dreaded complication and needs prompt and early intervention with high degree of clinical suspicion in the absence of serological testing to decrease mortality. It is a rare severe complication occurring after blood transfusion. It is characterized by severe thrombocytopenia and bleeding manifestation. It is caused due to alloimmunization against platelet antigen, anti-HPA 1a being the most common.

PRESENTATION OF CASE

A 45-year-old multiparous female was admitted 1 week back in Bapuji hospital attached to J J M medical college in view of iron deficiency anaemia and had underwent 3 pints of blood transfusion and was discharged with haematinics. Now after 5 days patient noted purpura and ecchymosis over her all four limbs which has increased from past 2 days. Patient also noticed epistaxis, subconjunctival haemorrhage in the last 1 day which brought her to Bapuji hospital in November 2019. Patient had no history of fever, bleeding per rectum, melena, joint pains, headache, blurring of vision, loss of consciousness, seizures. No past history of bleeding manifestations, blood transfusions and medications altering haemostasis in the family. Complete hemogram showed Hb : 11.1 g/dl, total count: 7210 cells/cumm, platelet count: 22000 cells/cumm.

Peripheral smear showed normocytic normochromic anaemia with severe thrombocytopenia. LFT showed serum bilirubin: 2.5 mg/dl, indirect bilirubin: 1.9 mg/dl with normal liver enzymes. Coagulation profile and fever profile was done to rule out other causes of thrombocytopenia and was found to be normal. Serum LDH levels were 856 u/l. Direct and indirect coombs test is negative.

ANA was negative. USG abdomen shows no splenomegaly. Patient was transfused with 4 pints of platelets and repeat platelet count after 12 hours shows 19000 cells/cumm. This clinical picture with bleeding manifestation with history of blood transfusion suggested post transfusion purpura, patient was transfused with aphaeretic blood and iv immunoglobulins at 500 mg/kg/day for 5 days and corticosteroid prednisolone was given at the dose of 1 mg/kg body weight. Patient platelet count improved significantly to 72,000 cells/cumm on 3rd day of admission.

Patient did not have further bleeding manifestation. Patient's platelet count improved to 1.60 lakhs/cumm at the time of discharge. Patient couldn't get anti platelet antibodies and HPA genotyping due to financial constraints.

CLINICAL DIAGNOSIS

Thrombocytopenia for evaluation? Post transfusion purpura? Vasculitis

Corresponding Author:
Dr. Ajeya Kashyap C.A.,
 # 296, Sri Maruthi Krupa,
Nijalingappa Layout,
Davangere - 577004,
Karnataka, India.
E-mail: ajeyakashyapca@gmail.com

DOI: 10.18410/jebmh/2021/417

How to Cite This Article:
Harisha EJ, Kashyap ACA, Shivakumar N, et al. Post transfusion purpura - red alert to clinician. J Evid Based Med Healthc 2021;8(25):2235-2237. DOI: 10.18410/jebmh/2021/417

Submission 21-11-2020,
Peer Review 02-12-2020,
Acceptance 06-05-2021,
Published 21-06-2021.

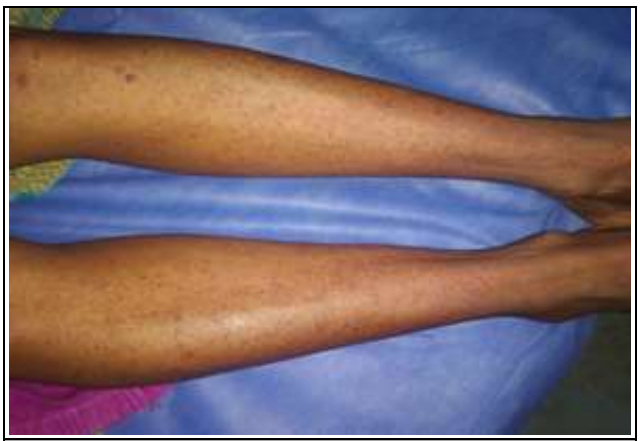

Figure 1. Purpura and Petechiae Over Lower Limbs

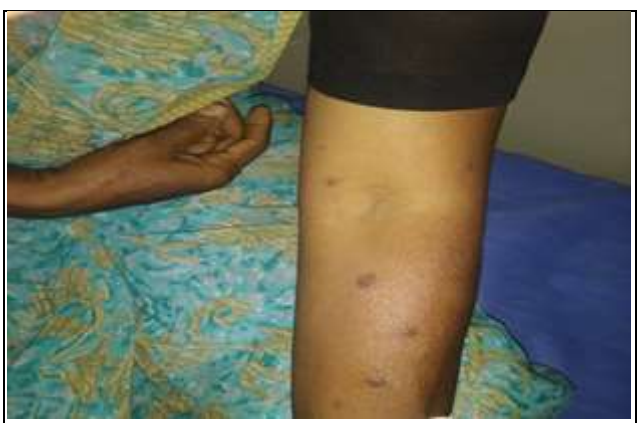

Figure 2. Purpura Over Left Limb

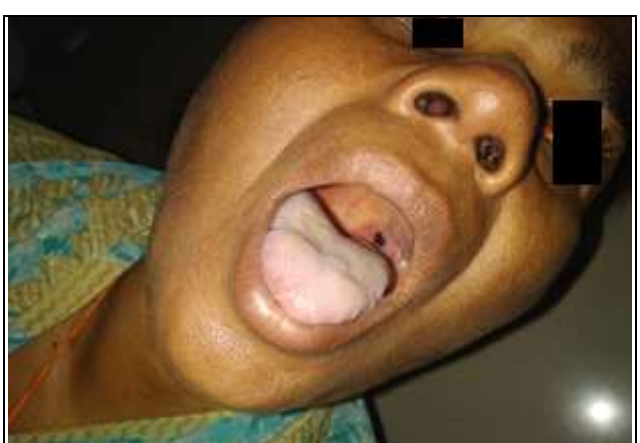

Figure 3. Sub-Conjunctival Haemorrhage and Bleeding Manifestations in Nasal and Oral Cavity

DIFFERENTIAL DIAGNOSIS

ITP, Drug Induced Thrombocytopenia and TTP.

DISCUSSION

Post transfusion purpura (PTP) is an acute and profound condition causing thrombocytopenia usually 5 - 10 days following a blood transfusion. It was first described by Shulman, et al. in 1961.[1] The incidence of PTP has been reported to vary from 1 : 50000 to 1 : 100000 transfusions. Most common antigen involved in HPA-1a.[2] Patient's platelets initially lack these antigens. Patient will develop antibody to this antigen due to repeated transfusions or exposure to blood products containing this antigen.

Therefore chances of development of PTP in more common in multiparous women and persons who have undergone multiple blood transfusions.[3] HPA-1b, HPA-3a, HPA-3b and HPA-4b have also been implicated in causing PTP either singly or as a combination.[4] The diagnosis of PTP involves serological demonstration of circulating antibodies to platelet antigens and absence of corresponding antigens on their platelets. This leads to immune complex mediated destruction of platelets causing thrombocytopenia.

History of blood transfusion 5 - 10 days prior to development of thrombocytopenia and symptoms strongly suggests PTP in the absence of history and investigations suggestive of thrombocytopenia of other cause. The prognosis of PTP if not diagnosed early and treated is very bad due to development of life-threatening complications such as internal bleeding.

Hence early recognition and treatment by high clinical suspicion is necessary in the absence or delay of serological testing to prevent life threatening complications.[5] Incidence of PTP varies between 1 : 50000 to 1 : 100000. Progression of PTP is bad due to dreaded complications. Therefore, it needs prompt and early intervention with high degree of clinical suspicion in the absence of serological testing to decrease mortality. It responds well to iv immunoglobulins, steroids, and plasmapheresis. Hence early treatment is necessary to prevent the progression of the condition.

FINAL DIAGNOSIS

Post transfusion purpura.

Financial or other competing interests: None.
Disclosure forms provided by the authors are available with the full text of this article at jebmh.com.
This case report was presented in 75th platinum jubilee of annual conference of association of physicians of India (Apicon) held at Agra, Uttar Pradesh, India as poster presentation.

REFERENCES

[1] Shulman NR, Aster RH, Leitner A, et al. Immunoreactions involving platelets. V. Post-transfusion purpura due to a compliment- fixing antibody against a genetically controlled platelet antigen. A proposed mechanism for thrombocytopenia and its relevance in "autoimmunity" J Clin Invest 1961;40(9):1597-1620.
[2] Kaplan C. Post-transfusion purpura. Transfusion Alternatives in Transfusion Medicine 2002;4(2):26-28.
[3] Waters AH. Post-transfusion purpura. Blood Reviews 1989;3(2):83-87.
[4] Arewa OP, Nahirniak S, Clarje G. Anti-HPA-1b mediated post-transfusion purpura: a case report. Case Rep Med 2013;2013:568364.

[5] Lubenow N, Eichler P, Albrecht D, et al. Very low platelet counts in post-transfusion purpura falsely diagnosed as heparin-induces thrombocytopenia: report of four cases and review of literature. Thromb Res 2000;100(3):115-125.