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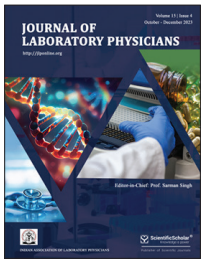

Letter to Editor

Immune thrombocytopenia with retinopathy of prematurity

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Dear Editor,

A growth-faltered preterm newborn weighing 1150 g was referred to our retinal unit for advanced retinopathy of prematurity. The infant had three interrelated ailments at presentation: Severe thrombocytopenia (<10,000/mm^3), rashes, and advanced fibroproliferative retinopathy of prematurity. The preterm newborn was admitted and investigated for the ailments. The infant was hemodynamically stable, antibiotics for late-onset sepsis were ongoing, and striking rashes limited to palms and soles were noted [Figure 1]. Initial investigations for C-reactive protein, renal, and liver function tests were unremarkable. Blood/urine cultures for bacterial/fungal elements were negative. Titers for the congenital and perinatal infection etiology, including TORCHes, were non-reactive. Viral cultures were not available in our center. Maternal syphilis titers were non-reactive. Maternal antinuclear antibody was negative. The infant was managed for severe thrombocytopenia with serial platelet transfusions, optimized enteral nutrition, and retinal intervention of laser photocoagulation.

The birth hospitalization of the male infant was for the vaginal premature birth at 28 weeks of gestation and 930 g, appropriate for gestation. He was cared for respiratory distress syndrome and possible sepsis. At 4–6 weeks of age, the newborn was detected for advanced retinopathy

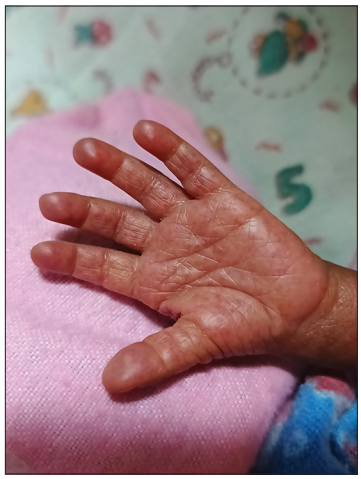

Figure 1: A petechial rash on the palmar surface of a preterm newborn.

and severe thrombocytopenia (<10,000 mm^3) and hence referred for tertiary care management. At presentation, the rashes in the dark-skinned infant raised suspicion for septic emboli, Janeway lesions, or Osler's nodes. Blanchable lesions suggested an alternate diagnosis than petechiae. Clinical or laboratory features supportive of sepsis were low. Therefore, suspicion of septic emboli was low. Janeway lesions (erythematous non-tender macules) or Osler's nodes (tender but dissimilar morphology) were ruled out as echocardiography ruled out infective endocarditis. The ductus arteriosus had closed. The magnified dermatoscopy images clarified the rashes' morphology as irregularly shaped macules, consistent with petechial hemorrhage or a small capillary bleed. These rashes faded promptly on the palms and soles. The dark skin of the newborn might likely have prevented the visualization of rashes on the other parts of the body. The etiology of severe thrombocytopenia was puzzling after a negative search for fungal sepsis/urinary tract infection and venous thrombosis (inferior vena cava and renal vessels). Normal maternal platelet counts ruled out autoimmune thrombocytopenia. Severe thrombocytopenia (<10,000/mm^3) was empirically managed by infusing 2 g/kg immunoglobulins for an undetected immune disorder, possibly neonatal immune thrombocytopenia purpura or antibodies developed in response to random donor platelets transfusions.

The uncontrolled fibroproliferative retinopathy in the index preterm newborn infant had grave concerns. The newborn infant was initially injected with anti-vascular endothelial growth factor (VEGF) therapy (anti-VEGF; Ranibizumab) bilaterally. In addition, multiple sessions of laser photocoagulation were attempted to control the progressive fibroproliferative retinopathy. The frequency of ophthalmic interventions and platelet transfusions was worrisome. These interventions were halted with the empirical infusion of intravenous immunoglobulins for possible immune-mediated thrombocytopenia. This had dual benefits: A prompt rise in platelet counts (>1 lakh/mm^3) after 3 days of intravenous immunoglobulin and stabilization of retinal proliferation. This effect of intravenous immunoglobulins-mediated platelet count stabilization has been reported rarely. The manuscript aligns with another report, where platelet transfusions were therapeutic for progressive fibroproliferative disease.[1] Furthermore, in tandem with published literature, the underlying thrombocytopenia is known to exacerbate extensive anteroposterior retinopathy, and elevating platelet counts may benefit.[2-5] The newborn was discharged at a postmenstrual gestation of 41 weeks and recorded a discharge weight of 2200 g.

The association of low platelets and retinopathy of prematurity is currently under investigation.[1-5] Initial investigations explored the relationship between lower platelet counts in the 1st week of life after premature births and subsequent onset of retinopathy of prematurity requiring intervention. However, our report aligned with a recent investigation associating low platelets after 30 weeks postmenstrual age with a worsening effect on retinopathy of prematurity.[3] Platelets as VEGF scavengers limit the proliferative phase in retinopathy of prematurity. The authors present a unique case from low-resource settings linking immune thrombocytopenia with advanced retinopathy and a therapeutic effect on fibroproliferative retinopathy with the rise in platelet counts. The immediate stabilization of fibroproliferative retinopathy in the presence of thrombocytopenia needs to be studied more elaboratively in further studies. The case management illustrates the benefits of aggressive management of thrombocytopenia in preterm newborns with advanced retinopathy of prematurity.

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