

# Rosettes in Idiopathic thrombocytopenic purpura – An Unusual Observation

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## Abstract

Rosettes in the bone marrow can be seen in various malignancies. We report an unusual observation of leukocytes rosetting around megakaryocytes in a child with Immune thrombocytopenic purpura.

## INTRODUCTION

Idiopathic Thrombocytopenic purpura (ITP) is an autoimmune disorder in which platelet destruction results due to the formation of antiplatelet antibodies. The bone marrow reveals megakaryocytic hyperplasia with immature forms. The presence of rosetting of native leucocytes in the marrow around megakaryocytes has not been reported in the literature.

## CASE REPORT

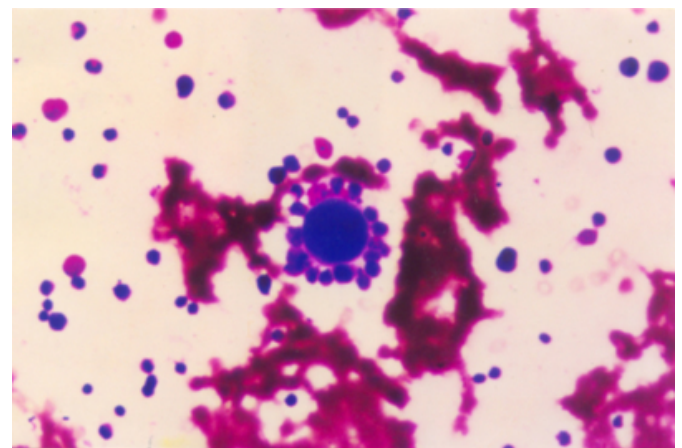
A 2 year old female presented with bleeding gums of two days duration. On examination she was found to have multiple petechial and ecchymotic patches on the face, forearm, thighs and lower legs. There was no hepatosplenomegaly.

Investigations revealed Hemoglobin 4.7gm%, Total white blood count 13,100/cmm, Bleeding time >15 minutes, Direct Coombs test – Negative, Antiplatelet antibody – Positive, Cold antibody – Negative, Reticulocyte count – 11% and ANA – Negative. Bone marrow showed megakaryocytic hyperplasia with an unusual rosetting of leucocytes around megakaryocytes (Figure 1).

A diagnosis of Idiopathic Thrombocytopenic purpura was made. The patient was treated with prednisolone and Danazol and subsequently recovered.

## Figure 1

Figure 1: Leukocyte rosette around megakaryocyte (Leishman stain X 200)



## DISCUSSION

Immune thrombocytopenia is a platelet disorder characterized by accelerated platelet destruction due to IgG antibodies directed against platelet antigens.

In vitro studies show that rosette forming lymphocytes may be useful as a prognostic index in ITP. <sup>1</sup>

However, in vivo rosetting of leucocytes around megakaryocytes has not been documented in the literature to the best of our knowledge. The significance of this unusual observation is not known.

Studies indicate that platelets exhibit many proinflammatory mediators which are responsible for recruitment, leucocyte adhesion to the endothelium, chemotaxis, degranulation, oxidative burst and modulation of activity of other inflammatory cells. <sup>2</sup>

This could possibly explain the attraction of leucocytes towards megakaryocytes. We would like to document this unusual phenomenon in a case of Idiopathic thrombocytopenic purpura.

**References**

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2. Kumar V, Abbas AK, Fausto N. Robbins and Contran *Pathological Basis of disease*. In: *Acute and Chronic inflammation*. 7th ed. Thomson Press: 2004.76.

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