# Reactive Thrombocytosis and its Relation with Different Hematological Parameters and Acute Phase Reactant C-reactive protein (CRP) 2003

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**Background**

Reactive thrombocytosis is an increase in the circulating thrombocyte count (platelet count more than 400000/cmm of blood) secondary to a physiologic process within the body, often an infection; acute and chronic inflammatory conditions, malignancy, rapid blood generation after haemorrhage and hemolytic anaemia, rebound thrombocytosis (following withdrawal of cytoctoxic drugs, treatment with folate and vitamin B12 deficiency, withdrawal from alcohol), asplenia, iron deficiency anaemia and post surgical procedure. C - reactive protein is an acute phase reactant whose level increases in response to a variety of inflammatory stimuli, after trauma, tissue necrosis, surgery, myocardial infarction. C-Reactive protein level can increase up to 100 fold after the onset of a stimulus. Thus an elevated C - reactive protein might be valuable tool for diagnosis of reactive thrombocytosis. The aim of this study was to study thrombocytosis in different conditions, to study the correlation between reactive thrombocytosis and inflammation measured by C - reactive protein, Erythrocyte sedimentation rate and White blood cells and to study the relation between platelet counts, mean platelet volume, Erythrocyte sedimentation rate and White blood cells count with C - reactive protein.

**Methods**

Cross-sectional study of 100 cases of reactive thrombocytosis conducted in Tribhuwan University Teaching Hospital in one year period (from January 2003 to December 2003) with platelet count more than 400000/cmm of blood (reactive thrombocytosis) whose serum C-Reactive protein level was measure, Erythrocyte sedimentation rate, White blood cells count were done and platelet morphology was studied.

**Results**

Among 100 cases of reactive thrombocytosis 61 cases were diagnosed as inflammatory diseases (61%), 17 cases were diagnosed as malignancy (17%), 10 cases were post operative cases (10%), 4 cases were diabetes mellitus (4%), 4 cases were diagnosed as tuberculosis (4%) and 4 cases were haemorrhage (4%).

Among 100 cases of reactive thrombocytosis C - reactive protein was positive in 81 cases. There was low degree of positive correlation between Erythrocyte sedimentation rate and White blood cells, Erythrocyte sedimentation rate with platelet count, between platelet volume with count, between C - reactive protein and platelet count, between C - reactive protein and White blood cells count, C - reactive protein with mean platelet volume, C - reactive protein with platelet large cell ration. However there was low degree of negative correlation between C - reactive protein and Erythrocyte sedimentation rate.

**Conclusions**

Inflammatory diseases are the common cause of reactive thrombocytosis which can be diagnosed by measuring the serum C - reactive protein level in most of the cases which is cost effective, simple, and easy to perform and gives speedy result. C-reactive protein R might be valuable diagnostic tool for early diagnosis, treatment and predict prognosis of the disease process when implicated in clinical practice. The main value of C - reactive protein is to provide a guide to the sensitivity of the inflammatory process and to increase clinician's awareness when C - reactive protein remains high.

**Keywords:** C-reactive protein; erythrocyte sedimentation rate inflammatory diseases; platelet count; reactive thrombocytosis; white blood cells.