



## RESEARCH ARTICLE

### “Asymptomatic Thrombocytopenia”

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#### ABSTRACT

Thrombocytopenia is defined as a platelet count of less than  $150 \times 10^3$  per  $\mu\text{L}$ . Thrombocytopenia has a varied etiology may be due to decreased platelets production, increase destruction & splenic sequestration. In this article we are reporting a case of thrombocytopenia which persist for many years with no signs and symptoms of bleeding disorders.

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#### INTRODUCTION

##### Case

A 32 year old male was investigated for complaints of fever, with cough for few days. He had decreased total platelets count  $37000 \text{ cell/mm}^3$  with normal TRBC and TLC on blood investigations. On further elaboration on history taking and general physical examinations he had no symptoms of bleeding disorder and no signs of thrombocytopenia. On review of his past illness, his previous blood investigations done at various time in last 15 years, the platelet counts were ranging from  $37000$  to  $50000 \text{ cell/mm}^3$  with no signs and symptoms of bleeding disorder. Other blood investigation like TRBC, TLC etc were normal. He was also investigated multiple times by manual and non manual method to rule out the possibility of pseudo thrombocytopenia. Interestingly patient has normal bleeding time and clot retraction time.

#### DISCUSSION AND CONCLUSION

Thrombocytopenia is defined as a platelet count of less than  $150 \times 10^3$  per  $\mu\text{L}$ .<sup>1,2</sup> It is often discovered incidentally when obtaining a complete blood count. Patients with platelet counts greater than  $50 \times 10^3$  per  $\mu\text{L}$  rarely have symptoms. A platelet count from  $30$  to  $50 \times 10^3$  per  $\mu\text{L}$  rarely manifests as purpura. A count from  $10$  to  $30 \times 10^3$  per  $\mu\text{L}$  may cause bleeding with minimal trauma. A platelet count less than  $5 \times 10^3$  per  $\mu\text{L}$  may cause spontaneous bleeding and constitutes a hematologic emergency. Patients with isolated thrombocytopenia commonly have drug-induced thrombocytopenia, immune thrombocytopenic purpura, pseudothrombocytopenia, or if pregnant, gestational thrombocytopenia.<sup>1,4,7</sup>

Thrombocytopenia cases are considered mild if counts are between  $70$  and  $150 \times 10^3$  per  $\mu\text{L}$  ( $70$  to  $150 \times 10^9$  per L) and severe if less than  $20 \times 10^3$  per  $\mu\text{L}$  ( $20 \times 10^9$  per L).<sup>1</sup> Patients

with a platelet count greater than  $50 \times 10^3$  per  $\mu\text{L}$  ( $50 \times 10^9$  per L) often are asymptomatic. Patients with a count from  $30$  to  $50 \times 10^3$  per  $\mu\text{L}$  ( $30$  to  $50 \times 10^9$  per L) rarely present with purpura, although they may have excessive bleeding with trauma. However, counts from  $10$  to  $30 \times 10^3$  per  $\mu\text{L}$  ( $10$  to  $30 \times 10^9$  per L) may cause bleeding with minimal trauma, and counts less than  $10 \times 10^3$  per  $\mu\text{L}$  increase the risk of spontaneous bleeding, petechiae, and bruising.<sup>1,2,6,9,11</sup>

Spontaneous bleeding (i.e., mucosal, intracranial, gastrointestinal, and genitourinary bleeding) is more likely in patients with platelet counts less than  $5 \times 10^3$  per  $\mu\text{L}$  ( $5 \times 10^9$  per L), and is considered a hematologic emergency.<sup>1,3,4</sup>

Persons having platelets count more than  $50000$  per cubic mm do not lead to clinical problems unless platelet dysfunction coexists with the low platelet count.<sup>4</sup> Medical help is usually sought by a patient with platelet count less than  $30000/\text{L}$ .<sup>1,4</sup>

A platelet count greater than  $50 \times 10^3$  per  $\mu\text{L}$  is adequate for hemostasis and is unlikely to be clinically recognized. Patients with a platelet count greater than this level can engage in most activities, but should use caution if participating in contact sports. Patients with platelet counts less than  $10 \times 10^3$  per  $\mu\text{L}$  should be restricted from contact sports and other potentially traumatic activities.<sup>5,9,11</sup>

Lacey JV *et al* found in his study that 42 percent of patients with platelet counts less than  $10 \times 10^3$  per  $\mu\text{L}$  had spontaneous bleeding requiring intervention (e.g., nasal packing) compared with 6 percent of patients with counts between  $10$  and  $30 \times 10^3$  per  $\mu\text{L}$ .<sup>9</sup>

Most surgical and invasive procedures can be performed safely in patients with platelet counts greater than  $50 \times 10^3$  per  $\mu\text{L}$ . Other procedures, such as bone marrow biopsy, bronchoscopy, and endoscopy, can be completed safely in patients with

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platelet counts greater than  $20 \times 10^3$  per  $\mu\text{L}$ , provided that no other bleeding abnormalities are noted.<sup>10</sup>

Pseudo thrombocytopenia which is secondary to platelet clumping and has no clinical significance. It occurs in one in 1,000 persons in the general population, and can be confirmed by a peripheral blood smear.<sup>6</sup>

Stasi R *et al* followed 217 persons with platelet counts from 100 to  $150 \times 10^3$  per  $\mu\text{L}$  ( $100$  to  $150 \times 10^9$  per L) over a 10-year period. In 64 percent of patients, platelet counts normalized or remained stable. The probability of developing immune thrombocytopenic purpura or an autoimmune disorder was approximately 7 and 12 percent, respectively. Four cases of myelodysplastic syndrome were diagnosed (2 percent), all of which were in older patients

Immune thrombocytopenic purpura is an acquired immune-mediated disorder characterized by isolated thrombocytopenia and the absence of other conditions or agents known to induce thrombocytopenia. The incidence is 100 cases per 1 million persons annually, and approximately 50 percent of cases occur in children. Immune thrombocytopenic purpura in children often resolves spontaneously but tends to be more insidious and chronic in adults. The risk of bleeding correlates to the severity of thrombocytopenia. Patients may present without symptoms, with minimal bleeding, or with serious hemorrhage (e.g., mucosal, intracranial, gastrointestinal, genitourinary). Older patients, patients on antiplatelet therapy, and patients with comorbid conditions may have more severe bleeding manifestations.<sup>3</sup>

Chronic liver disease usually causes persistent thrombocytopenia, and manifests as cirrhosis, fibrosis, and portal hypertension. The most common cause is chronic alcohol abuse; however, other etiologies include infectious hepatitis, drug-induced liver disease, nonalcoholic liver disease, and metabolic disorders. Patients who consume excessive amounts of alcohol can present with varying degrees of liver impairment ranging from asymptomatic fatty liver to end-stage liver disease. Thrombocytopenia results from direct toxic marrow suppression and splenic sequestration. Folic acid deficiency (related to malnutrition) often coexists with alcohol abuse. Abstinence and nutritional replacement often lead to

platelet normalization in three to four weeks in the absence of chronic liver disease.<sup>8</sup>

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