Immune Thrombocytopenia

Series Editor:
Eric D. Jacobsen, MD
Instructor in Medicine, Harvard Medical School; Attending
Physician, Dana-Farber Cancer Institute, Boston, MA

Contributor:
Thomas G. DeLoughery, MD, FACP
Professor of Medicine, Pathology, and Pediatrics, Division of Hematology/
Medical Oncology, Knight Cancer Center, Departments of Medicine
and Pediatrics, and Division of Laboratory Medicine, Department of
Pathology, Oregon Health Sciences University, Portland, OR

Table of Contents

Introduction ........................................ 2
Pathogenesis and Epidemiology ................. 2
Clinical Presentation and Diagnosis .......... 2
Therapy ........................................... 3
Special Situations ................................. 7
Conclusion ........................................ 9
References ....................................... 9
Immune Thrombocytopenia

Thomas G. DeLoughery, MD, FACP

INTRODUCTION

Immune thrombocytopenia (ITP) is a common condition, affecting approximately 3.8 persons per 100,000 each year. However, much controversy exists about all aspects of the disease, with little “hard” data to base decisions on given the lack of randomized clinical trials to address most clinical questions. This manual reviews the presentation and diagnosis of ITP along with treatment options and also discusses the management of ITP in specific clinical situations.

PATHOGENESIS AND EPIDEMIOLOGY

ITP occurs due to autoantibodies binding to platelet surface proteins, most often to the platelet receptor glycoprotein IIb/IIIa (GPIIb/IIIa). These antibody-coated platelets then bind to Fc receptors in macrophages and are removed from circulation. The initiating event in ITP is unknown. It is speculated that the patient responds to a viral or bacterial infection by creating antibodies that cross-react with the platelet receptors. Continued exposure to platelets perpetuates the immune response. ITP that occurs in childhood appears to be an acute response to viral infection and usually resolves. ITP in adults may occur in any age-group but is seen especially in young women.

Although it had been thought that most adult patients who presented with ITP went on to have a chronic course, more recent studies have shown this is not the case. In modern series, the proportion of patients who are “cured” with steroids ranges from 30% to 50% of patients. In addition, it has been appreciated that even if patients have modest thrombocytopenia, no therapy is required as long as their platelet counts are over 30 x 10^9/μL. However, even using this cut-off, a considerable number of patients will require chronic therapy.

CLINICAL PRESENTATION AND DIAGNOSIS

Presentation can range from a symptomatic patient with low platelets found on a routine blood count to massive bleeding. Typically, patients first present with petechiae, small bruises 1 mm in size, on the shins. True petechiae are only seen in severe thrombocytopenia. Patients will also notice frequent bruising as well as bleeding from the gums. Patients with very low platelet counts will develop “wet purpura,” blood-filled bullae in the oral cavity. Life-threatening bleeding is a very unusual presenting sign unless other problems (trauma, ulcers) are present. The physical examination is only remarkable for stigmata of bleeding, such as the petechiae. The presence of splenomegaly or lymphadenopathy weighs strongly against a diagnosis of ITP. Many patients with ITP will note fatigue when their platelet counts are lower.

DIAGNOSIS

Extremely low platelet counts with a normal blood smear in an otherwise healthy patient is diagnostic of ITP. The platelet count cut-off for considering ITP is 100 x 10^9/μL as the majority of patients with counts in the 100 to 150 x 10^9/μL range will not develop more severe thrombocytopenia. Also, the platelet count decreases with age (9 x 10^9/μL per decade in 1 study), and this also needs to be factored into the evaluation. The finding of relatives with “ITP” should raise suspicion of congenital thrombocytopenia. One should question the patient carefully about drug exposure (see Drug-Induced Thrombocytopenia), especially about over-the-counter medicines, “natural” remedies, or recreational drugs.

There is no laboratory test that “rules-in” ITP; rather it is a diagnosis of exclusion. The blood smear should be carefully examined for evidence of microangiopathic hemolytic anemias (schistocytes), bone marrow disease (blasts, teardrop cells), or any other evidence of a primary bone marrow disease. In ITP, the platelets can be larger than normal, but finding some platelets the size of red cells should raise the issue of congenital thrombocytopenia. One should exclude pseudothrombocytopenia, which is the clumping of platelets due to a reaction to the EDTA anticoagulant in the tube. The diagnosis is established by drawing the blood in a citrated (blue top) tube to perform the platelet count.