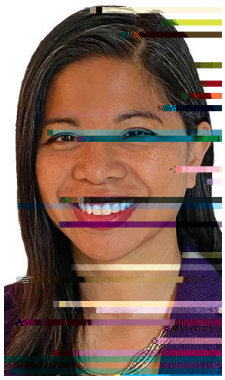

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ence of comorbid conditions in RT, a transient rise in platelets, and lack of genetic mutations favor a secondary etiology. Clinical manifestations of RT can range from no symptoms (most common) to acute thrombosis (rare), and elevated platelet counts may also be a predictor of underlying dis ease and of mortality. Recent studies of thrombo cytosis in patients with COVID-19 infection have shown that elevated platelet counts are predictive of poorer prognosis. Therefore it is essential for an underwriter to identify RT, as RT is not always a benign entity, which means outcomes can vary. This article will focus on RT, which is the most common cause of thrombocytosis. It will contrast RT to primary thrombocytosis (PT), outline the factors that favor a diagnosis of RT vs. PT, discuss RT's clinical manifestations and prognosis, and explore RT's mortality risks and underwriting considerations, particularly in light of the cur rent pandemic.

Introduction

Reactive thrombocytosis (RT), also known as secondary thrombocytosis, is a proliferation of platelets caused by a response to growth factors released from an inþammatory or malignant condition, whereas primary thrombosis (PT) is caused by an underlying myeloproliferative or myelodysplastic neoplasm.[10]

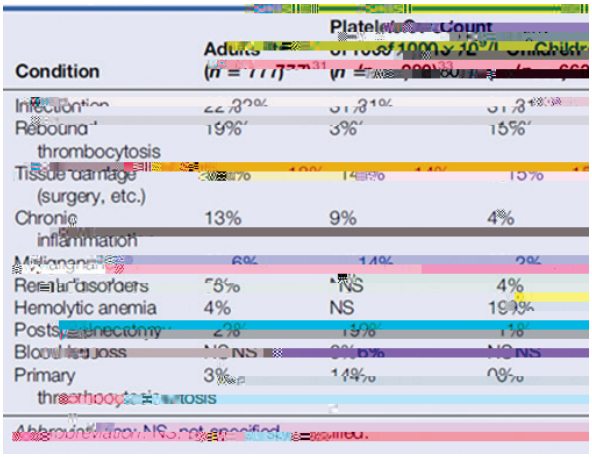
Platelets are the smallest formed elements that circulate in the blood, with a half-life of about 4 days. They are fragments of larger, multinucleated cells called megakaryocytes, with no nuclei of their own. Platelets are an integral component of coagulation, as proteins on the surface allow platelet adhesion, leading to the formation of a platelet plug.

A normal platelet count ranges from 150,000 to 450,000 platelets per microliter of blood. An abnormally elevated count of >450,000/microL is known as thrombocytosis. Its di?erential diagnosis is broad. Causes of thrombocytosis can be physiologic (exercise, parturition) and can also be primary/clonal (e.g., essential thrombocythemia, polycythemia vera, primary myeloýbrosis and other hematologic malignancies) as well as secondary/reactive (due to infectious and inþammatory diseases, neoplasms, anemia, cases. The likelihood of thrombocytosis being due to RT is markedly higher. In fact, a recent study of 777 adults presenting with thrombocytosis revealed that in routine clinical practice, RT accounted for 97% of cases (see Table 1, next page).[5]

RT: Diagnosis of Exclusion

Given the prevalence of RT in clinical practice (and therefore in underwriting), it is important to understand how it is diagnosed. Several factors point toward a reactive etiology rather than a primary cause. The presence of, for example, comorbid conditions

Table 1. Causes of thrombocytosis (platelet count of 500 x 10^9/L or above) in unselected cohorts of consecutive patients (approximate percentages)



Condition	Platelet Count
Infection	22%
Rebound thrombocytosis	19%
Tissue damage (surgery, etc.)	15%
Chronic inflammation	13%
Malignancy	9%
Renal disorders	5%
Hemolytic anemia	4%
Postsplenectomy	2%
Blood loss	NS
Primary thrombocythemia	3%

Source: Platelets, 4e. Academic Press, 2019.

such as an infection, a connective tissue disease, bleeding, splenectomy, trauma or postoperative state would favor a diagnosis of RT, whereas the absence of these conditions would suggest PT.

In adults, acute infection, tissue damage, chronic inþammatory disorders and malignancy are the most common causes of RT, with one or more of these present in more than 75% of RT cases.[6] Transient platelet elevation is also more likely due to RT, whereas concerning signs and symptoms such as vasomotor symptoms, hepatosplenomegaly and thrombosis tend to be more indicative of PT. If PT is suspected, one

of cancer in the year following their thrombocytosis diagnosis, and females had an incidence of 6.2%. This

Callout: "RT is typically a clinically silent and tran sient entity; however, it may be predictive of a poor outcome in acutely and chronically ill individuals."

Notes

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