

Anemia in the Preoperative Patient

Manish S. Patel, MD^{a,*}, Jeffrey L. Carson, MD^a

KEYWORDS

- Anemia • Erythrocyte transfusion • Surgery
- Preoperative care • Anesthesia

ANEMIA

Anemia is the most common hematologic problem in the preoperative patient. Often, it is a sign of an underlying disease or condition that could affect the surgical outcome. Consequently, blood transfusions are commonly given perioperatively to anemic patients. In 2006, the supply of allogenic whole blood/red blood cells in the United States was estimated to be more than 15.7 million units, and an estimated 14.6 million units were transfused.¹ It has been shown that 40% to 70% of all red cell units are transfused in the surgical setting.^{2–5} Therefore, an understanding of the causes and consequences of anemia and any potential treatments is crucial in the preoperative setting.

EVALUATION OF ANEMIA

History and Physical Examination

The evaluation of the anemic preoperative patient should always begin with a thorough history and physical examination. The history should first attempt to elicit symptoms of bleeding, such as menstrual blood loss, hematochezia, melena, hematemesis, hemoptysis, or hematuria. It is also important to ask about symptoms related to the anemia and the body's compensatory mechanisms, that is, anginal chest pain, dyspnea, fatigue, and palpitations. Any history of or symptoms of underlying illnesses, such as constitutional symptoms, malignancy, renal failure, endocrinopathies (eg, thyroid disorders), infections, or liver disease, should be targeted. Past history of anemia is also important, including previous hemoglobin values and therapies, onset, need for previous blood transfusions, splenectomy, and blood donations. The patient's family

This article originally appeared in *Medical Clinics of North America*, Volume 93, Issue 5. This work was supported by Grant No. U01 HL73958 from the National Heart, Lung and Blood Institute, National Institutes of Health.

^a Department of Medicine, Division of General Internal Medicine, University of Medicine and Dentistry of New Jersey Robert Wood Johnson Medical School, 125 Paterson Street, New Brunswick, NJ 08903, USA

* Corresponding author.

E-mail address: patel168@umdnj.edu (M.S. Patel).

Anesthesiology Clin 27 (2009) 751–760

doi:10.1016/j.anclin.2009.09.009

anesthesiology.theclinics.com

1932-2275/09/\$ – see front matter © 2009 Elsevier Inc. All rights reserved.

history may contain a history of anemia, bleeding, hematologic disorders, splenectomy, and early onset cholelithiasis, which may indicate congenital hemolytic disorders. The social history should take into account occupational hazards and exposures, dietary habits, alcohol and illicit drug use, and a detailed list of all prescription and nonprescription medications, including herbal and over-the-counter medications.

The physical examination should focus on manifestations and potential etiologies of the anemia, such as pallor of the skin and mucous membranes, jaundice, signs of bleeding, purpura, petechiae, hepatosplenomegaly, and lymphadenopathy. A heart murmur is sometimes heard, and this may be a flow murmur resulting from decreased blood viscosity and elevated cardiac output from the anemia, or it may indicate the presence of a prosthetic valve. A pelvic and rectal examination with stool guaiac may need to be performed to evaluate for possible sources of blood loss.

Diagnostic Evaluation

An approach to anemia is given in **Fig. 1**. Initial laboratory testing should include a complete blood count (CBC), peripheral blood smear, and a reticulocyte count. In addition, stool guaiac, radiologic, and endoscopic testing may be required in an effort to exclude blood loss. The reticulocyte count can be an indication of bone marrow

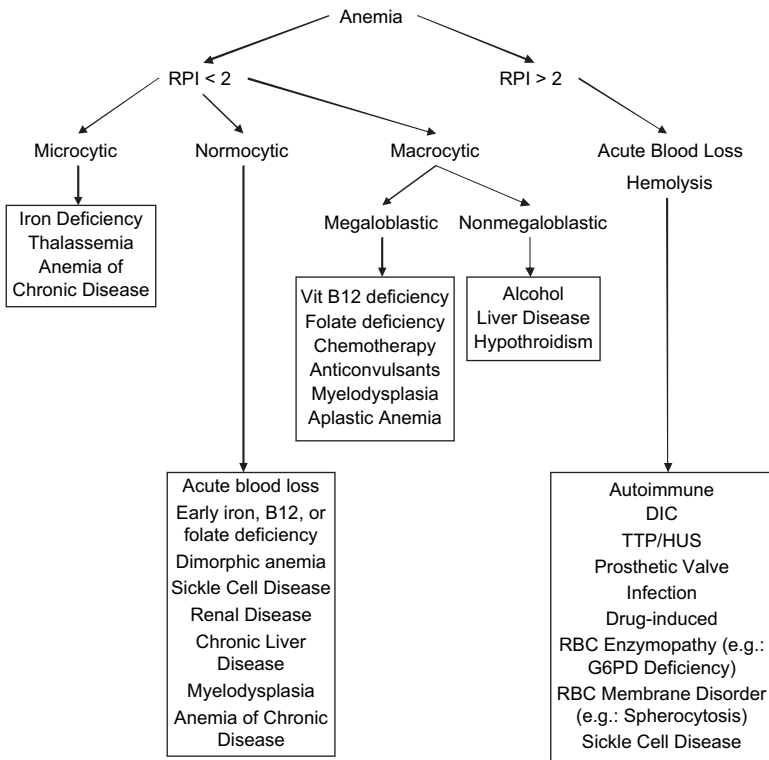


Fig. 1. Approach to anemia. DIC, disseminated intravascular coagulation; G6PD, glucose-6-phosphate dehydrogenase; RBC, red blood cell; RPI, reticulocyte production index; TTP/HUS, thrombotic thrombocytopenic purpura/hemolytic uremic syndrome.

Download English Version:

<https://daneshyari.com/en/article/2744777>

Download Persian Version:

<https://daneshyari.com/article/2744777>

[Daneshyari.com](https://daneshyari.com)