Anemia in the elderly: an important clinical problem

A paper written by Sgnaolin et al.(1) is published in this issue of the Revista Brasileira de Hematologia e Hemoterapia. The authors present a study about the frequency of anemia of 1058 people of 60 years old or more living in a community-based population in Porto Alegre, Brazil. Blood samples were taken from all participants and the hematological parameters [hemoglobin, mean cell volume (MCV), mean corpuscular hemoglobin concentration (MCHC) and red cell distribution width (RDW)] were analyzed. They observed a frequency of anemia of 12.8%, which was higher in women than in men. The majority of anemic patients presented with normocytic and normochromic anemia, but when they evaluated the erythrocyte morphology the anemic population had almost 10 times more microcytosis than the non-anemic subjects.

This is a very important clinical problem as the frequency of anemia in this population can range from 10 to 30%. The large National Health and Nutrition Examination Survey (NHANES III) population study(2) showed that the prevalence of anemia increases directly with age; it is 10 to 11% in over 65-year olds and jumps to 26 to 30% in over 75-year olds and is a little higher in men(2-4).

The frequency of anemia can be even higher in patients followed in outpatient clinics due to the increase in different diseases these patients have. An abstract presented in the 2012 Brazilian Congress of Hematology by this author showed a frequency of 36.5% in 96 elderly patients with ages ranging from 65 to 92 years (mean: 76 years) followed in an outpatient clinic(5).

The symptoms as dyspnea, angina and fainting are more intense in the elderly and the presence of comorbidities exacerbate the consequences of anemia in this population. It is relevant to comment that in the elderly, the lower the level of hemoglobin the higher the morbidity, mainly in those who have heart disease. It has been reported that the mortality of over 60-year-old patients, with myocardial infarction in an intensive care unit was higher when hemoglobin levels were lower. Moreover, the use of erythropoietin and transfusions in these patients reduced the mortality rate(6-9).

Anemia significantly affects the daily performance of elderly patients. Some studies show that the capacity of walking, standing up, sitting or getting up from a chair and taking objects is severely impaired in anemic patients(10,11). An assessment of the quality of life also shows the negative effects of anemia(12).

The pathophysiology of anemia in these patients is, in the majority of cases, due to a hypoproliferative mechanism, although some of the cases are a result of blood loss, mainly associated to gastrointestinal neoplasms but some cases have a hemolytic origin. The causes of anemia in the elderly can be separated into three groups, each of them counting for about one third of the cases(2,4,13,14).

The first is the group of chronic, particularly inflammatory and neoplastic, diseases. Anemia in these diseases is caused by the inhibition of the effect of erythropoietin in red cell precursors (interleukins such as interleukin-6 and Tumor Necrosis Factor(4)) or by blocking of iron in macrophage cells (role of hepcidin)(15) or even a reduction in the red cell lifespan. This affects the number of red cells and leads to normocytic or microcytic anemia with a low reticulocyte count.

A second group is composed of patients who have “nutritional” anemia or anemia due to iron loss, reduced B12 vitamin absorption or folate deficiency. The main causes of iron losses are gastrointestinal, urinary or gynecologic diseases. It is essential to look for blood loss, because, in spite of the anemia being important, the cause of the blood loss will probably be more important(16-18). The levels of B12 and folate are frequently low in the elderly, but deficiency of the first vitamin only accounts for 1 to 2% of the cases of anemia, far less than those related to the iron loss(4,19,20). An even less important cause is folate deficiency, with a possible reason for this being alcohol abuse(4).

The third group includes patients with anemia of unknown causes, which may be due to, among other things, the growing frequency of chromosomal abnormalities found in older people. This may explain the higher frequency of neoplasms of hematopoietic tissue in the elderly population such as the myelodysplastic syndromes(21).

It is important to note that anemia in the elderly is not normal! It is always necessary to investigate the cause and to at least try to reduce the consequences in these patients.
In conclusion, as the number of over 60-year-old people is continuously growing in developed and developing countries, and because of the high prevalence, morbidity and mortality of anemia in this population, it is necessary for physicians in most areas to know the mechanisms, causes and management of anemic patients.

References


