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Anemic Syndrome Diagnostic Problem In The General Practitioner .

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ABSTRACT

Anemia in older people is an under-diagnosed disease, which is often not reported to the patient, since in most cases it is perceived as a simple consequence of aging or a sign of the disease. Currently, the diagnosis of the main cause of anemia in general practice presents significant difficulties. However, the prevalence of anemia is high, this pathology affects about 25% of the world's population. The most common form of anemia is iron deficiency (IDA), reaching an average of 12% in Russia for women of childbearing age and the elderly. The importance of diagnosis and timely treatment of anemia is associated with the fact that there may be a deterioration in mental and physical activity in patients, an increased risk of infectious diseases, and a number of other problems.

Keywords: anemia, general practitioner, chronic heart failure, chronic obstructive pulmonary disease, comorbidity.

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INTRODUCTION

By the WHO definition, anemia is a condition in which the number of red blood cells or their oxygen-carrying capacity is insufficient to meet the physiologic needs of the body. The choice of anemia classification is determined by the goals that face the participants in the treatment and diagnostic process [1, 3].

Classification by pathophysiological mechanisms implies a division into anemia due to decreased production of hemoglobin and red blood cells or accelerated death of red blood cells [2].

From the point of view of patient's referral, all anemias can be divided into three large groups: the general practitioner usually deals with deficiency anemia caused by a lack of iron, folic acid, vitamin B12. Anemias of chronic disease are in the field of vision of medical specialists engaged in the treatment of chronic inflammatory, autoimmune, neoplastic processes. Hematologists treat hemolytic anemia and anemia accompanying hemoblastosis [4, 9].

In accordance with the standard of medical care for patients with iron deficiency anemia, treatment is carried out in outpatient conditions. In the primary care of the population, to obtain laboratory results, the doctor should pay attention to the manifestations of sideropenic syndrome: skin pigmentation, changes in mucous membranes - angular cheilitis, brittleness and longitudinal striation of the nails; brittle hair or alopecia; changes in taste and smell (addiction to the smells of acetone, varnishes and paints); and anemia: weakness, dizziness, headache, decreased ability to exercise, loss of appetite, physical performance, attention, tachycardia, systolic murmur. These symptoms occur with anemia of any origin. Their sensitivity for diagnosis in the mild and moderate cases is low; therefore laboratory examination is of crucial importance in the timely diagnosis of iron deficiency and other forms of anemia. A routine laboratory method for anemia searching is a complete blood count, performed either by the "manual" method or on an automated hematology analyzer. Biochemical indicators reflecting the iron transport pool: serum iron, total iron-binding capacity, transferrin saturation coefficient and the iron reserve pool - serum ferritin are recommended to be used in addition to the complete blood count to quantify iron deficiency and evaluate it dynamically during treatment [5, 8].

Purpose: to study the prevalence and structure of anemic syndrome (AS) in patients of primary care.

Objectives of the study:

1. To study the prevalence and structure of the AS.
2. To assess the age and sex ratio of patients.
3. To increase the effectiveness of early diagnosis and management of patients with anemic syndrome.

MATERIALS AND METHODS

The research work was performed in the framework of the pilot project "Improvement of the system of treatment and diagnostic activities for patients with anemia in the primary health care system" developed at the Voronezh State Medical University named after N.N. Burdenko in conjunction with the National Medical Research Center for Preventive Medicine of the Ministry of Healthcare of the Russian Federation and implemented in the territory of the Voronezh, Lipetsk and Tambov regions.

Outpatient cards were analyzed from two randomly selected health localities of the city outpatient clinic for the period from January to December 2018 using the developed program "Monitoring system for patients with anemic syndrome" (certificate of state. computer program registration 2017662759 from 16.11.2017) [10]. A study was conducted of the complete blood count parameters using the automatic hematology analyzers "Micros 60" (France): hemoglobin and red blood cells levels. The following criteria for anemia (WHO) were applied: for men, hemoglobin less than 130 g / l, erythrocytes - less than 4×10^{12} / l; for women, hemoglobin less than 120 g / l, erythrocytes less than 3.8×10^{12} / l. Anemia was considered hypochromic with a color index of less than 0.85, normochromic - 0.85-1.05, hyperchromic - more than 1.05 [11].

RESULTS

A total of 1498 observations fell into the selection (men — 492; women — 1006) aged from 18 to 96 years (mean age was 47.1 ± 14.7 years). Of these, 533 patients (35.5% of the studied) had anemia signs, 429 (39.5%) of whom were women and 104 (17%) were men. The age composition of the selection is presented in table 1.

The normalized values of the men and women ratio with and without anemia are presented in Figure 1, Table 2.

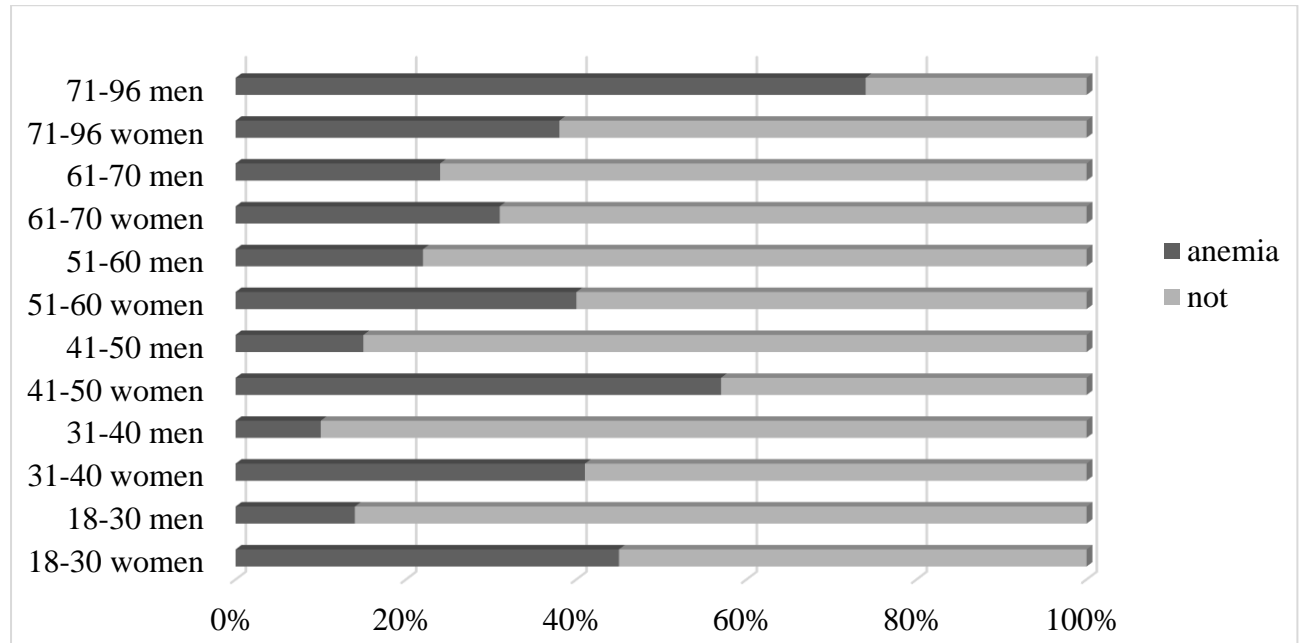


Fig. 1. The ratio of patients with and without anemia in different age groups.

Table 1: Age structure of the selection

age (year)	men (people)		women (people)	
	with anemia	without	with anemia	without
18-30	16	98	101	121
31-40	9	82	82	116
41-50	10	57	90	69
51-60	24	86	69	102
61-70	17	55	44	98
71-96	28	10	43	71

In all age groups except the last (71-96 years), the proportion of women with anemia is higher than the proportion of men with anemia. The maximum differences are observed in the group of 31–40 years old — by factor of 4.1 times; in groups of 41-50 and 18-30 years old - by factor of 3.8 and 3.2 times, respectively. In age groups older than 50, anemia continues to predominate among women, but the proportion of patients with anemia among women is no more than twice the proportion of anemia among men of the corresponding age group. Further, in the age group of 71-96 years, the ratio changes, the proportion of patients with anemia among men prevails over the number of women (by factor of 1.9 times).

Mild anemia was observed in 464 patients (87%, among them 369 women and 95 men), moderate severity - in 35 (6.6%, among them 34 women and 1 man), and severe - in 34 studied (6, 4%, among them 26 women and 8 men). Hypochromic anemia was observed in 368 patients (69%, among them 293 women and 75

men), normochromic - in 93 (17.4%, of which 78 women and 15 men), hyperchromic - in 72 people (13.6% among them 59 women and 13 men).

Patients with anemia had the following pathology of the cardiovascular system: coronary heart disease (CHD) - 163 (30.6%) patients (myocardial infarction - 32 (6%), stable angina - 102 (19.1%), atherosclerotic heart disease - 29 (5.5%), of which women - 122, men - 41), atrial fibrillation (AF) - 39 patients (7.3%), of women - 33, men - 6; arterial hypertension (AH) - 85 (15.9%) of which women - 72, men - 13. Diabetes mellitus (DM) had 31 patients (5.8%), of which 25 women, men - 6. Pathologies of the respiratory system were represented by the following diseases: chronic obstructive pulmonary disease (COPD) - 21 patients (3.9%), of which 17 were women and 4 were men; asthma - 14 patients (2.6%), of which 12 women, 2 men; Other diseases of internal organs (CHF, cirrhosis, erosive colitis, nodular goiter, gastric ulcer, chronic gastroduodenitis, chronic cystitis, pyelonephritis, mastopathy, diseases uterus and fallopian tubes, lymphadenopathy, prostatic hyperplasia) were detected in 162 patients (30,3%) of which women - 147, men - 15. (The normalized values of the comorbidities ratio are presented in Figure 2.)

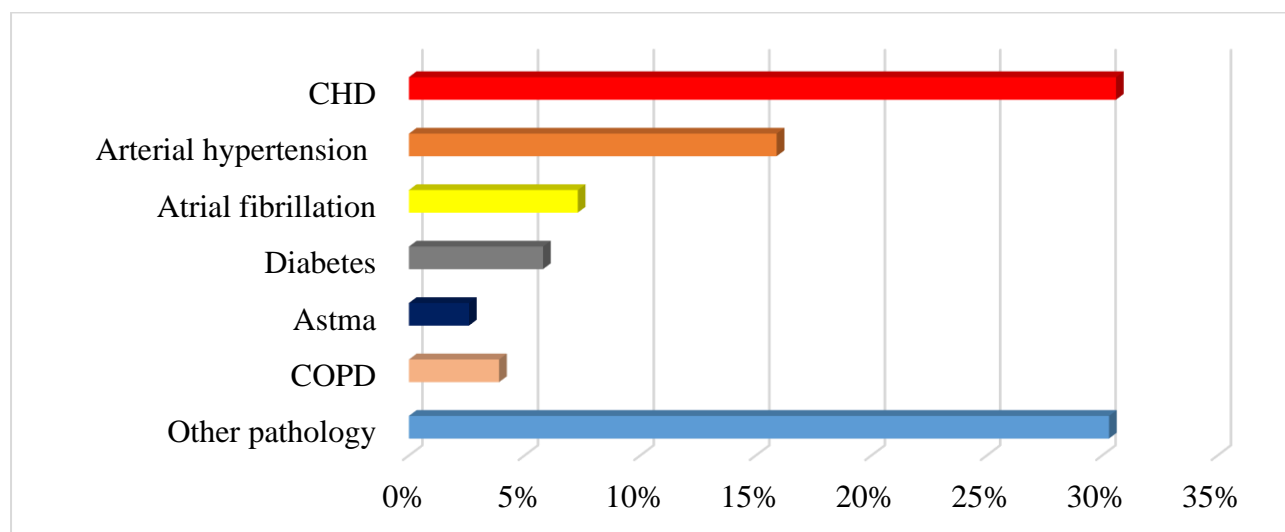


Fig. 2. The ratio of comorbidities in patients with anemia.

Table 2: The percentage of patients with and without anemia

Age (year)	men (%)		women (%)	
	with anemia	without	with anemia	without
18-30	14	86	45	55
31-40	10	90	41	59
41-50	15	85	57	43
51-60	22	78	40	60
61-70	24	76	31	69
71-96	74	26	38	62

At the same time, only in 16 patients (3%) anemia was diagnosed as the main disease, in 10 patients (1.9%) - 7 women and 3 men - as a complication of the underlying disease, in 5 patients (0.94%) - as a concomitant disease.

DISCUSSION

Based on the results of our study, it was found that anemia is a fairly common pathology (35.5% among all the patients we studied), occurring in all age groups. Of the 533 patients with detected anemia in the complete blood count, only in 31 (6%) anemia was diagnosed, and patients received recommendations for its treatment.

Anemia in older people is an under-diagnosed disease, which is often not reported to the patient, since in most cases it is perceived as a simple consequence of aging or a sign of the disease [12-14]. Currently, the diagnosis of the main cause of anemia in general practice presents significant difficulties. However, the prevalence of anemia is high, this pathology affects about 25% of the world's population. The most common form of anemia is iron deficiency (IDA), reaching an average of 12% in Russia for women of childbearing age and the elderly [15-19]. The importance of diagnosis and timely treatment of anemia is associated with the fact that there may be a deterioration in mental and physical activity in patients, an increased risk of infectious diseases, and a number of other problems [6, 7, 20-22].

CONCLUSIONS

- Anemic syndrome is one of the most frequent pathologies in general medical practice, detected in 35.5% (533 studied) patients of the primary care, and most often acting as a concomitant disease (496 patients or 93%).
- Women with anemia are equally common in all age groups, men with anemia are more likely to be over the age of 50 (69 patients or 66%).
- In all age groups except the last (71-96 years), the proportion of women with anemia is higher than the proportion of men with anemia. The maximum differences are observed in the group of 31–40 years old by factor of — 4.1 times; in groups of 41-50 and 18-30 years old - by factor of 3.8 and 3.2 times, respectively.
- In the majority of patients - 464 patients (87%), anemia was mild. At the same time, hypochromic (368 patients or 69%) and normochromic (93 patients or 17.4%) anemia were observed more frequently.
- The most common anemia was accompanied by such diseases as: coronary artery disease, hypertension, atrial fibrillation, type 2 diabetes, etc.
- Only in 16 patients (3%) anemia was diagnosed as the main disease, in 10 patients (1.9%) - 7 women and 3 men - as a complication of the underlying disease, in 5 patients (0.94%) - as a concomitant disease.
- The analysis shows the importance of developing new approaches for timely diagnosis of anemia, possibly based on the integration of decision support tools within the automated workplace of the physician from primary care.

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