

Prevalence and Management of Anemia in Moroccan Cancer PatientsAziz Bazine^{1*}, Mohamed Fetohi¹, Mehdi Toreis¹, Rachid Tanz², Mohamed Ichou²¹Department of Medical Oncology, Military Hospital Moulay Ismail, Meknes, Morocco²Department of Medical Oncology, Military Hospital Mohammed V, Rabat, Morocco**Original Research Article*****Corresponding author**

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Abstract: Anemia is a common problem in patients with malignancy, particularly if under chemotherapy. Data on prevalence and management of anemia in the Moroccan patients with cancer are non-existing. Therefore, we performed a cross-sectional observational study in cancer patients presenting at the department of medical oncology of the Military Hospital Moulay Ismail in Meknes, Morocco between June 2018 and October 2017. A total of 106 eligible patients were enrolled. The prevalence of anemia was 79.2% with a mean hemoglobin level of 11.3 g/dL. Of patients who were anemic, 51.2% received no treatment. The most frequent therapy was red blood cell transfusion (95%). The frequency of iron treatment was 5%, and no patients received erythropoiesis-stimulating agents. Our study found that anemia was common in patients with cancer in Morocco and those with moderate and symptomatic anemia that could be treated with erythropoiesis-stimulating agents did not.

Keywords: Anemia, Cancer, Prevalence, Therapeutics.

INTRODUCTION

Anemia (generally defined as hemoglobin (Hb) level of less than 12 g/dl) is a common problem in patients with malignancy, particularly if under chemotherapy [1–5]. Its incidence depends on factors such as the type of cancer, treatment regimen, and disease duration. Anemia has several physical effects which can significantly affect the quality of life in patients with malignancy. Thus, optimal management of anemia appears to be an important part of cancer treatment [1, 6].

To the best of our knowledge, data on prevalence and management of anemia in the Moroccan patients with cancer are non-existing. Therefore, we conducted this study that describes the frequency and treatment patterns of anemia in a Moroccan cancer center.

MATERIALS AND METHODS

We performed a cross-sectional observational study in cancer patients presenting at the department of medical oncology of the Military Hospital Moulay Ismail in Meknes, Morocco between June 2018 and October 2017. Patients were eligible if they were aged 18 years and had a diagnosis of solid cancer.

The following data were collected: demographic details, disease status, and treatment for cancer, blood parameters, transfusions, erythropoietic agent and iron therapy administered. Hb levels (g/dl) were classified into four categories in order to assess the severity of anemia: none, $Hb \geq 12$ g/dL; mild, $10 \leq Hb \leq 11.9$ g/dL; moderate, $8 \leq Hb \leq 9.9$ g/dL; severe, $Hb < 8$ g/dL. Statistical analysis was performed using SPSS version 22.0. Categorical data were presented as numbers with percentages, while continuous data were presented as means \pm standard deviation (SD) or median values with range.

RESULTS

A total of 106 eligible patients were enrolled. The mean age of patients was 52.4 years with extremes ranging from 18 years to 79 years? There were 65 males (61.3%) and 41 females (38.7%). Table 1 summarises the demographics and patient characteristics. The prevalence of anemia (defined as patients with a documented Hb level < 12 g/dL) was 79.2% with a mean Hb level of 11,3 g/dL. The classification of the cancer patients according to their Hb levels revealed that 20.8% were not anemic, 35.8% presented a mild anemia, 30.2% a moderate anemia and 13.2% a severe anemia. Table 2 displays anemia prevalence by tumour type. The level of anemia differed according to the location of a primary tumour, with more moderate and severe anemia in patients with urogenital (83%) and lung (58%) tumours. Of patients who were anemic, 51.2% received no treatment. The majority (95%) of untreated anemic patients had a mild anemia and 5% had a moderate anemia. For the 48.8% of patients who received treatment, the most frequent therapy was red blood cell (RBC) transfusion (95%). The frequency of iron treatment was 5%, and no patients received erythropoiesis-stimulating agents (ESA).

Table-1: Demographic and clinical characteristics of the 106 patients enrolled in the study

Characteristic	Number of patients	Percentage
<i>Total of patients</i>	106	100%
<i>Age (years)</i>		
Median	52.4	
Range	19 – 79	
<i>Sex</i>		
Male	65	61.3%
Female	41	38.7%
<i>Site of a primary tumour</i>		
Gastrointestinal	32	30.2%
Breast	19	17.9%
Lung	19	17.9%
Gynecologic	9	8.5%
Head and neck	9	8.5%
Urogenital	6	5.7%
Other	12	11.3%
<i>Tumour extension</i>		
Localized disease	38	35.8%
Metastatic disease	68	64.2%

Table-2: Distribution of the grade of anemia according to the tumour type

Tumour type	No anemia	Mild anemia	Moderate anemia	Severe anemia	Total
Gastrointestinal	4(12.5%)	16(50%)	9(28%)	3(9.5%)	32(100%)
Breast	4(21%)	5(26%)	7(37%)	3(16%)	19(100%)
Lung	2(10.5%)	6(31.5%)	7(37%)	4(21%)	19(100%)
Gynecologic	2(22%)	3(34%)	2(22%)	2(22%)	9(100%)
Head and neck	2(22%)	4(44%)	3(34%)	0(0%)	9(100%)
Urogenital	0(0%)	1(17%)	3(50%)	2(33%)	6(100%)

DISCUSSION

This study found that anemia was frequent in our cancer patients, with a prevalence of 79.2%, including 42.4% with moderate to severe anemia. Patients with urogenital and lung tumours had more moderate to severe anemia.

The prevalence of anemia found in our study is higher than in previous reports. The prevalence of anemia at enrolment in the Australian and European Cancer Anemia surveys (ACAS, ECAS) was 35% and 39%, respectively, with 8% and 10% having moderate to severe anemia [2,5]. This difference could be explained by the exclusion of untreated patients in the ACAS and ECAS studies. In Turkish and Japanese studies, 44% of the patients were anemic at the start of their chemotherapy [7, 8]. A Belgian survey found a prevalence of 55.7%, with 20% of moderate to severe anemia [1].

Despite evidence that anemia can adversely affect the quality of life; many physicians still don't treat anemic patients. In our study, 51.2% of the anemic patients received no treatment for their anemia. Most of them (95%) had mild anemia, but another 5% of the untreated patients had moderate anemia. In the ACAS and ECAS studies, anemia treatment was initiated, respectively, in 41% and 40% of anemic patients [2, 5].

In our study, the most frequently used treatment was RBC transfusion (95%). Oral iron treatment was used only in 5% of anemic patients, and ESA were never administered, despite treatment guideline recommendations on the use of ESA in anemic cancer patients receiving chemotherapy [9–11]. The European Organisation for Research and Treatment of Cancer (EORTC) guidelines recommend that ESA should be initiated at a Hb level of 9-11 g/dL in cancer patients receiving radiochemotherapy or chemotherapy. ESA therapy may be also considered in selected asymptomatic patients receiving chemotherapy with a Hb level of 11-11.9 g/dL. The aim of treatment with ESA is to achieve a Hb concentration of about 12 g/dL, without exceeding this target. For that reason, the new label for ESA suggests initiating treatment to patients with symptomatic anemia in order to increase hemoglobin, without exceeding the target of 12 g/dL [1,12].

CONCLUSION

Our study found that anemia was common in patients with cancer in Morocco. Despite treatment guideline recommendations on the use of ESA, our patients with moderate and symptomatic anemia who could be treated with ESA did not.

COMPETING INTERESTS

The authors declare no competing interest.

AUTHORS' CONTRIBUTIONS

All authors contributed to the work and read and approved the final version of the manuscript.

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