Prevalence and Management of Anemia in Moroccan Cancer Patients

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Abstract

Objective: According to IDF diabetic atlas 8th edition, south –East Asian region is the 2nd highest of all IDF regions. It was estimated that. It was estimated that by 2040, this will raise to 150 million 69.1 million adults are diabetic in India according to 2015 census. *Material and Methods:* For every 11 persons 1 is diabetic. 1 child in every 6 births is affected by hyperglycemia in pregnancy. 2/3rd of people with diabetes is living in urban area and belongs to working age group. 1 in every 2 persons is undiagnosed. To motivate the youngsters to lead a healthy life style and create awareness about the risk of developing diabetes due to lifestyle modifications. *Results:* Questionnaire based study among 100 medical students further evaluation of blood glucose levels among the high risk group. We have identified that the lack of exercise was the main risk factor among the study group. There is a lack of physical activity among medical students of the study group. *Conclusion:* The awareness study has helped them to realize the need for exercise and healthy diet to stay away from diabetes. We are planning for frequent motivations to help them prioritize health
Keywords: IDRS, Exercise, Diabetes mellitus, life style modifications

INTRODUCTION

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≥12 g/dL; mild, 10≤Hb≤11.9 g/dL; moderate, 8≤Hb≤ 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 ± 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 < 12g/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
Total of patients	106	100%
Age (years)		
Median	52.4	
Range	19 – 79	
Sex		
Male	65	61.3%
Female	41	38.7%
Site of a primary tumour		
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%
Tumour extension		
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.

REFERENCES

1. Verbeke, N., Beguin, Y., Wildiers, H., Canon, J. L., Bries, G., Bosly, A., & Van Belle, S. (2012). High prevalence of anaemia and limited use of therapy in cancer patients: a Belgian survey (Anaemia Day 2008). Supportive care in cancer, 20(1), 23-28.
2. Seshadri, T., Prince, H. M., Bell, D. R., Coughlin, P. B., James, P. P., Richardson, G. E. (2005). The Australian Cancer Anaemia Survey: a snapshot of anaemia in adult patients with cancer. Medical journal of Australia, 182(9), 453-457.
3. Groopman, J. E., & Itri, L. M. (1999). Chemotherapy-induced anemia in adults: incidence and treatment. Journal of the National Cancer Institute. 91(19), 1616-1634.
4. Smith, R. E., & Tchekmedyian, N. S. (2002). Practitioners' practical model for managing cancer-related anemia. Oncol Williston Park N. 16(9 Suppl 10), 55-63.
5. Ludwig, H., Van Belle, S., Barrett-Lee, P., Birgegård, G., Bokemeyer, C., Gascon, P., & al. (2004). The European Cancer Anaemia Survey (ECAS): a large, multinational, prospective survey defining the prevalence, incidence, and treatment of anaemia in cancer patients. European journal of cancer. 40(15), 2293-2306.
6. Caro, J. J., Salas, M., Ward, A., & Goss, G. (2001). Anemia as an independent prognostic factor for survival in patients with cancer: a systematic, quantitative review. Cancer. 91(12), 2214-2221.
7. Tas, F., Eralp, Y., Basaran, M., Sakar, B., Alici, S., Argon, A., & al. (2002). Anemia in oncology practice: relation to diseases and their therapies. American journal of clinical oncology. 25(4), 371-379.
8. Kitano, T., Tada, H., Nishimura, T., Teramukai, S., Kanai, M., Nishimura, T., & al. (2007). Prevalence and incidence of anemia in Japanese cancer patients receiving outpatient chemotherapy. International journal of hematology. 86(1), 37-41.
9. Rizzo, J. D., Brouwers, M., Hurley, P., Seidenfeld, J., Arcasoy, M. O., Spivak, J. L., & al. (2010). American Society of Hematology/American Society of Clinical Oncology clinical practice guideline update on the use of epoetin and darbepoetin in adult patients with cancer. Blood. 116(20), 4045-4059.
10. Rodgers, G. M., Becker, P. S., Blinder, M., Cella, D., Chanan-Khan, A., Cleeland, C., & al. (2012). Cancer-and chemotherapy-induced anemia. Journal of the National Comprehensive Cancer Network. 10(5), 628-653.
11. Gilreath, J. A., Stenehjem, D. D., & Rodgers, G. M. (2014). Diagnosis and treatment of cancer-related anemia. American journal of hematology, 89(2), 203-212.
12. Aapro, M. S., & Link, H. (2008). September 2007 update on EORTC guidelines and anemia management with erythropoiesis-stimulating agents. The Oncologist. 13(Supplement 3), 33-36.