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Prevalence of microcytosis in sickle cell anemia patients in king abdulaziz medical city

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Introduction: Sickle Cell Disease (SCD) can be complicated by Iron deficiency anemia, alpha or beta thalassemia & other Hb abnormalities. Currently, there aren't many studies shedding the light on the prevalence of microcytosis in sicklers. Further more, there are no studies in KSA.

Objectives: Our first aim is determine the prevalence and possible etiology of microcytosis in sickle cell disease patients. Our second aim is to determine the prevalence & association of iron deficiency anemia in sickle cell disease patients. Our third aim is to determine the prevalence of coinheritance of other globulin gene disorders in sickle cell disease patients. (e.g. α & β Thalassemias)

Materials and Methods: A retrospective cross sectional study in which 76 patients were included from King Abdulaziz Medical City pediatric hematology division by reviewing the charts of patients with SCD from the years of 2010-2014. data chosen from these charts were MCV avg , Ferritin (avg , Min & Max), Hgb electrophoresis results. All the data have been transferred to SPSS & analyzed.

Results: 32 out of 76 had microcytosis with sickle cell disease. Surprisingly, there wasn't a single patient in our study that had iron deficiency. The only identifiable cause of microcytosis that we have found is beta thalassemia trait, which we've found in 19 patients. 6 patients had an unknown cause of microcytosis. In another 5 patients, the cause couldn't be determined because of incomplete or missing data. In addition an interesting finding has been found in this population in which there was iron overload a large number of patient. We've found that 28 (36.8%) patients had high iron values. Some of these patients had values reaching 8000 and even 9000 which is more than 25 times the upper limit of the normal ferritin values. There is a possibility of an over transfusion trend in treating these patients in the sitting of a crisis that needs to be considered.

Conclusion: We concluded that microcytosis is present in a good number of patients 42% and that no SCD patients in the study had iron deficiency anemia. A good number of patients with microcytosis had beta thalassemia on top of sickle cell disease. Some patients had no identifiable cause of microcytosis, which could suggest that there are other causes of microcytosis in sickle cell disease patients. A good number of patients had iron overload, possible from treatment

Biography

Abdulmalik Ismail is currently a student at King Saud bin Abdulaziz University for Health Sciences.

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