**A Systematic Review on Safety and Efficacy of Hydroxyurea in Sickle Cell Anemia in Pediatric Population**

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| Author:  | Rajesh Hadia, Sunil Kardani, Dhaval Joshi  |
| Abstract:  | Sickle cell disease involves a large group of congenital hemolytic anemias, but all are characterized by the presence of sickle hemoglobin (HbS). The most commonly observed SCD is of two types. One is Sickle cell Anemia which is also known as homozygous HbSS, and the other one is beta-thalassemia which is also known as HbSC. Clinical manifestations of SCA include hemolytic anemia, susceptibility to infection which is secondary to splenic dysfunction, vaso occlusive events which are painful and acute, Chronic organ damage or malfunction, stroke and early mortality is seen in pediatric patients. Though the long term risks and benefits of Hydroxyurea is not known, the panel of National Institutes of Health Consensus Conference suggested that in SCA the risks associated with usage of Hydroxyurea are acceptable when compared to the dangers of untreated sickle cell disease. In sickle cell anemia RBCs will be in sickle cell shape once-daily dosing of Hydroxyurea in SCA patients leads to temporary arrest of hemopoiesis. The physiology and erythropoiesis kinetics leads to recruitment of erythroid progenitors which maintain proper HbF levels. There is no clinical evidence that suggests that Hydroxyurea may cause teratogenicity, but further investigations are mandatory in testing hydroxyurea in pregnant women. There are very few data regarding an increase in the risk of miscarriage and maternal death though SCA is risky in pregnancy. Thus, in the present study, we have aimed to study the safety and efficacy profile of Hydroxyurea in Patients with Sickle Cell Anemia, especially in the Pediatric population.  |
| Keyword:  | Sickle Cell Anemia, Pediatric Population, Hydroxyurea, Red Blood Cells.  |
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