

RASBURICASE INDUCED METHEMOGLOBINEMIA: A SYSTEMATIC REVIEW OF DESCRIPTIVE STUDIES

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Abstract

Abstract Purpose: There are an increased number of reports being published on rasburicase-induced methemoglobinemia recently. We aimed to identify and critically evaluate all the descriptive studies that described the rasburicase-induced methemoglobinemia, its treatment approach, and their outcomes. **Methodology:** PubMed and grey literature databases were searched from inception to January 2021 using search terms “rasburicase” and “methemoglobinemia” without any language and date restriction. A bibliographic search was also done to find additional studies. Only descriptive studies on Rasburicase-induced methemoglobinemia were included for our review. Two contributors worked independently on study selection, data abstraction, and quality assessment, and any disagreements were resolved by consensus or discussion with a third reviewer. **Result:** A total of 22 reports including 25 patients (21 male, 3 female patients, and 1 study did not specify the gender of the patient) aged from 6 to 75 years were included in the review. Immediate withdrawal of the drug and administering methylene blue, ascorbic acid, blood transfusion, and supportive oxygen therapy are the cornerstone in the management of rasburicase-induced methemoglobinemia. **Conclusion:** Rasburicase administration should be followed by careful monitoring of patients for any severe complication and treat it as early as possible appropriately. In a patient who presents with rasburicase-induced haemolysis or methemoglobinemia, it is often important to expect a diagnosis of G6PD deficiency unless otherwise confirmed and to avoid administering methylene blue, even though the patient is from a low-risk ethnicity for G6PDD. PROSPERO Registration number: CRD42021234132

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Table 5_Management and outcomes of the condition.pdf available at <https://authorea.com/users/410037/articles/519539-rasburicase-induced-methemoglobinemia-a-systematic-review-of-descriptive-studies>