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## Rasburicase induced Methemoglobinemia and Acute Hemolysis in a patient with esophageal cancer and normal G6PD screening, used for prevention of tumor lysis syndrome: a case report

**Introduction:** Tumor lysis syndrome (TLS) is an oncologic emergency that characterized by the release of large amounts of potassium, phosphate, and nucleic acids into the systemic circulation secondary to massive tumor cell lysis, which can cause acute kidney injury secondary to hyperuricemia which deposits in the kidney causing crystals induced nephropathy<1>. Hypouricemic agents like allopurinol and Rasburicase are effective drugs that have been used to prevent and treat TLS, by lowering uric acid level<2>. Rasburicase may cause rare and severe side effects, methemoglobinemia and acute hemolytic anemia especially in a patient with G6PD enzyme deficiency<3,4>, this will be demonstrated in our case report of a patient with G6PD normal status.

Hemolytic anemia is also likely to occur in G6PD-deficient patients due to their inability to break down hydrogen peroxide, which results from the oxidation of uric acid to allantoin, induced by rasburicase administration which also has been reported around 1%<3,4,15,16>.

Moreover, It is recommended that G6PD deficiency is ruled out before treatment with rasburicase, but this is not always feasible, as TLS is a dangerous condition that often progresses rapidly if treatment is delayed. Thus, strict monitoring for signs and symptoms of methemoglobinemia and hemolytic anemia is essential to provide appropriate supportive care if any adverse events occur<3,15>.

**Conclusion:** This incidence raises the issue of rasburicase possible side effect of methemoglobinemia and acute hemolytic anemia which may happen in the same patient as in our case, although it was believed that they are more prevalent in G6PD deficiency patients, our scenario suggests that it might also happen in patients with normal G6PD activity.

Use of this drug should be with caution and follows the standard protocols, current guidelines for indications and precautions before use.

### Biography

Abdulhakeem Almarwani is a consultant Internist and Nephrologist at King Abdullh Medical city, Holy Capital. He was Associate Nephrology consultant King Abdullah Medical city, KSA. He published his research work in reputed journals. His research interest are renal transplant, nephrology and renal care etc.

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