

Rasburicase



PLAY PICMONIC

Characteristics

Recombinant Uricase

[Record-comb Unicorn-ace](#)

Rasburicase is a recombinant uricase that works by converting uric acid to allantoin through oxidation. Allantoin is a water-soluble purine metabolite that more easily excreted from the kidney than uric acid.

Converts Uric Acid to Allantoin

[Unicorn Acidic-lemon converting to Alien-toe](#)

Rasburicase catalyzes the conversion of uric acid to allantoin (the end product of purine metabolism) which is water-soluble and is 5 to 10 times more soluble than uric acid.

Indication

Hyperuricemia

[Hiker-unicorn](#)

Rasburicase is used in hyperuricemic conditions, especially in tumor lysis syndrome. Another condition in which rasburicase may be used is tophaceous gout when allopurinol is contraindicated. Reducing hyperuricemia is important to prevent renal impairment due to the precipitation of uric acid in renal tubules.

Tumor Lysis Syndrome

[Tumor-guy Laser](#)

Tumor lysis syndrome (TLS) is a spontaneous reaction described as rapid cellular lysis of tumor cells due to chemotherapy, radiotherapy, or immunotherapy. This lysis can lead to hyperuricemia as uric acid spills out into the blood and can occur 48-72 hours after treatment. Uric acid can precipitate in the renal tubules and cause kidney injury. This can worsen hyperkalemia and hyperphosphatemia also seen in TLS. Rasburicase helps in this clinical situation.

Side Effects

Hypersensitivity Reaction

[Hiker-sensitive-crying](#)

Rasburicase can cause severe hypersensitivity reactions including anaphylaxis. This may present with urticaria, dyspnea, chest pain, and/or hypotension. Treatment should be discontinued immediately if the patient develops severe reactions.

Methemoglobinemia

[Moth-he-man-globe](#)

Methemoglobinemia is commonly associated with G6PD deficiency, but can also be seen in patients with normal G6PD isoforms. It occurs due to the oxidative effects of rasburicase, thus should be immediately discontinued in patients who develop methemoglobinemia. These patients commonly present with cyanosis, dyspnea, and encephalopathy.

Considerations

Contraindicated in G6PD Deficiency

[Caution-tape on Glue \(6\) Sax-P-Dehydrator Broken](#)

Patients who are treated with rasburicase should be screened for G6PD deficiency, especially those at high risk. This is important to reduce the risk of hemolysis and methemoglobinemia.