Mercaptopurine

Class: Antimetabolite (Purine Analog)

Indications:

_Maintenance treatment component of acute lymphoblastic leukemia (ALL)

_Acute promyelocytic leukemia (APL) maintenance (unlabeled use)

_Crohn's disease, remission maintenance or reduction of steroid use (unlabeled use)

_Ulcerative colitis (unlabeled use)

Available dosage form in the hospital:50 MG TAB

Trade name: Purinethol

Doses: Also consult details concerning dosing in combination regimens.

-Acute lymphoblastic leukemia (ALL): Maintenance: Oral: 1.5-2.5 mg/kg/day **or**

-Unlabeled ALL dosing (combination chemotherapy; refer to specific reference for combinations):

- **Early intensification (two 4-week courses):** 60 mg/m^2/day days 1-14
- **Interim maintenance (12-week course):** 60 mg/m^2/day days 1-70
- **Maintenance (prolonged):** 50 mg 3 times/day for 2 years **or** 60 mg/m^2/day for 2 years from diagnosis

-Acute promyelocytic leukemia (APL) maintenance (unlabeled use): 60 mg/m^2/day for 1 year (in combination with tretinoin and methotrexate)

-Crohn's disease, remission maintenance or reduction of steroid use (unlabeled use): Oral: 1-1.5 mg/kg/day

-Ulcerative colitis (unlabeled use): Oral:

- Initial: 50 mg once daily; titrate dose up if clinical remission not achieved or down if leukopenia occurs **or**
- Initial: 50 mg (25 mg if heterozygous for TPMT activity) once daily; titrate up to goal of 1.5 mg/kg (0.75 mg/kg if heterozygous for TPMT activity) if WBC >4000/mm^3 (and at least 50% of baseline) and LFTs and amylase are stable **or**
- Maintenance: 1-1.5 mg/kg/day **or**
- Remission maintenance: 1.5 mg/kg/day

-Dosage adjustment with concurrent allopurinol: Reduce mercaptopurine dosage to 25% to 33% of the usual dose.

-Dosage adjustment in TPMT-deficiency: Not always established; substantial reductions are generally required only in homozygous deficiency.

Geriatric

Due to renal decline with age, initiate treatment at the low end of recommended dose range.

Hepatic Impairment:

The manufacturer's labeling recommends considering a reduced dose in patients with hepatic impairment; however, no specific dosage adjustment is provided.

Dosing: Obesity

ASCO Guidelines for appropriate chemotherapy dosing in obese adults with cancer: Utilize patient's actual body weight (full weight) for calculation of body surface area- or weight-based dosing, particularly when the intent of therapy is curative; manage regimen-related toxicities in the same manner as for nonobese patients; if a dose reduction is utilized due to toxicity, consider resumption of full weight-based dosing with subsequent cycles, especially if cause of toxicity (eg, hepatic or renal impairment) is resolved (Griggs, 2012).

Common side effect : Frequency not defined.

Central nervous system: Drug fever

Dermatologic: Alopecia, hyperpigmentation, rash

Endocrine & metabolic: Hyperuricemia

Gastrointestinal: Anorexia, diarrhea, intestinal ulcers, mucositis/oral lesions (rare), nausea (minimal), pancreatitis, sprue-like symptoms, stomach pain, vomiting (minimal)

Genitourinary: Oligospermia

Hematologic: Myelosuppression (onset 7-10 days; nadir 14 days; recovery: 21 days); anemia, bleeding, granulocytopenia, leukopenia, marrow hypoplasia, thrombocytopenia

Hepatic: Hepatotoxicity, ascites, biliary stasis, hepatic damage/injury, hepatic encephalopathy, hepatic necrosis, hepatomegaly, intrahepatic cholestasis, jaundice, parenchymal cell necrosis, toxic hepatitis

Renal: Hyperuricosuria, renal toxicity

Pregnancy category : D