Mycophenolate Mofetil Therapeutic Cheat Sheet

COMPILED BY: BLAIR ALLAIS, MD • **REVIEWED BY:** ADAM FRIEDMAN, MD

TRADE NAME

- CellCept
- Myfortic
  (enteric-coated mycophenolate sodium)

MECHANISM OF ACTION

- Mycophenolate mofetil (MMF), when converted to its active metabolite mycophenolic acid, competitively binds to and inhibits inosine monophosphate dehydrogenase (IMPDH), the key enzyme in the de novo pathway of purine nucleotide synthesis.[1] This deprives B- and T- lymphocytes of purine metabolites necessary for growth and replication.

FDA APPROVED FOR

- Renal, cardiac, and liver allograft rejection prevention.

OFF-LABEL USES

- Psoriasis
- Atopic Dermatitis
- Bullous dermatoses including pemphigus, bullous pemphigoid, epidermolysis bullosa acquisita and linear IgA
- Autoimmune connective tissue diseases including systemic and subacute cutaneous lupus erythematous, systemic sclerosis and dermatomyositis
- Vasculitis

DOSING

- Available in 250mg capsules, 500mg tablets, and an oral solution (100mg/mL)
- Dosing must balance toxicity with efficacy which generally is reached between 2g and 3g divided twice daily
- Although there is no formal treatment algorithm, some authors suggest starting at 500mg daily and increasing in 500mg increments weekly to a maximum dose of 1.5mg twice daily.[2]

ADVERSE EFFECTS

- Lymphoma or other lymphoproliferative disorders.
- Controversial risk of non-melanoma skin cancer. In a retrospective study of over 4000 patients with heart transplants, MMF was protective against the development of squamous cell carcinoma.[3] Another retrospective study of over 300 heart transplant patients cited an increased risk of basal cell carcinoma with MMF.[4]
- GI symptoms: diarrhea, abdominal pain, nausea, vomiting (dose related).
- GU symptoms: urgency, frequency, dysuria.[2]
- Hematologic abnormalities: neutropenia, anemia, thrombocytopenia, agranulocytosis (dose-dependent, reversible).
- Increased risk of infections cited in the dermatologic literature including viral, bacterial, atypical mycobacterial, and fungal infections.

DRUG INTERACTIONS

- NSAIDS: possible increased risk of seizures.[5]
- Vaccines: immunize at least two weeks before mycophenolates.[2]

PREGNANCY

- Pregnancy category D
- Cited teratogenicity including first trimester loss, external ear/facial abnormalities, anomalies of distal limbs, heart, esophagus and kidneys.[6]

MONITORING

- Baseline: CBC with differential and platelet count, serum chemistry panel, liver function tests, hepatitis B and C panel, purified protein derivative (PPD), serum or urine pregnancy testing.
- Follow up every 2-4 weeks following dose escalation and every 2-3 months once dose is stable: CBC with differential and platelet count, serum chemistry panel, liver function tests.[2]