University of Cincinnati Medical Center
Kidney and Pancreas Transplant
Leukopenia Management Guidelines

Reductions in mycophenolate mofetil (MMF) (Cellcept®) dosing can place patients who are on steroid free immunosuppression regimens at increased risk for acute rejection. Data indicate that a lower WBC count in steroid-free patients is not associated with an increased infection risk; therefore, focus has changed to accept lower WBC counts. These recommendations do not apply for patients currently being treated for CMV or for patients currently receiving lymphocyte-depleting therapies.

If ANC is >1500 and stable

- No change in monitoring or medications is recommended

If ANC is between 3000 and 1500 **AND** dropping

- Monitor CBC and differential weekly until it recovers or stabilizes and do not adjust medication doses

If ANC is < 1500 and dropping

- Repeat CBC with differential and review last three WBC counts to look for trend in ANC to determine if ANC is slowly or rapidly decreasing and follow recommendations below

If ANC is between 1000 and 1500 **AND** dropping SLOWLY (decrease of ≤ 20% over 7 days**):**

- Do not change MMF dose
- Hold medications that can predispose to leukopenia, and wait at least two weeks for ANC response
    - Consider replacing TMP-SMX (Bactrim®) with dapsone, pentamidine (Pentam®) or atovaquone (Mepron®)
- For patients currently on CMV prophylaxis
    - Draw a CMV DNA RT PCR quantitative
    - Implement preemptive CMV monitoring (CMV DNA RT PCR quantitative weekly)
    - If CMV DNA RT PCR quantitative is positive, treat CMV as per CMV treatment guidelines
- Measure MPA AUC. Refer to PK monitoring of mycophenolate mofetil (Cellcept®) guidelines
    - If MPA AUC is above 60 mg*h/L, reduce dose to provide an AUC between 30 and 60 mg*h/L
    - If MPA AUC is between 30 and 60 mg*h/L, do not change MMF dose.
    - If MPA AUC is less than 30 mg*h/L, management per transplant physician
- Once leukopenia resolves, return prophylactic regimens to guideline doses and consider reinitiating previously held medications

If ANC <1000 **OR** is < 1500 **AND** dropping rapidly (decrease of > 20% over 7 days):

- Follow above guidelines
- Consider empirically holding or decreasing MMF dose following MPA AUC sampling (while results pending)
- Consider filgrastim (Neupogen®) administration
    - 5-10 mcg/kg (rounded to a multiple of 300mcg or 480mcg for ease of administration) every 1-2 days until ANC is above 1500
- Consider starting prednisone at 5 mg/day. May adjust up to 7.5 mg/day if necessary after 1 week of therapy. Duration of therapy at the discretion of the transplant physician

Additional considerations:

- If neutropenia occurs within the first 2-4 weeks post-transplant, it is potentially related to T cell depleting induction and may resolve spontaneously.
- If neutropenia more than 4 weeks post-transplant, it is potentially multifactorial. Avoid or decrease bone marrow suppressing agents and minimize MMF dosing as a last resort.

March 2014