Guideline for non-CMV opportunistic infection prophylaxis in heart transplant recipients

Indication: New heart transplant recipients and heart transplant recipients being treated for rejection

Procedure: Transplant cardiologist will select prophylactic regimen and initiate therapy in the hospital. Orders will be documented in the patient's hospital medical record

Organism	Preferred[1-3, 5-6]	Duration
PCP **Toxoplasma** **Nocardia**	***1st line*** SMX/TMP SS tab daily If toxoplasma serology (D+R), give SMX/TMP DS tab daily for first 3 months ***2nd line*** Dapsone 50mg daily + PYR 50mg + LEU 25mg weekly ***3rd line*** Atovaquone 1500mg daily + PYR 50mg + LEU 25mg weekly ***4th line*** AP 300mg inhaled every 4 weeks	***New Transplant/Treatment of rejection*** 12 months
Oral Candida	***1st line*** Nystatin swish and swallow 5mL QID (after meals & bedtime) ***2nd line*** Clotrimazole 10mg troche dissolved TID	***New Transplant*** Discontinue when prednisone weaned to ≤10mg ***Treatment of rejection*** 1 month, or until prednisone is weaned to ≤10mg, which ever is longer
CMV	See CMV prophylaxis guidelines	

*SMX/TMP, Bactrim = Sulfamethoxazole/Trimethoprim; SS = single strength; PYR = pyrimethamine; LEU = leucovorin; AP = Aerosolized pentamidine; TAC = tacrolimus; CSA = cyclosporine; SIR = sirolimus

Specific Agents

1. SMX/TMP (Bactrim) is preferred. It is the most effective agent for PCP prophylaxis and also has good activity against toxoplasma, nocardia, and other bacterial infections. It is also least expensive and is well tolerated.

    a. If CRCL <30mL/min, reduce dose to SS tablet on MWF
    b. Common adverse effects: rash, minor elevation in potassium & serum creatinine (not reflective of GFR), mild myelosuppression
    c. Due to effectiveness of this agent, rule out true allergy first prior to using a different prophylactic therapy

2. Dapsone is preferred next if patient is unable to take SMX/TMP. It is an effective prophylaxis agent against PCP, has some activity against toxoplasma, but has no activity against nocardia.

    a. Avoid use if:
        i. G6PD deficient – all patients should be screened prior to initiation
        ii. History of severe reactions (desquamation, neutropenia, interstitial nephritis, hepatitis) to SMX/TMP or other sulfa drugs
    b. Combine with pyrimethamine 50mg + leucovorin 25mg/week for enhanced toxoplasma coverage (especially if D+R- serology)
    c. Common adverse effects: hemolytic anemia, methemoglobinemia (may occur even if not G6PD deficient)

3. Atovaquone is preferred if the patient is unable to take SMX/TMP and dapsone. Like dapsone, it is an effective prophylaxis agent against PCP, has some activity against toxoplasma, but has no activity against nocardia. It is the most expensive oral agent.

    a. Combine with pyrimethamine 50mg + leucovorin 25mg/week for enhanced toxoplasma coverage (especially if D+R- serology)
    b. Common adverse effects: foul taste, GI upset, rash
    c. Administration with meals increases absorption

4. Aerosolized pentamidine is a last line agent. It is less effective than SMX/TMP, dapsone, and atovaquone for PCP prophylaxis and has no activity against toxoplasma or nocardia.

    a. Pre-medicate with albuterol nebulizer immediately prior to administration
    b. Avoid use in recipients at high risk for toxoplasma infection (D+R-)

References

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