Asymptomatic Bacteriuria and Urinary Tract Infection in Renal Transplant

Background
- Society guidelines recommend against routine screening for and treatment of asymptomatic bacteriuria (ASB) in renal transplant (RT) patients outside the immediate post-transplant period.
- Current data suggests routine treatment of ASB in RT patients increases colonization with resistant organisms without providing clear benefit1-4.

Asymptomatic Bacteriuria
- In patients >1 month from RT and who have had indwelling urologic devices removed, screening for and treatment of ASB is not recommended.
- There is insufficient data to guide practice in patients who still have ureteral stents in place and those with recurrent pyelonephritis.

Urinary Tract Infection – Diagnosis and Management
- Urinary symptoms should be the primary feature used to distinguish UTI from ASB in the presence of a positive urine culture. Specific symptoms for which a diagnosis of UTI may be considered include:
  - Dysuria, pain with voiding, suprapubic pain
  - Urinary urgency or frequency
  - Fever, chills
  - Allograft pain/tenderness or flank pain
- Routine ordering of urine cultures due to pyuria in the absence of symptoms is not recommended.
- This guideline should not override clinician judgment. Prostatitis is outside the scope of this document.
- The following classification and treatment approach are in accordance with AST guidelines5:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Management Optionsa</th>
<th>Treatment Duration</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>Asymptomatic bacteriuria</td>
<td>Observationb</td>
<td>N/A</td>
<td>- Pyuria alone does not merit treatment in absence of symptoms</td>
</tr>
</tbody>
</table>
| Cystitis               | - Nitrofurantoin 100 mg PO BID (avoid if CrCl <30)  
                        |                     | 7 days            | - Narrow based on culture and susceptibilitiesc         |
|                        | - Cephalexin 500 mg PO BID  
                        |                     | 7 days            | - SOT ID consult (pager #17008) available to assist with complex cases |
|                        | - Cefpodoxime 200 mg PO BID  
                        |                     | 7 days            | - Anatomic abnormalities should be considered in cases of recurrent pyelonephritis |
|                        | - Amoxicillin-clavulanate 875/125 mg PO BID  
                        |                     | 7 days            |                                                         |
|                        | - TMP-SMX 1 DS tab PO BID (if off prophylaxis and isolate is susceptible)  
                        |                     | 7 days            |                                                         |
|                        | - Ciprofloxacin 500 mg PO BID or Levofloxacin 500-750 mg PO daily | 7-14 daysd         |                                                         |
| Acute pyelonephritis   | - Blood cultures  
                        |                     | 7-14 daysd         |                                                         |
|                        | - Consider ED evaluation versus hospitalization for IV antibiotics |                     |                                                         |

aListed doses assume normal GFR and should be adjusted for impaired renal function as appropriate.
bApplies primarily to patients >1 month from RT and those without indwelling urologic devices. Emerging evidence also suggests treating ASB may not be helpful (and could cause harm) in the more immediate post-transplant period (see reference 4).
cNote that certain organisms that may be isolated in urine culture (e.g. Staphylococcus epidermidis, Lactobacillus spp., Gardnerella spp., etc.) are unlikely to be uropathogens and thus should rarely be considered the etiologic agent of a UTI.
dAST guidelines suggest considering 14-21 days for duration of therapy. However, this recommendation is based upon minimal low-quality evidence.
References:


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