**Table III. Antibiotic Treatment of the most common bacterial causes of infective endocarditis in children and young adults**

|  |  |  |
| --- | --- | --- |
| **Infective agent or condition** | **Recommended Antibiotic regimen** | **Alternative antibiotic regimen** |
| **Unknown agent (Presumptive therapy or culture-negative endocarditis)** | | |
| Natural valve (community acquired) or “late” prosthetic valve (>60 days post surgery) infection | Penicillinase-resistant penicillin (oxacillin or nafcillin) (± penicillin or ampicillin *plus* gentamin | Vancomycin  *Plus*  gentamicin |
| Nosocomial endocarditis associated with vascular cannulae or “early” prosthetic valve endocarditis (<60 days post surgery) | Vancomycin  *Plus*  gentamicin  (± rifampin if prosthetic material present) |  |
| **Streptococci** | | |
| Highly susceptible to penicillin G (MBC\* 0.1 μg/ml; includes most viridans, Groups A, B, C, G and nonenterococal group D streptococci (S bovis, S. equinus) | Penicillin G | Vancomycin  *or*  first-generation cephalorporin  *or*  ceftriaxone |
| Relative resistant to penicillin (MBC > 0.2 μg/ml; includes enterococci and less-susceptible viridans streptocci) | Penicillin G (*or* ampicillin)  *plus*  gentamicin (for first 2 week, or whole course for enterococci) | Vancomycin  (*plus* gentamicin for enterococci)  Ceftrixaone plus gentamicin  (not for enterococcal endocarditis) |
| **Staphylococci (*S. aureus* or coagulase-negative staphylococci)** | | |
| Susceptible to < 1μg/ml penicillin G | Penicillin G | Oxacillin or nafcillin  or first generation cephalosporin or vancomycin |
| Resistant to 0.1 μg/ml penicillin G | Penicillinase-resistant penicillin(oxacillin or nafcillin)  ± gentamicin x 3-5 days | Vancomycin  *or*  a first generation cephalosporin |
| Resistant to 4 μg/ml oxacillin (MRSA) | Vancomycin | Daptomycin |
| For all *S. aureus* plus rifampin, plus gentamicin (for first 2 weeks) if prosthetic material present | | |
| **Gram-negative Enteric Bacilli** | | |
|  | Ceftazidime *or* Cefotaxime  *or* Ceftriaxone *plus* gentamicin o*r*  Tobramycin *or* amikacin depending upon susceptibility) | A broad-spectrum penicillin *plus* gentamicin (*or* amikacin) |
| **HACEK Group** |  |  |
|  | Ceftriaxone or cefotaxime | Ampicillin (for susceptible organisms) plus aminoglycoside |
|  | Ampicillin-sulbactam |  |
| **Fungi** | | |
| *Candida* spp, Aspergillus sp | Surgical resection plus amphotericin B | Amphotericin B followed by imidazole |
|  | *With or without* flucytosin | (eg fluconazole, itraconazole) suppression if surgery cannot be performed |

\*MBC, minimum bactericidal concentration

= Minimal Published experience

Treatment is generally for 4-6 weeks. See Table IV.

Longer therapy may be required for recurrent endocarditis, prosthetic vlve endocarditis, endocarditis due to uncommon species.