Table II. Treatment of PVE in Adults Caused by Specific Microorganisms

Infecting Organism	Antibiotic	Dose and Route*	Duration (weeks)	Comments
1. Penicillin-susceptible viridans streptococci, *Streptococcus bovis*, and other streptococci, penicillin MIC $\leq$ 0.1 μg/ml	A. Penicillin G Or	12-18 million units IV daily in divided doses q 4 h	6	Avoid aminoglycoside if creatinine clearance is < 30 mL/min
	Ceftriaxone	2 gm IV as a single daily dose	6	Avoid aminoglycoside-containing regimens when potential for nephrotoxicity or ototoxicity is increased
	with or without Gentamicin	1 mg/kg IM or IV q 8 h	2	
	B. Vancomycin‡	30 mg/kg IV daily in divided doses q 12 h	6	Use for patients with immediate or severe penicillin or cephalosporin allergy. Infuse doses over 1hour to avoid histamine release reaction (red man syndrome)
2. Relatively penicillin-resistant streptococci Penicillin MIC 0.2 to 0.5 μg/ml	A. Penicillin G Or	24 million units IV daily in divided doses q 4 h	6	Vancomycin as 1B for patients unable to tolerate penicillin or ceftriaxone
	Ceftriaxone	2 gm IV as a single daily dose	6	
	plus Gentamicin	1 mg/kg IM or IV q 8 h	6	
Penicillin MIC > 0.5 μg/ml	B. Penicillin G Or	24 million units IV daily in divided doses q 4 h	6	Preferred for nutritionally variant (pridoxal or cysteine requiring) streptococci *(Abiotrophia* or *Granulicatella* sp.) or *Gemella* sp.
	Ceftriaxone	2 gm IV as a single daily dose	6	
	plus Gentamicin	1 mg/kg IM or IV q 8 h	6	

3.	Enterococci (in vitro evaluation for MIC to penicillin and vancomycin, beta-lactamase production, and high level resistance to gentamicin and streptomycin required)	A.	Penicillin G plus gentamicin	24 to 30 million units IV daily in divided doses q 4 h 1-1.5 mg/kg IV q 8 h	6 6	See text for use of streptomycin instead of gentamicin in these regimens and the duration of aminoglycoside therapy. Gentamicin peaks are ≈ 3-4 µg/ml and troughs < 1 µg/ml
		B.	Ampicillin plus gentamicin	12 q IV daily in divided doses q 4 h Same dose as noted above	6 6	
		C.	Vancomycin‡ plus gentamicin	30 mg/kg IV daily in divided doses q 12 h Same dose as noted above	6 6	Use for patients with penicillin allergy. Do not use cephalosporins. Gentamicin peaks are ≈ 3-4 µg/ml and troughs < 1 µg/ml
4.	Staphylococci (*S. aureus* or coagulase negative staphylococci), Methicillin-susceptible (assume penicillin-resistance)	A.	Nafcillin or oxacillin plus gentamicin plus rifampin**	12 g IV daily in divided doses q 4 h 1 mg/kg IV or IM q 8 h 300 mg p.o. q 8 h	6 2 6	First generation cephalosporin (cefazolin 2 g IV q 8 h) or vancomycin could be used in penicillin allergic patients. Use gentamicin during initial two weeks. See text for alternates for gentamicin. For patients with immediate penicillin allergy, use regimen 5
5.	Staphylococci (*S. aureus* or coagulase negative staphylococci), Methicillin-resistant (assume penicillin resistance)	A.	Vancomycin‡ plus gentamicin plus rifampin**	30 mg/kg IV in divided doses q 12 h 1 mg/kg IV or IM q 8 h 300 mg p.o. q 8 h	6 2 6	Use gentamicin during the initial two weeks of therapy. See text for alternatives to gentamicin. Do not substitute a cephalosporin (no data for ceftaroline) or carbapenem for vancomycin

6.	HACEK organisms†	A. Ceftriaxone	2 g IV or IM daily as a single dose	4	Cefotaxime or other third generation cephalosporin in comparable doses may be used
		B. Ampicillin/ sulbactam	12 q IV daily in divided doses q 4 h	4	A fluoroquinolone (ciprofloxacin 400 mg IV q 12 h or comparable doses of levofloxacin or moxifloxacin) may be considered for patients who cannot tolerate beta-lactam antibiotics (data limited)
7.	Diphtheroids (*Corynebacterium* species), gentamicin susceptible (MIC < 4.0 µg/mL)	Penicillin or Ampicillin Plus Gentamicin	24 million units IV daily in divided doses q 4 h 12 gm IV daily in divided doses q 4 h 1 mg/kg IV q 8 h	6 6 6	If gentamicin non-susceptible, use vancomycin 30 mg/kg IV daily in divided doses q 12 h for 6 weeks
8.	Candida species	Liposomal amphotericin B with or without 5-flucytosine*	3-5 mg/kg IV q d 25 mg/kg daily in divided doses q 6 h	≥ 6 ≥ 6	Some authorities prefer echinocandins at maximal doses for susceptible species, *C. krusei* or *C. lusitaniae*, or if amphotericin is not tolerated. Surgery to replace infected valve advised with ≥ 6 weeks of therapy thereafter. Consider long-term suppressive therapy with fluconazole (6-12 mg/kg/d) or voriconazole (3-4 mg/kg q 12 h orally) for fluconazole resistant isolates (*C. glabrata* and *C. krusei*)

*Recommended doses are for adults with normal renal and hepatic function. Doses of gentamicin, streptomycin, vancomycin, and flucytosine and fluconazole must be adjusted in patients with renal dysfunction. Use ideal body weight to calculate doses for aminoglycosides (men = 50 kg + 2.3 kg per inch over 5 feet; women = 45.5 kg plus 2.3 kg per inch over 5 feet). Use actual body weight to calculate doses for vancomycin.

†HACEK organisms include *Hemophilus* species*, Aggregatibacter aphrophilus, Aggregatibacter actinomycetemcomitans, Cardiobacterium hominis, Eikenella corrodens, Kingella kingii*

‡Trough levels should be 15 to 20 µg/ml

**Rifampin increases the dose of warfarin or dicumarol required for effective anticoagulation. Voriconazole has significant drug-drug interactions.