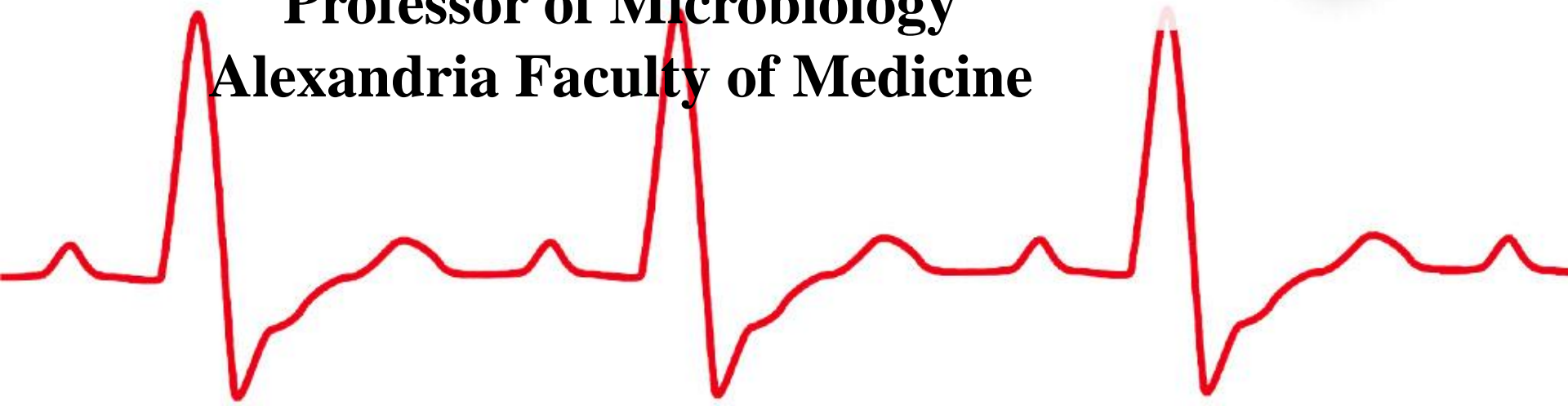




Device–Related Infective Endocarditis

“Antimicrobial therapy”

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Pathophysiology

→ **Primary infection** :contamination at the time of implantation by local flora which spreads along the electrode till the tip and endocardium with vegetation in the electrode/catheter, valves and RA and RV endocardium (early infection during 1st month)

→ **Secondary infection** : haematogeneous seeding from a distant focus of infection (late infection beyond the 1st month)

Risk factors of device endocarditis

- **Fever 24h before implantation**
- **Recent manipulation of the device e.g. Generator exchange**
- **Temporary pacing prior to permanent device placement**
- **Early re-implantation after removal of an infected device**

Microbiology

- **Staphylococcal species predominate**
 - **Multidrug resistance, including oxacillin - frequent**
- **Aerobic gram-negative bacilli**
 - ***Pseudomonas, Acinetobacter, Serratia* species**
- **Fungi**
 - ***Candida* species - most common among fungi**
 - ***Aspergillus* species - reported**

Laboratory Diagnosis

- Cultures of the following specimens:
(blood, drainage, device)

Antimicrobial Treatment

**Almost the same like prosthetic valve
infective endocarditis**

Antibiotics

Staphylococcus spp. Prosthetic valves

Antibiotic	Dosage & route	Duration	Class	Level
Prosthetic valves				
<i>Methicillin-susceptible Staphylococci</i>				
(Flu)cloxacillin or Oxacillin <i>with</i> Rifampin and Gentalmicin	12 g/day i.v. in 4-6 doses	≥ 6 weeks	I	B
	1200 mg/day i.v. or orally in 2 doses	≥ 6 weeks		
	3 mg/kg/day i.v or i.m. in 2 or 3 doses <i>Paediatric doses</i> – Oxacillin and (Flu)cloxacillin as above – Rifampicin 20 mg/kg/day i.v. or orally in 3 equally divided doses	2 weeks		
Penicillin-allergic patients and Methicillin-resistant Staphylococci				
Vancomycin <i>with</i> Rifampin and Gentamicin	30 mg/kg/day i.v. in 2 doses	≥ 6 weeks	I	B
	1200 mg/day i.v. or orally in 2 doses 3 mg/kg/day i.v or i.m. in 2 or 3 doses	≥ 6 weeks 2 weeks		
	<i>Pediatric doses as above</i>			

Primary prophylaxis

Use major barrier precautions



~ Use soap and water then dry hands ~

~ Use alcohol hand rub, dry & Wear sterile gloves ~

~Wear sterile gown, mask & head cover ~

Secondary prophylaxis

- **Antibiotic prophylaxis is not recommended for patients who undergo dental, respiratory, gastrointestinal or genitourinary procedures.**
- **It is recommended for patients if they undergo incision and drainage of infection at other sites (eg, abscess) or replacement of an infected device.**
- **It is recommended for patients with residual leak after device placement for attempted closure of the leak associated with PDA, ASD, or VSD**



Thank you

