GPBs – Corralling Corynebacterium

“Hi everyone, welcome to the IDIOTS podcast, that’s Infectious Disease Insight Of Two Specialists, I’m Jame, that’s Callum, and we’re going to tell you everything you need to know about Infectious disease, Callum how you doing?”

* What they are
* What they do
* How they’re classified
* How to kill them

**What they are**

* Heterogenous group of gram-positive rods

**How they’re classified (i.e. how Jame classifies them)**

* Nonbranching
	+ **Bacillus**
	+ **Corynebacterium**
	+ Listeria
	+ Lactobacillus
	+ Erysipelothrix
* Branching
	+ Nocardia (Acid variable)
	+ Actinomyces (Non-acid fast)
* Mycobacteria (Acid-fast; their own thing)

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| --- | --- |
| ID | Corynebacterium spp |
| Site + Spp. | Lipophilic: Skin/Mucous membrane* Jeikeium
* Urealyticum
* Hofmanii
* Xerosis

Non-lipophilic: URT* Diptheriae
* Ulcerans
* Pseudotuberculosis
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| Clinical syndromes | Diptheroids* CAPD peritonitis
* Opportunistic infection

Diptheria* C.diptheriae/ulcerans + corynebacteriophage (Corynephage beta) carrying exotoxin gene:
	+ A Fragment (“Active”): Reduces protein synthesis
	+ B fragment (“Binds cell”): Porin 🡪 Active transport of A toxin into cell
* Transmission; Direct or Droplet
* Sx:
	+ URT Diptheria; pseudomembrane of dead cells; can obstruct URT
	+ Toxin 🡪 AKI, myocarditis, neurotoxicity (paralysis of eye, neck, throat muscles)
	+ Skin: Limb lesions, can ulcerate.
* Severity; *diptheriae>ulcerans*
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| Lab ID | Microbiology* Agar: Hoyle’s (Diptheria) or CBA
* O2/FA
* Bug:
	+ Palisading GBP
	+ Nonsporing
	+ Nonmotile
	+ No capsule

Species ID* API Coryne
* MALDI-TOF
* Toxin PCR
* Biochem:

|  |  |  |
| --- | --- | --- |
|  | Diptheria | Other |
| Catalase | + | + |
| Urease | -/v | + |
| Nitrate | - | + |

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| Rx | Diptheroids: VNC, DaptomycinDiptheria: * Antitoxin
* Penicillin/Macrolide, 14d
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