Coag-Neg Staph

“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**

* GPC
  + Tend to grow in clusters (dividing in 3 planes) - DDx: Staph aureus
* Catalase pos / Coag neg / DNAse neg/variable
  + Normally identified by biochemistry pattern (VITEK2 or MALDI-TOF) or using API
* Pathogenicity: SAUR > SEPI > SLUG > SSAP

**What they do:**

* Low pathogenicity
* OI / Prosthetic material infection

(Talk more about this in the individual species)

* Pathogenicity caused by:
  + 60%: S.epidermidis
  + 15%: S.hominis
  + 10%: S.haemolyticus
  + S.capitis
  + S.saprophyticus

**How they’re classified:**

* Coagulase POS: Mimics of SAUR

|  |  |  |  |
| --- | --- | --- | --- |
|  | aureus | schleiferi  lugdunensis | hominis  haemolyticus |
| Protein A | Y |  |  |
| Clump factor | Y | Y |  |
| Capsule 5 | ? |  |  |
| Capsule 8 | ? |  | Y |

* + Note: SLUG has bound coagulase only - slide +, tube neg (callum please explain)
  + ‘animal version of SAUR’:
    - S.intermedius (canine)
    - S.delphini
    - Pseudintermedius
    - Hyicus (Coag variable)
* Coagulase NEG:
  + Novobiocin: lab antibiotic, used to determine SSAP from others (important cause of UTI in young women)
  + Novo-Res:
    - Saprophyticus (UTI in young women; Rx for 7d)
    - DDxl Cohnii, Sciuri, Xylosis
  + Novo-Sens:
    - S.epidermidis group (most pathogenic spp)
      * Epidermidis
      * Hominis
      * Haemolyticus
      * Capitis
      * Warneri
      * Simulans
    - Caprae
    - Auricularis
    - Pasteuri
    - Saccharolyticus
* AMR factors:
  + Tend to develop biofilms also → easy colonisation of plastic
  + Beta-lactam:
    - BlaZ → penicillinase (90% CoNS)
    - MecA → PBP2a (~80% CoNS)
  + Glycopeptide:
    - VanA
    - Peptidoglycan hyperproduction
    - NB: Esp. SHAE

**How to kill them**

* Beta-lactams mostly not useful
* Glycopeptides:
  + Vancomycin preferably
  + Teico: Variable MICs - check first
* Linezolid
* Cotrimoxazole
* Daptomycin (unless LRTI)
* Other: Gentamicin, Macrolide
* Particular Spp:
  + SHAE: Resistant normally to Glycopeptides, Gent, Macrolide
  + SSAP: Rx UTI with 7d Trimethoprim, Nitrofurantoin, Quinolone
* Rifampicin, biofilm

Always get source control first

Summary