Antibiotics for *Proteus vulgaris*

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Group: 8:00-9:00
Objectives:

• The student will know the different mechanisms of action of commonly used antimicrobials used in the treatment of infectious diseases.
• That the student is able to apply different sowing techniques to inoculate the solid and liquid media in antimicrobial susceptibility tests.
• It will analyze and interpret the results of the susceptibility tests by the Kirby-Bauer method, CMI and CMB attached to the CLSI.
Proteus vulgaris

• Proteus vulgaris is a Gram-negative bacterium of the facultative anaerobic enterobacteria family in the form of a bacillus that lives in the intestinal tract of several animals. It can also be isolated from soil, water and fecal material.
• They do not have spores, they are very mobile, they do not have capsules.
• It is an opportunistic pathogen in humans, causing urinary infections, wounds and liver abscesses.
Indol: Positive

It is presented in: Ulcers, Infected burns, Wounds

Ferment glucose

Citrate: Negative
A 31-year-old woman with several recurrent urinary tract infections (UTIs), classified as uncomplicated cystitis because she was a premenopausal woman with no pathology.

Or urinary tract anomalies. In the episodes of the last year he was treated with ciprofloxacin in one and cotrimoxazole in the other.

Go back to your family doctor for dysuria, and frequency of 2 days of evolution. The test strip inserted into a urine sample in the office shows the presence of leukocytes and nitrites. The doctor requests a urine culture.
Methodology

- Uroculture
- Biochemical tests are performed
- Microbial susceptibility with different antibiotics
- Blood chemistry
- Results report
Medio de cultivo

- **Medio:** Blood Agar, Chocolate Agar
- **Temperatura:** 35°C-37°C
- **Tiempo de incubación:** Desde 5 a 7 días.
- **Sensibilidad a:** ciprofloxacina, Ceftazidima, sulbactam, Piperacil

**Microorganismo fermentando glucosa**
Biochemical Tests

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<th>Proteus vulgaris</th>
<th>CIT</th>
<th>TSI</th>
<th>LIA</th>
<th>URE</th>
<th>RM</th>
<th>VP</th>
<th>MAL</th>
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The table shows the results of biochemical tests for *Proteus vulgaris*. The tests include CIT, TSI, LIA, URE, RM, VP, MAL, IND, MOT, GAS, and H₂S.
**Antibióticos**

**Clinical case**

Sensidiscos:
- Ipm: imipenem
- AM: Ampicillin

**Laboratory Testing**

Sensidiscos:
- AM: Ampicillin
- CIP: ciprofloxacin
- SXT: trimethoprim sulfamethoxazole
Conclusions:

• The objective of the antibiogram is to follow the evolution of bacterial resistance. Thanks to this epidemiological monitoring, at the scale of a service, a health center, a region or a country.

• QFB should know how to give a good interpretation of both the biochemical tests and the antibiogram to give an effective treatment to the patient.
Bibliography:

- CLSI 2015 M100-S25.