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Uterine infections are one of the main causes of infertility in mares and mainly in broodmares. The immediate consequence of these infections is endometritis, in which other factors intervene that will determine its development and duration. Among these we can highlight the defense mechanisms of the uterus, both physical, immunological and drainage. For its diagnosis, it is recommended to combine cytology with bacterial and fungal cultures (Overbeck et al., 2011). However, mares may also yield positive uterine cytologies with negative uterine cultures, and vice versa (LeBlanc, 2010).

The purpose of this study is to evaluate the prevalence of the main microorganisms isolated from uterine lavage of mares with reproductive problems, as well as the antimicrobial resistance of the different pathogens found.



## METHODS

This is a retrospective study of uterine lavage of mares with a history of sterility, sent by clinical veterinarians to the Infectious Pathology Department of the Clinical Veterinary Hospital of Cáceres during 2019.

A total of 66 samples were grown on selective and non-selective culture media and under different atmospheric conditions. The final identification was carried out by a commercial biochemical test (API; Biomerieux). Susceptibilities to different antibiotics were determined by Kirby-Bauer disk diffusion methods according to the Clinical Laboratory Standards Institute. The antimicrobials used were as follows: Ampicillin (AP) 10µg, Penicillin (PG) 1IU, Cefazolin (CZ) 30µg, Ceftiofur (XNL) 30µg, Cefquinome (CEQ) 10µg, Gentamicin (GM) 10µg, Amikacin (AK) 30µg, Enrofloxacin (ENR) 5µg, Ciprofloxacin (CIP) 5µg, Doxycycline (DXT) 30µg and Trimethoprim/Sulfamethoxazole (ST) 25µg. All of them are widely used in equine clinics.

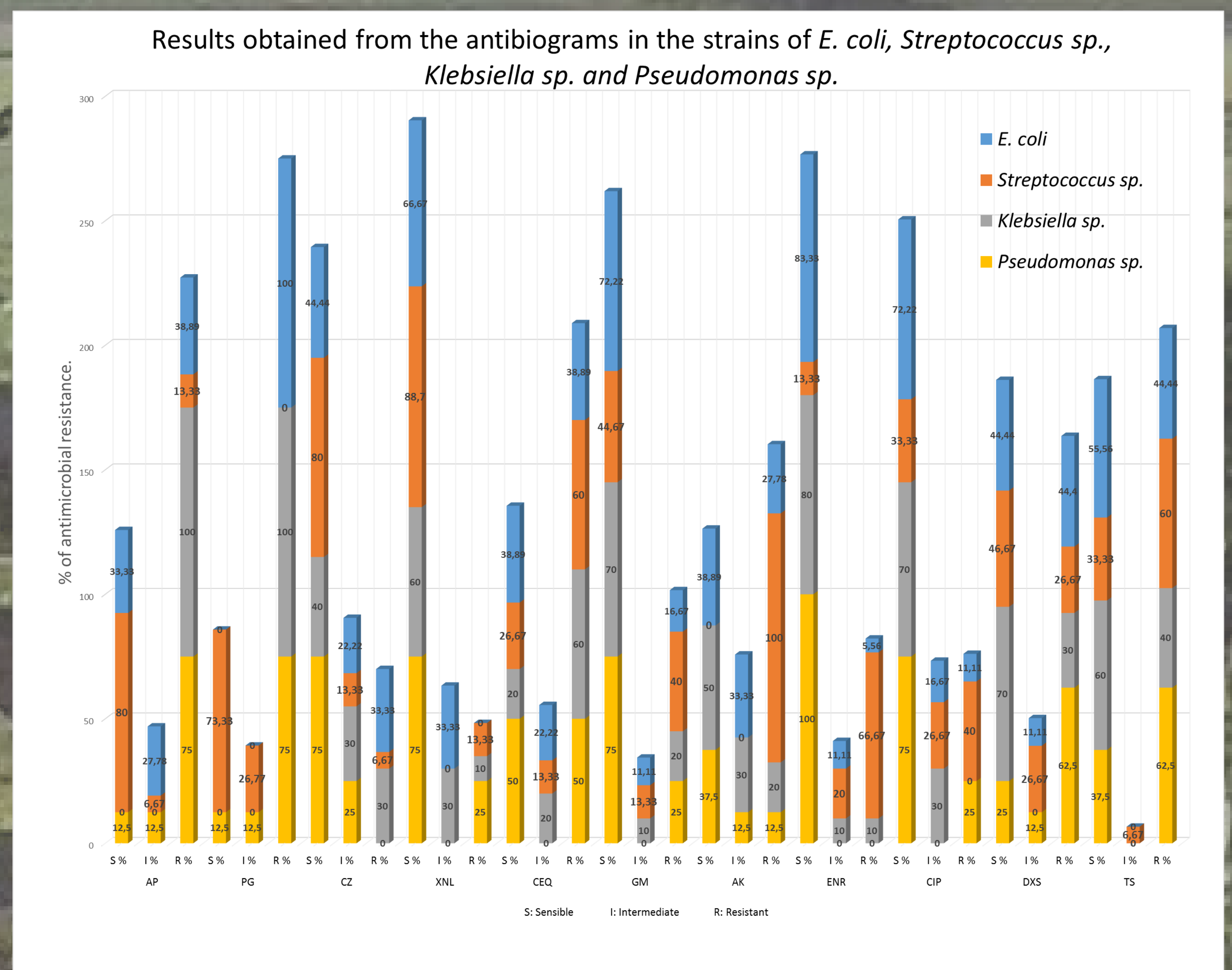
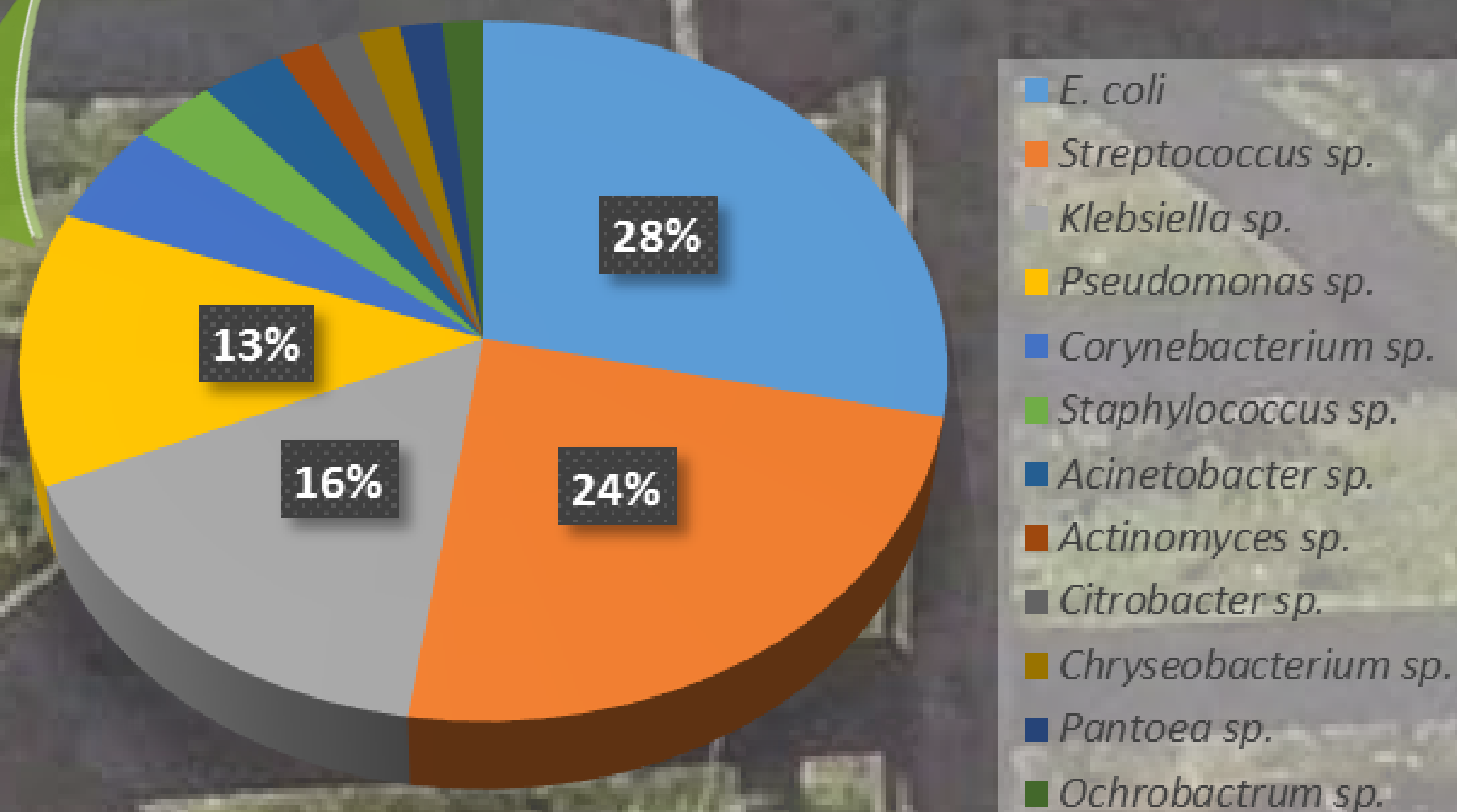
## RESULTS

The results indicated bacterial growth in 64% of the samples. Mixed growth (24%) was more frequent than pure growth.

Total results of cultures realized from 66 uterine lavages.



Isolated bacterial species.



## DISCUSSION AND CONCLUSION

- The main microorganisms isolated in uterine lavage in this study were *E. coli* (28%) and *Streptococcus sp.* (24%), coinciding with previous studies (Overbeck et al., 2011; Davis et al., 2013; Canisso et al., 2020).
- According to some authors such as Albiñ et al. (2003), the isolation of *Klebsiella sp.* and *Pseudomonas sp.* in uterine lavages it is rare, nevertheless, in our study they were among the main ones.
- Dascanio (2011) demonstrated that  $\beta$ -lactams and aminoglycosides are the antibiotics of choice in endometritis, however, we have observed high resistance to Ampicillin (*E. coli*, *Klebsiella sp.* and *Pseudomonas sp.*) whereas, on the other hand, great sensitivity to Enrofloxacin. *Streptococcus sp.*, in turn, it manifests sensitivity to  $\beta$ -lactams (Ceftiofur), although resistance to aminoglycosides (Amikacin).

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