# CHANGES IN VAGINAL MICROBIOTA FROM EWES PELIBUEY DURING SYNCHRONIZATION WITH PROGESTOGEN INTRAUTERINE SPONGE

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**Introduction.** Ewes are small ruminants with an important economical relevance. In order to increase their fertility several subcutaneous or vaginal progestogen are used, this procedure is known as estrus synchronization. Currently the most widely used method for the synchronization of estrus is the use of intravaginal sponges impregnated with progestogen[(1,2)], however the use of these devices causes erythema and vaginitis which can interfere with the fertility of the sheep. Moreover there is no information about changes in the vaginal flora of the sheep during this procedure. This study determined changes in vaginal flora of Pelibuey sheep in the tropical region of the Papaloapan when using an intravaginal sponge impregnated with fluorogestone acetate (FGA).

**Methods.** Were used three samples groups, the group without a device, the group with a device without FGA and the group with a device impregnated with FGA. Different vaginal samples were registered at different times: before inserting the device, in the removal of the device (14 days) and 56 hours after device remove (16 days).Samples were plated in growth medium: McConkey agar, SS agar and nutritive agar. After 48h at 37°C, were counted and isolated bacteria and were identified by biochemical (API test) and molecular techniques (16S DNA). Isolates were treated with antibiotics: Amikacin, ampicillin, cephalothin, ceftriaxone, chloramphenicol, dicloxacillin, enoxacin, erythromycin, gentamicin, netilmicin, penicillin and trimethoprim-sulfamethoxazole.

**Results.** It was observed that upon removal of the device (14 days), the colony forming units (CFU) increases by seven orders of magnitude in both cases (with or without FGA) compared to the control group. The CFU between groups with and without FGA showed no significant differences, indicating that the causative agent of vaginitis is the device and not the progestogen. Among the bacteria which are found in the control group include *Escherichia coli, Klebsiella spp*, however when the device was removed (14 days), were found enteropathogenic coliform bacterias and opportunistic as *Shigella, Enterobacter, Citrobacter, E. coli, Pseudomonas* and *Acinetobacter*. Moreover strains with separated clades were observed; and according to the phylogeny is possible that these strains may belong to a new family, also suggested that these isolates are natives of the Papaloapan region. Also, the identified strains were tested for sensitivity *in vitro* with twelve differents antibiotics, most of them showing sensitivity to the enoxacin, trimethoprim-sulfamethoxazole, ceftriaxone, chloramphenicol and ampicillin.

**Conclusions.** The use of vaginal sponges causes inflammation of the vaginal tract, thereby changing the microflora and increases the presence of coliform bacteria and opportunistic pathogens that cause vaginitis. The use of antibiotics at the moment of insertion of the device could be a measure of control of vaginitis.

**References.**

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