LACTOBACILLUS CRISPATUS AS THE ETIOLOGICAL AGENT IN CYTOLYTIC VAGINOSIS

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Introduction: *Lactobacillus* spp. dominate the vaginal niche but can also be involved in other vaginal dysbiosis, such as cytolytic vaginosis (CV), which remains poorly studied. It is characterized by a cryptic symptomatology, that often confounds the clinic.

Goals: The aim of this work was to search for the etiological agent of CV, by studying the vaginal microbiome and metabolomics of women afflicted with this disease and compare it with women with other clinical diagnostic.

Methods: Twenty-one vaginal washes have been collected from women attending a gynaecology consultation of a private clinic. The samples were categorized according with clinical diagnosis at the time of sampling (CV, 11; vulvovaginal candidosis, 8; Healthy, 2). The distribution of bacterial species, and their prevalence was assessed by next-generation sequencing of the 16S V4 region. In addition, total lactate D-lactic acid and L-lactic acid was quantified in all washes by a commercial kit, as well as lactate dehydrogenase (LDH) activity.

Results: *L. crispatus* was dominant (>70%) in all CV samples. Lactate was increased in CV in comparison with other cases. The presence of D-lactic acid isomer was associated with presence of *L. crispatus*. LDH activity was increased in vaginal washes that tested positive for the presence of *L. crispatus*, however no direct association was found with CV cases.

Discussion/Conclusions: The microbiome of women afflicted with CV was dominated in all cases by *L. crispatus*, contrarily with the results obtained for women diagnosed with other clinical symptomatology. In addition, the finding that an increase in D-lactic acid is associated with CV patients can be related to the role of *L. crispatus* in CV. The determination of LDH activity did not correlate exclusively with CV cases. On the other hand, D-lactic acid and total lactate quantification could be used as a valuable biomarker to diagnose this cryptic vaginal infection.