

Features of vaginal bacteria community in women with recurrent vulvovaginal candidiasis

Jian SHEN¹, Min-jun SU²

1. Department of Gynaecology and Obstetrics, Shanghai Ruijin Hospital Affiliated Shanghai Jiao Tong University School of Medicine, Shanghai 200025, China

2. Shanghai Songjiang District Maternal and Child Health Hospital, Shanghai 201620, China

Objective To investigate the features of vaginal bacteria community in women with recurrent vulvovaginal candidiasis (RVVC) and its etiological risk in vaginal health.

Methods Totally 237 reproductive-aged women with RVVC in an acute episode were studied. Whereas 230 healthy reproductive-aged women were enrolled as the control. The vaginal pH was evaluated, while vaginal secretions were sampled for Gram's staining and oil microscopy. By Nugent score system, the composition of vaginal communities was determined, and other micro-ecological features were approached. To describe other features of vaginal microbiota, the community's bacteria density, species diversity and predominant species were evaluated at 1 000 × magnification.

Results The vaginal pH (4.53 ± 0.30) and Nugent score (4.31 ± 0.73) in RVVC group were significantly increased compared with vaginal pH (4.11 ± 0.30) and Nugent score (1.32 ± 1.29) in control group ($P < 0.05$, respectively). The density of *Lactobacillus* in RVVC group was significantly lower than that in control group ($P < 0.05$), while the densities of *Gardnerella vaginalis*, Gram-positive cocci and other species were significantly higher respectively than those in control group ($P < 0.05$). Species diversity of women with RVVC significantly exceeded that of control group ($P < 0.05$). More than half of vaginal communities in RVVC group lost *Lactobacillus*-dominating and were predominated by other bacteria such as *Gardnerella vaginalis* and Gram-positive cocci. The prevalence of *Gardnerella vaginalis*-dominating and Gram-positive cocci-dominating communities in RVVC group (37.55% and 19.83%) were significantly higher than those in control group (1.30% and 1.73%) ($P < 0.05$).

Conclusion The significant changes in vaginal bacterial community were observed

in RVVC women. Such variations in community might relate to vaginal biological barrier compromising and increase the risk to the recurrence of VVC. It is still controversial whether probiotics can prevent recurrences of VVC, and more randomized, double-blind, placebo-controlled trials with a larger sample size should be carried out, so as to clarify its effects for the prophylaxis of RVVC.

Key words: recurrent vulvovaginal candidiasis (RVVC); vaginal bacteria community; *Lactobacillus*; *Gardnerella*

Vulvovaginal candidiasis (VVC) is one of the most widespread and common reproductive tract infective diseases affecting a significant proportion of women^[1]. Up to 75% of women would suffer from VVC at least once during their lives^[2]. Approximately 40% to 50% of these women experience a recurrence, and 5% to 8% of these women have recurrent VVC (RVVC)^[3], which is defined as at least four episodes of VVC in a 12-month period. The symptoms of women with RVVC are reported to have the great negative impact on work and social life^[4]. Even after commonly long-term suppressive antifungal therapy, recurrence rates can be reported still up to 40% to 50%^[5]. While many risk factors for RVVC have been identified, the fundamental pathogenesis of this condition remains an enigma^[6]. While it is commonly acknowledged that the normal vaginal microbiota plays an important role in maintaining the vaginal health^[7-10], the role of vaginal microbiota in VVC is controversial in the literature. In the present study, we used the Gram-stain criteria (Nugent scores)^[11] to evaluate the vaginal microecological features of reproductive-aged women with RVVC and its etiological role.

Materials & Methods

Subjects

This cross-sectional case-control study was conducted at Ruijin Hospital Affiliated to Shanghai Jiao Tong University from Jan. 2013 to Nov. 2015. Totally 237 reproductive-aged women in an acute episode of VVC with RVVC were enrolled in the study (RVVC group), and all patients met the following criteria: 1) the presence of vulvovaginal pruritus, vulvovaginal swelling and dysuria with a white, cheese-like yeast discharge; 2) detection of yeast cells and hyphal elements on a vaginal smear via the microscopy; 3) with at least four vaginal yeast infections during the past 1 year, at least one of which was diagnosed by a health care practitioner; 4) history of antifungal medication, yeast/hypha positive while enrolled^[11]. In addition, 230 healthy reproductive-aged women who did not meet these criteria were also

Download English Version:

<https://daneshyari.com/en/article/3964121>

Download Persian Version:

<https://daneshyari.com/article/3964121>

[Daneshyari.com](https://daneshyari.com)