



Pathogens isolated in prepubertal and pubertal girls with vulvovaginitis

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Background: Vulvovaginitis is one of the most common gynecological problems in prepubertal and pubertal girls. However, the clinical significance of the pathogens isolated from the vaginal cultures can be interpreted only after taking into consideration clinical information and possible risk factors, if any. This study aimed to evaluate the vaginal pathogens isolated in a group of prepubertal (PP) and pubertal (P) girls with vulvovaginitis.

Materials/methods: A total of 873 girls aged 5 to 17 years, presenting at the outpatient clinic for pediatric and adolescent gynecology of our hospital with signs and symptoms of vulvovaginitis were included. Cases were divided into 2 groups: 392 PP (age 5-11 years) and 481 P (age 12-17 years). Vaginal samples were collected using a sterile newborn suction catheter carefully inserted into the vagina. Samples were inoculated onto blood agar, MacConkey, Mannitol Salt, Sabouraud Dextrose agar, Gardnerella agar and Wilkins-Chalgren agar as well as chocolate agar followed by incubation in aerobic, anaerobic or CO₂ atmosphere at 37° C for 24 or 48 hours, as appropriate. Wet mount and Gram stain preparations were examined to assess the presence of leukocytes and the type of bacteria present. The identification of isolated strains and their susceptibility test to antibiotics were carried out with the automated system VITEK 2 (BioMerieux, Marcy l'Etoile, France).

Results: Bacterial pathogens were isolated from 201/392 (51.3%) of PP girls and 376/481 (78.2%) of P girls. Interestingly, leukocytes were observed only in samples where pathogens were retrieved. Isolated bacteria in the PP and P groups included 39/392 (10.0%) and 280/481 (58.2%) Gardnerella vaginalis and anaerobes, 84/392 (21.4%) and 31/481 (6.5%) Gram-positive cocci, 78/392 (19.9%) and 40/481 (8.3%) Gram-negative rods, respectively. Candida species were isolated in 25/481 (5.2%) only in the P group. Finally, in 191/392 (48.7%) in PP group and 105/481 (21.8%) in P group no pathogen was isolated.

Pathogens	PP	P
Total	201/392 (51.3%)	376/481 (78.2%)
Gv+anaerobes	39/392 (10.0%)	280/481 (58.2%)
Gram (+) cocci	84/392 (21.4%)	31/481 (6.5%)
Gram (-) rods	78/392 (19.9%)	40/481 (8.3%)
Candida	0/392 (0%)	25/481 (5.2%)
No pathogens	191/392 (48.7%)	105/481 (21.8%)

Conclusion: The presence of leukocytes in vaginal samples increases the likelihood of finding pathogens which require specific treatment. In the PP girls predominantly Gram-positive cocci and Gram-negative rods were isolated while in the P girls, Gardnerella vaginalis and anaerobes. Candida species were found only in the P group.

