

Genital tract candidiasis in patients with Helicobacter Pylori (HP) acid-related disease after providing eradication therapy.

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ABSTRACT

Women who diagnosed with Helicobacter pylori –acid related diseases and assigned into two lines of eradication therapy were tested positive for vaginal candidiasis in comparison to healthy women who didn't go through eradication therapy against HP.

Thus, the second line of eradication therapy of HP had an influence on the normal microflora by decreasing the immune system of genital female tract. Medical professionals should pay attention of the importance in maintaining the immune system of female patients during eradication therapy of HP acid related diseases as well as following the hygiene methods.

Keywords : Helicobacter pylori (HP), eradication therapy, genital female tract, vaginal candidiasis

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I. INTRODUCTION

Studies show that Candida colonization may lead to vulvovaginitis after antibiotics treatment in women. However, the pathogenesis on how antibiotics may lead to vulvovaginitis is not understood clearly and larger studies should be conducted in this field. [1][2]

The implication of Helicobacter pylori (HP) in progression of stomach and duodenum diseases is proved and generally accepted by numerous research studies [3],[4],[5]. There is two-line eradication anti-helicobacter therapy applied in order to treat HP-associated acid-related disease. The standard provided treatment is constantly regulated by The Maastricht Treaty. In the event of a failure to eradicate HP after providing the first course, the second course of anti-helicobacter therapy is administered. It includes Bismuth medications together with PPI, amoxicillin and tetracycline. The administration lasts 10-14 days. [6]

Clinical practice demonstrates that after providing anti-helicobacter therapy by the standard scheme, the result is not only HP eradication, but oftentimes the provocation of candidiasis in the gastrointestinal tract (GIT) associated with rising gastric acid pH after taking PPI [7]. With the contraction of candidiasis in the gastrointestinal tract (GIT) we can expect the possibility of provocation of candidiasis in the female genital tract. It is reasonable to expect the risk of appearance of candida in the female genital tract after providing the second course of anti-helicobacter therapy.

Such a hypothesis seems to be reasonable, as in our clinical practice (the practice of gynecology and gastroenterology) we had to deal with vaginal candidiasis which had appeared after the second course of antibiotics for HP eradication. For this reason, for patients with *Helicobacter pylori* (HP) acid-related disease who underwent treatment in the Saint-Petersburg State public health Institution "City Clinical Hospital" №.20 in Saint Petersburg, we organized visits to the gynecologist, where standard cytological smears were obtained for candida tests.

In the present report, the research results included the incidence of vaginal candidiasis in patients with *Helicobacter pylori* (HP) acid-related disease after the second line of anti-helicobacter therapy.

II. MATERIALS AND METHODS

The subjects of research were 152 women aged between 32 and 60 with *Helicobacter pylori* (HP) acid-related disease, who underwent the standard course of eradication therapy over the course of ten days. The standard course of eradication therapy includes taking PPI (pariet) and antibiotics (clarithromycin and amoxicillin) during 10 days.

The second treatment course was assigned to 31 patients, where 28 of them suffered chronic gastritis (C.29.6 in ICD-10) and the other 3 patients had peptic ulcer disease (C.27 in ICD-10) and didn't assign to HP eradication after providing the first course of anti-helicobacter therapy. The second treatment course was administered according to the schedule: rabeprazole (40 mg per day), amoxicillin (1000 mg per day), tetracycline (300 mg per day), bismuthate tripotassium dicitrate (240 mg per day) lasting 14 days.

After completion of the first line of treatment, each woman had a volitional gynecological examination. All patients were interviewed and none of them complained about genital discomfort at the time of the interview.

The patients visited the gynecologist between seven to fourteen days after providing the second course of anti-helicobacter therapy in order to have a brush biopsy via a cytological smear.

The referral group consisted of 120 apparently healthy women aged between 27 and 52 who had the preventive examinations at the gynecologist's.

The clinical series didn't include patients with diabetes and women who were prescribed intravaginal hygienical and medical procedures with the use of antiseptic agents.

The cytological smears were stained with hematoxylin-eosin and azure-2-eosin.

The microscopic examinations were held under a microscope with 400 and 1000 times magnifications.

We followed the methodological recommendations to detect *Candida albicans* [8].

III. RESULTS AND DISCUSSION

The results were found after seven to fourteen days from providing the second course of anti-helicobacter therapy and found out seven of the 31 women complaining of pruritus, and some complained about heat and pain in the genital region. Upon gynecological examination of the vaginal tyroid fluor, vaginal mucous membrane hyperemia and puffiness in the vaginal mucous coating were detected. Elements of *Candida* fungus, both in the form of budding yeast and in the form of pseudomycelium were found in the smears from the surface of the cervix uteri and lateralis vaginal vault of all the patients. In some cases, as many as 20-30 elements of *Candida* fungus were detected in the visual field (400x-magnification).

The clinical implication of the result is the diagnosis of vaginal candidiasis (C.37.3 in ICD-10) in more than one fifth of the patients with *Helicobacter pylori* (HP) acid-related disease after the antibiotic therapy.

As for clinical classification it is most likely that the detected cases of *Candida* vulvovaginitis date back to acute *Candida* vulvovaginitis [9].

None of the apparently healthy women who were presented in the referral group and had the preventative examinations at the gynecologist's tested positive for *Candida*, and none had neither objective nor subjective signs of *Candida* vulvovaginitis.

Thus, the results of our research point to the fact that providing the second course of anti-helicobacter therapy in patients with *Helicobacter pylori* (HP) acid-related disease triggers *Candida* vulvovaginitis in 22 percent of patients.

It is most likely that *Candida* vulvovaginitis comes after anti-helicobacter therapy because PPI changes gastric acid pH and this triggers dysbacteriosis including candidiasis, as it facilitates the growth of *Candida*. It is possible that *Candida* enters in the mucous coating of the genital tract from the GIT as a result of the effect of the antibiotics. In other words, the medications of the anti-helicobacter therapy from one hand make a possibility for *Candida*'s growth in GIT (PPI), and from the other hand have an effect on tissue immunity of mucous coat of genital tract by changing its normal microflora with the antibiotics (klacid, amoxicilan).

IV. CONCLUSION

Providing the second course of anti-helicobacter therapy in the patients with *Helicobacter pylori* (HP) acid-related disease heightens the risk of the emergence of *Candida* vulvovaginitis (for 22% of cases).

It is appears that the standards of providing the HP eradication should consider the sex of the patients and include preventive services in order to reduce the risk of

the emergence of *Candida vulvovaginitis*. Healthcare providers should be aware about possibility of high risk increase of vulvovaginitis candidiasis in the female genital tract after second line eradication of HP therapy in female genital tract.

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