

PRESENCE OF HELICOBACTER PYLORI IN PATIENTS WITH ORAL MALODOR

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ABSTRACT

Oral halitosis is an unpleasant multifactor oral pathology of health and social implications. Ninety per cent of the patients suffering from halitosis have oral abnormalities. The remaining 10 percent of halitosis sufferers have systemic disorders. The exact mechanism of halitosis occurrence is not clear, and in many patients the etiology is an enigma.

In 40% in a group of 40 halitosis patients we found various microbes in the oral cavity, mostly candida, and in 35% we found IgG antibodies to Helicobacter pylori. In the - 56 control patients with gastric symptoms the rate of H. Pylori infection was 27%. We suggest oral microbiological examination to be performed simultaneously with a H. pylori test - if the dentist does not establish an oral cause for halitosis.

Key words: oral malodor; halitosis; helicobacter pylori;

INTRODUCTION

Oral malodor, also called halitosis, or bad breath, is a universal experience, provided that there are different etiologic factors. It is extremely common and the majority of adult populations have had it at some point in time. Halitosis may be physiological or pathological [6].

In approximately 80-90% of all cases, halitosis is related to oral abnormalities. Oral malodor results from tongue coating, periodontal disease, peri-implant disease, deep carious lesions, exposed necrotic tooth pulps, pericoronitis, mucosal ulcerations, healing (mucosal) wounds, impacted food or debris, imperfect dental restorations, unclean dentures, and factors causing decreased salivary flow rate.

The basic process is microbial degradation of organic substrates [9].

Oral candidiasis is the most common human fungal infection. In addition to macroscopic abnormalities, oral

thrush can cause burning sensation in the mouth, soreness and/or unpleasant taste in the mouth and bad breath.

In the remaining 10 to 20% of the cases, bad breath is caused by systemic disorders such as liver, pancreatic and renal failure, trimethylaminuria, upper and lower respiratory tract infection, medication and gastric stasis [2].

Literature indicates that many of the patients positive to H. pylori (HP) suffer from oral malodor, and on the other hand - halitosis disappears along with the eradication of infection [1, 4, 7, 8].

Numerous reports indicate that the occurrence of HP in the oral cavity ranges from 38% to 100% of the observed individuals. Supra- and subgingival dental plaque may be a permanent reservoir of HP. It is possible that HP may co-aggregate with specific microbial pathogens known to cause periodontal diseases [3].

E. Tiomny and coworkers treated - three cases of combined halitosis and HP infection with colloidal bismuth and metronidazole. The improvement in symptoms was impressive, the halitosis disappeared along with the eradication of microorganisms [8].

Another study investigates the frequency of halitosis before and after therapy for eradication of H. pylori. Prior to treatment, bloating was the most frequent symptom (74%), followed by diurnal pain (62%) and halitosis (62%), and the most successfully treated symptom were halitosis [7].

AIM

The aim of this study is to investigate the relationship between bad breath, oral microbes and Helicobacter pylori.

MATERIALS AND METHODS

- 40 consecutive patients with oral halitosis (12 men, 26 women; 16-79 years old)
- 56 consecutive patients with gastric symptoms (30

men and 26 women; 21-74 years old)

- microbiology of the saliva and throat swabs in patients with oral halitosis
- anti IgG *H. pylori* in serum (ELISA test with reference range 0,0-1.1 U/mL) in the two groups

RESULTS

A. Halitosis group.

We found - 14 - HP positive - patients (35%) and 16 microbe-positive (40%), mostly candida positive patients. The presence of *H. pylori* in microbe-positive patients was 43,75% and in the microbiologically negative subgroup it was 29.1% (fig.1)

The median age of HP infected cases was 50,5 (23-71) years, and the healthy 58 (16-79) years. HP Ig median was 1.55 U/ml in the infected patients.

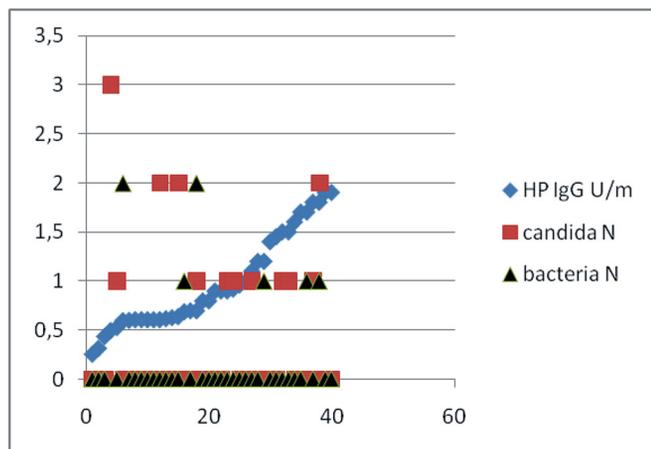


Fig. 1. Anti Helicobacter Pylori IgG G and microbes in Bulgarian patients with oral malodor

In the saliva and throat swabs- detected were *C. albicans*, *C. tropicalis*, *C. krusei*, *E. coli*, *E. faecalis*, *K. oxytoca*, *St. aureus*, *Enterococcus durans* and *Proteus mirabilis*.

B. Gastric symptoms group.

For comparison, we present the serum levels of anti-HP IgG observed in 56 outpatients with gastric complaints, examined in the same period of time. 15 patients had positive HP IgG values, which accounts for 26,8%. (fig. 2). The median age of those infected was 52 (30-71) years, and the healthy 44 (21-74) years. HP Ig median was 1.5 U/ml in the infected patients. (fig. 3)

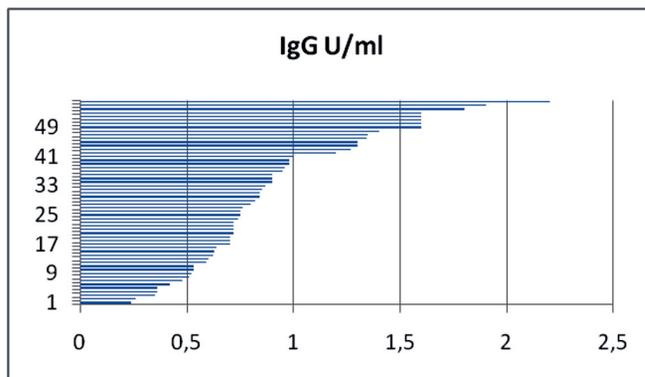


Fig. 2. Anti Helicobacter Pylori IgG G in Bulgarian patients with gastric symptoms

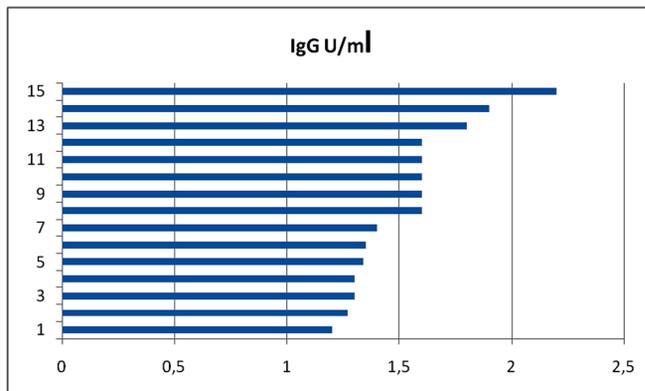


Fig. 3. Positive anti Helicobacter Pylori IgG G in Bulgarian patients with gastric symptoms

DISCUSSION

In 2005, I. Adler and coworkers found HP infection in 87% of the patients with burning, halitosis, and lingual hyperplasia. The detection of *H. pylori* in the oral cavity was done histopathologically and via molecular biology methods [1].

In our study, 35% of the patients with malodor had elevated serum IgG level to HP, compared to only 27% in the control group. HP antibodies were often observed in patients with oral infection, especially oral candidiasis (40%). The HP - positive patients in the halitosis group were a little younger, of median age 50,5 - years, which is similar to the age of the gastric-symptoms group (52 years). The non infected in the halitosis group was 58 years, versus 44 years in gastric complaints group.

These phenomena need further investigation and special adapted anti HP therapy in the presence of candida species. Possible relationship halitosis – helicobacter cannot be excluded – younger patients and simultaneous- oral infection. On the other hand, the reduction of halitosis during anti HP therapy can be associated with the antibiotic therapy, and not with the eradication of the strain. The an-

tibiotics included in treatment schedules can cause oral candidiasis, so it is important candidiasis to be treated first.

CONCLUSION

- Our results suggest a possible malodor/H. pylori relationship in 1/3 of the patients.

- We suggest the conducting of oral microbiological examination simultaneously with a H. pylori test- if the dentist does not establish an oral cause for the halitosis.

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