INTRODUCTION

The first mention of mouthwashes in therapeutic purposes dates back 2 700 years ago BC, recorded by Chinese medicine as rinsing with urine.

The same treatments by rinsing were later practiced in ancient Greece and in addition, there are also used mixtures of oil, aniseed, mint and white wine to combat halitosis.

In the Middle Ages, in the sixteenth century, there are mentioned mouthwashes after brushing, recommended to save the dental illness as a heated mixture made of vinegar, and wine myrrh.(1,2,3)

An important step in the evolution of the rinse treatment was marked by the introduction of chlorhexidine in the composition of mouthwash by Professor Löe in Denmark (1960).

There followed a great impetus for achieving the reduction of oral diseases by tooth brushing and the introduction of antimicrobial agents. The first mouthwash sold since 1914. It has in its prospectus, the clay in the composition contains more than 20 trace elements (iron, calcium, magnesium, potassium, copper, zinc, cobalt, fluor etc.)

One of adverse effect is the disturbance of oral bacteria ecology that convert nitrate to nitrite.

The reduced plasma level of nitrites is associated with physiological growth of blood pressure with 2 or 3 units.(6,7)

Other studies refer to the increased alcohol content of the mouthwashes, allowing the carcinogenic substances such as nicotine to penetrate more easily into the oral tissues increasing the risk of oral cancer.(8)

Currently, there are available a wide variety of mouthwashes that can be generally classified as: mouthwashes containing fluoride, mouthwashes containing natural plant extracts and mouthwashes that contain Chlorhexidine or Listerine antiseptic type.

PURPOSE

Through our study we aimed at testing the in vitro effect of 5 antiseptic mouthwashes, to the most common problems caused by Streptococcus mutans, Lactobacillus and Candida albicans.

MATERIALS AND METHODS

Mouthwashes in the study were selected according to their contents in active substances as follows:

- Aslamed (Farmluc Napoca) - contains chamomile extract, chlorhexidine and a special argil. According to the prospectus, the clay in the composition contains more than 20 trace elements (iron, calcium, magnesium, potassium, copper, zinc, cobalt, fluor etc.)
- Pell Amar (Pell Amar Cosmetics LLC) - contains mud extracts from Balta Albă (Buzău) lake. In the composition of this mouthwash, there is also an organometallic and enzymatic complex with biotrophic, regenerative, anti-inflammatory and analgesic properties, with Chamomila recutita and Echinacea palida extract.
- Colgate Plax Sensitive without alcohol (Colgate Palmolive) - contains cetyl pyridinium chloride and sodium fluoride as active substances. According to the prospectus, it is indicated for a fresh breath and for a strong tooth enamel.
- Extra Parodontax chlorhexidine 0.2%, alcohol free (Glaxo Smith Kline) - contains 0.2% chlorhexidine digluconate which adheres to tooth surfaces and soft tissue so the effect is maintained for 12 hours and also it may depart from 3.5 times more plaque than by simply brushing, according to the prospectus.
- Listerine Cool Mint (Johnson & Johnson) - is considered the first mouthwash sold since 1914. It has in its composition as active ingredient Listerine (hydro-alcoholic products based on essential oils extracted from...
CLINICAL ASPECTS

Assessment of crop development in mouth rinses suspension study was conducted according to the following protocol:
- For lack of colonies in 100%
+ For this rare colony in 75%
++ For many colonies mostly confluent line sowing in 50%
+++ For very abundant culture developed

Centralization of results is represented in table no. 1.

Table no. 1. Representation of mouthwash antimicrobial capacity

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>1 minute</th>
<th>3 minutes</th>
<th>5 minutes</th>
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<tbody>
<tr>
<td></td>
<td>SM.</td>
<td>L</td>
<td>CA</td>
</tr>
<tr>
<td>1. ASLAMED with chamomile special argil and chlorhexidine</td>
<td>+++</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td>2. PELL AMAR</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>3. Colgate Plax sensitive</td>
<td>+++</td>
<td>++</td>
<td>+++</td>
</tr>
<tr>
<td>4. PARODONTAX extra 0.2%</td>
<td>++</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>5. LISTERINE Colgate Anti-bacterial Mouthwash</td>
<td>+++</td>
<td>++</td>
<td>+++</td>
</tr>
<tr>
<td>MARTORIUS</td>
<td>+++</td>
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</tbody>
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RESULTS

To test the antimicrobial capacity in time, we proceeded to sowing after 1, 3 and 5 minutes, on specific solid culture media. As a control we used the physiological saline solution.

To highlight the cultures according to the time of contact with mouthwash, culture media were separated into 3 sections, using sterile microbiological loop flame. Candida albicans cultural issues developed after 48 h incubation at 37 °C is shown in figure no. 2.

Figure no. 2. Development cultures after different contact time with mouthwash

DISCUSSIONS

The results of in vitro tests indicate very different values for studied mouthwashes.

The antibacterial effect of lactobacilli was obtained from the first minute of contact with Parodontax, Aslamed, Colgate Plax Sensitive and Listerine mouthwash.

The antibacterial effects on streptococcus and rinses Candida albicans vary depending on the type of contact.

The best results after 1 minute of contact were obtained for Aslamed and Parodontax mouthwash.

Results slightly delayed for the effect on Streptococcus mutans Colgate Plax occur in sensitive waters and Listerine.

The strong effect of rinses containing chlorhexidine is confirmed by numerous studies.(9,10,11,12,13)

Not to negate, the effects of biotrophic regenerative, anti-inflammatory and analgesic effects in our study we obtained the lowest regardless of the time of action for Pell Amar mouthwash.

This leads us to think to indicate Pell Amar mouthwash without contraindications for patients presenting oral halitosis associated with blood hypertension.(7,14)

Not to minimize or increase, the effect of antiseptic rinses in vitro, in vivo study on their association with individual tooth brushing and the use of dental floss certainly helps removing the plaque with beneficial effects on oral health.

CONCLUSIONS

Bactericidal activity of mouthwashes varies depending on their chemical composition.

Rinsing with mouthwash should not be indicated for all patients, but only those who have chronic troubles in the plaque control, causing caries, gingivitis and bad breath mouth.

Recommendation of mouthwashes as individual methods helper of oral hygiene should be done by the dentist depending on individual diseases.
REFERENCES

1. Fisman SL. The history of oral hygiene product show have we come in 6 000 years, Periodontology, ISSN 0906-6713. 2003;15:7-14.