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دراسة مسحية– طفيلية مايكروبية لفم الناس المراجعين لإحدى عيادات الأسنان في مدينة البصرة

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الـخلاصة :

أخذت ١٠٠ عينة عشوائية من مسحات الفم لمجموعة من الناس المراجعين لإحدى عيادات الأسنان في مدينة البصرة وذلك للفترة من كانون الأول ٢٠٠٩ ولغاية آذار ٢٠١٠.

فحصت المسحات المأخوذة وسجل وجود أوالي الفم Entamoeba gingivalis وبنسبة إصابة كلية ٣٧%.كما سجلت البكتيريا Lactobacillus sp., Staphylococcus aurus, Streptococcus sp. وبنسب اصابة كلية ٦٤، ٦٥، ٤٢% على التوالي.

سجل وجود اصابة طفيلية فقط وبنسبة اصابة كلية ١٢.١٩% وأخرى اصابة بكتيرية فقط ٤٦% وثالثة اصابة مضاعفة (طفيلية- بكتيرية) ٣٢%.

لوحظ وجود فروق معنوية حول محتوى الفم من الاوالي والبكتيريا وعدد من العوامل كالجنس، التدخين، تناول الشاي والقهوة، وجود أسنان مقلوعة في فم المفحوصين. الا انه لم تسجل أي فروق معنوية بين محتوى الفم من الاوالي والبكتيريا وإصابة الناس بأمراض مزمنة كالضغط، السكري، السرطان والتهاب النخاع. البحث كان مرفقا معه استبيان اعد خصيصا لهذا الغرض.

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A PARASITIC- BACTERIC SURVEY STUDY OF PEOPLE'S MOUTH FROM ONE DENTIST CLINICAL AT BASRAH CITY

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SUMMARY:

A total of 100 random samples from mouth for peoples which visited dentist clinical at Basrah city from the period between January 2009 till March 2010 were examined.

The swaps were examined for investigation about mouth protozoa and bacteria. The results showed that swaps were have *Entamoeba gingivalis* as oral protozoa with percentage infection 37% , while, others with Lactobacillus sp., *Staphylococcus aurus*, *Streptococcus sp.* With percentage infection 64, 65, 42% respectively.

A single infection with oral protozoa and oral bacteria were recorded 12.19, 46% respectively, while, a double infection (parasites and bacteria) with 32%.

A significant differences were founded between mouth contain of parasites and bacteria and some factors like sexes, having cigarettes, drinking tea and

coffee, removal teeth from mouth. While, there isn't any significant differences between the samples infected with protozoa or bacteria and common diseases like pressures, diabetes, cancer and myelin inflammation.

INTRODUCTION:

The earth contains enormous microbial diversity, microbes colonize a wide variety of environmental niches, creating complex ecosystems and communities (Marcy, 2007). Microorganisms are widely spread over the earth and throughout it's atmosphere, it's include bacteria, viruses and protozoa parasites, they are microscopic and therefore invisible to the nacked eye. So, the microorganisms that have the most significance to human health are those that cause disease which are called pathogens, examples of common pathogens include bacteria such as *Salmonella shigella, Staphylococcus, Streptococcus* and protozoa such as *Giardia* and *Cryptosporidium* and viruses such as hepatitis A (MC/DAVIS/DaveLeland stuff/ COLIFACT. Doc, 2010).

The healthy human mouth is home to a tremendous variety of microbes including viruses, fungi, protozoa and bacteria are the most numerous there are 100 million in every milliliter of saliva and more than 600 different species in the mouth and around half of these have yet to be named and trying to describe and name the new species (Phys Org.com, 2009).

Healthy tissue and mouth tumors were studied and scientists found three strains of bacteria called *Prevotella histicola* where histicola means (inhabitant of tissue) (Inventor spot, 2010). The Prevotella a bacteria species have been linked to various oral disease, as well as infections in other parts of the body (Tehran times, 2010).

Entamoeba gingivalis is a parasitic protozoa of the oral cavity, most often found in gingivalis tissues around the teeth associated with poor oral hygiene

(Bojian *et. al.,* 2008). Buccal cavity as a compound ecosystem has always been ignored in parasitic infection studies, the researches done on mouth and teeth parasites are very limited and have been conducted only in a few countries (Gharavi *et. al.,* 2006).

This study revealed the existence of mouth parasites *E. gingivalis* and some bacteria at mouth of people who treated in clinical dentist at Basrah city and the relationship with some factors that pointed in a special questioner for this purpose.

MATERIALS AND METHODS:

A total of 100 swaps from human mouth were examined for detected on mouth parasite *E. gingivalis* and bacteria.

- Mouth parasite:

The swaps from mouth with normal saline were concentrated by centrifuge at 1500 rpm for 10-15 min., the sediments were examined under microscope (high power), the trophozoit were examined, identified and photos.

- Mouth bacteria:

After removing the cover of swap moistened by normal saline and inserted in the mouth cavity with rotation to be conducted with internal surface, then transferred to the laboratory for diagnosis. The samples were directly inoculated in nutrient broth and then incubated at $37c^0$ for 24 hour. Then it was cultured onto plates of mannitol salt agar, maconky agar, ascolin agar and blood agar then incubated at $37c^0$ for 24 hour (Tulan *et. al.,* 1989).

Lactobacillus sp. Were isolated from each samples on MRS agar (Bloskma *et. al.,* 1981), then, the isolates were characterized by using colonial morphology and biochemical tests according to (Saxelin *et. al.,* 1995).

Staphylococcus aurus were isolated and identifecated from the positive samples according to (Talan *et. al.,* 1989; Sproer & Talini, 1975; APHA, 1985). While, *Streptococcus sp.* Were recognized and identified according to (Geo *et. al.,* 2004).

- Questioner:

Name: Sex:

Age:

Having cigarettes per day:

Drinking Tea: N. per day

Drinking coffee: N. per day

Bad breathes: N. removing teeth:

Other disease:

RESULTS:

The results showed the number of examined, infected and type of infection for both male and female were shown in (table 1). While, a total percentage infection of all samples under study was 44.04, 79.76, 71.42, 50% for *E.*

gingivalis, Lactobacillus, Streptococcus, Staphylococcus infection which isolated from mouth, (table, 2). The spss program showed that there is a significant differences between the type of infection and *Lactobacillus sp.* Showed a high one (79.76%).

Table: (1) The total number of examined and infected people divided by sex with each type of infection.

N. Exam.		N. Infe.		*E. gingivalis*		*Lactobacillus*		*Streptococcus*		*Staphylococcus*		Non Infe.	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
56	44	46	38	16	21	34	33	30	30	23	19	10	6

Table (2): The percentage infection of each type of infection.

N. Exam.	**N. Infe.**	***E. gingivalis***	***Lactobacillus***	***Streptococcus***	***Staphylococcus***
100	84	37	67	60	42
Perc. Infec. %	84	44.04	79.76	71.42	50

In table (3) the percentage infection for each type of infection single or double infection, it can be clear that a high percentage infection were founded by the group of people which infected with bacteria only for both male and female (67.39, 39.47%) respectively, furthermore, a statistical analyses show a significant under the probability $p \leq 0.05$.

Table (3): The percentage infection of double infection (parasites & bacteria), parasites only, bacteria only for samples under the study.

N. Exam.		**N. Infe.**		**Double infection (parasites & bacteria)**		**Parasites only**		**Bacteria only**	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
56	44	46	38	13	19	3	2	31	15
Per. Infe. %		82.14	86.36	28.26	50	6.52	5.26	67.39	39.47

People how cigarettes drinking showed a clear differences that cause a high significant differences for this factor with mouth cotenant of parasite and bacteria and the highest in male with *Streptococcus* infection (66.6%) (table, 4).

Table (4): The number of examined, infected and percentage infection of peoples which cigarettes drinking .

N. Exam.		**N. Infe.**		***E. gingivalis***		***Lactobacillus***		***Streptococcus***		***Staphylococcus***	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
56	44	24	--	6	--	15	--	16	--	10	--
Per. Inf.%		42.85	--	25	--	62.5	--	66.6	--	41.66	--

In table (5, 6) a clear significant differences between sex , type of infection and the factor (drinking tea and coffee) which mean that this factors increase the mouth content of parasite and bacteria under the probability $p \leq 0.05$ in female 68.57% with *Lactobacillus* and *Streptococcus* (table 5), and male 76.92% with *Lactobacillus* infection (table, 6).

Table (5): The number of infected people and the type of infection with people drinking tea

N. Exam.		**N. Infe.**		***E. gingivalis***		***Lactobacillus***		***Streptococcus***		***Staphylococcus***	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
56	44	44	35	13	17	29	24	22	24	28	16
Per. Inf.%		78.57	79.54	29.54	48.57	65.90	68.57	50	68.57	63.63	45.71

Table (6): The number of infected people and the type of infection with people drinking coffee.

N. Exam.		**N. Infe.**		***E. gingivalis***		***Lactobacillus***		***Streptococcus***		***Staphylococcus***	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
56	44	13	5	3	2	10	4	9	3	6	3
Per. Inf.%		23.21	11.36	23.07	40	76.92	80	69.23	60	46.15	60

Table (7) showed that there is an increase in the percentage infection with a high significant differences and the number of cutting teeth under this study under the probability $p \leq 0.05$ which found in male 72.72% with *Lactobacillus* and *Staphylococcus*.

Table (7): The number of examined, infected and type of infection with percentage infection in people cutting teeth.

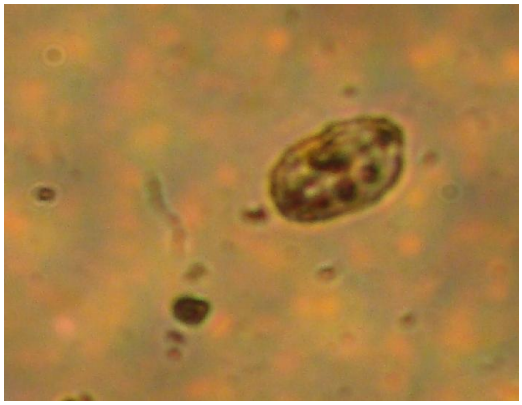
N. Exam.		**N. Infe.**		***E. gingivalis***		***Lactobacillus***		***Streptococcus***		***Staphylococcus***	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
56	44	33	29	11	15	24	18	23	20	24	11
Per. Inf.%		58.92	65.90	33.33	51.72	72.72	62.06	69.69	68.96	72.72	37.93

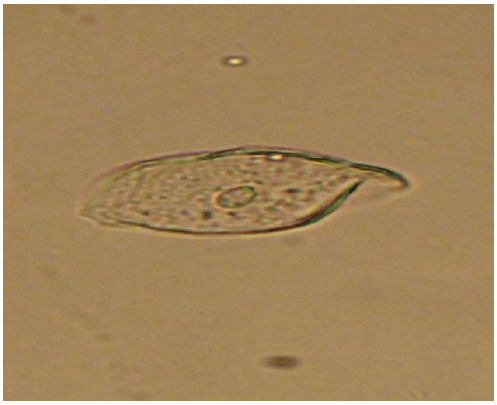
There are no significant differences $p \geq 0.05$ between the sex, number of infected people with bacteria or parasite and a diseases like pressures, diabetes, Brest cancer and myline inflammation as shown in (table, 8).

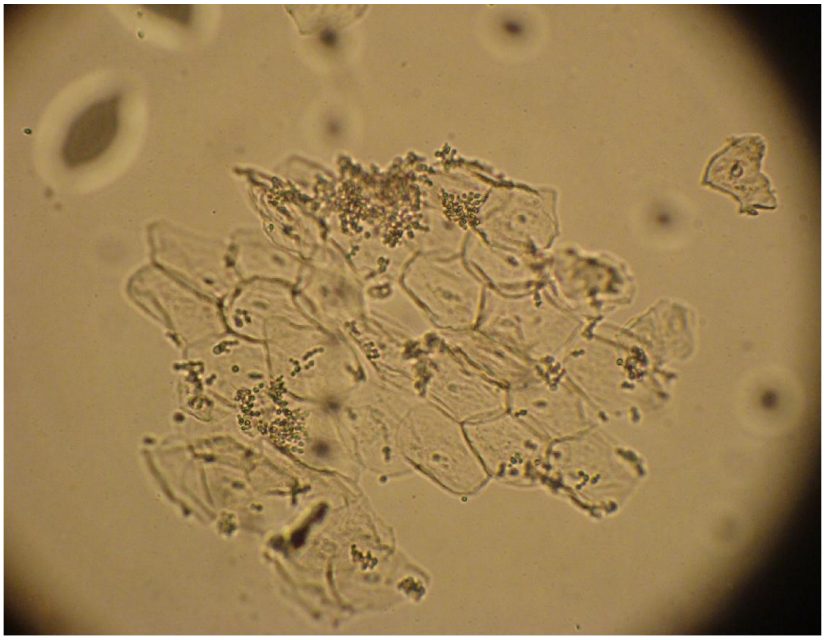
Table (8): people with other diseases infected with both parasites & bacteria as double infection.

N. Exam.		**N. Infe.**		**Pressures**		**diabetes**		**Brest cancer**		**Myline inflammation**	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
56	44	6	6	6	6	2	1	--	1	--	1
Per. Inf.%		10.7	13.63	100	100	33.33	16.66	--	16.66	--	16.66

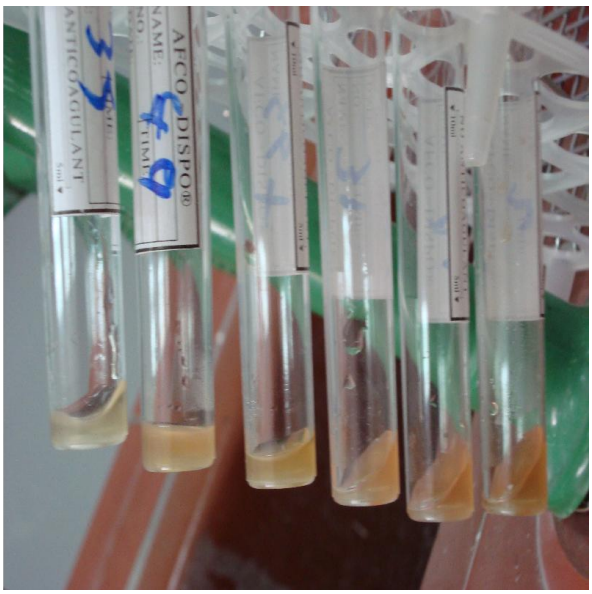
All people how have a bad breath the swaps shown that have both bacteria and parasites and have abscess cyst in gingivalis and internal mouth tissues.







Picture (2); Epithelial cells with E. gingivalis infection from mouth swap



Picture (3, 4): Coaogulase test for identification of *Staphylococcus aurus*

Picture (5): *Streptococcus sp.* on blood agar

Picture (6): *Staphylococcus sp*. on mannitol salte agar

DISCUSION:

Under this study there are a high percentage infection in mouth swaps with E. gingivalis trophozoit, this can be explain that related to factors involved in mouth hygiene among which can mention especial habit (like smoking), periodontal tissue condition, gum bleeding degree, decayed and loose teeth, the number of calculus formed in mouth, gum inflammation degree, gum color and periodontal; pocket depth from which samples has been taken. All these factors make a high infection rate with mouth protozoa, this result agree with (Gharavi *et. al.,* 2006).

There are many reasons that make a high infection rat with bacteria with specific type, and under this study it make sure that factors like smoking, drinking tea or coffee, removed many teeth from the mouth play a good factors by growth and increases the rat of microorganisms inside mouth and this is may these factors make available habitat for growth and increase, also, the end product of these organisms cause inflammation, abscess, bad breathes and teeth pain.

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