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DETERMINATION OF MOUTH PROTOZOA IN PATIENTS ATTENDING THE OUTPATIENT DEPARTMENT OF PUNJAB DENTAL HOSPITAL LAHORE

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Abstract:

Aim: *The prevalence and role of oral parasites in patients admitted to the outpatient department were investigated.*

Methods: *The prevalence of entamoeba gingivalis and trichomonas tenax was estimated to be in 150 patients (90 males and 60 females) and were examined with oral swabs and observed in a sterile tube containing normal saline solution and under 100 x by oil immersion.*

Place and Duration: *In the Department of Oral Dentistry, Punjab Dental Hospital for one year duration from March 2018 to March 2019.*

Results: *The overall infection of Entamoeba gingivalis and Trichomonas Tenax was 60% and males showed a higher prevalence (61.1%) than women (58.3%). Of the 90 positive patients, 57% had Entamoeba gingivalis and 3.3% Trichomonas Tenax.*

Conclusion: *A positive correlation was found between the prevalence of oral parasites and poverty, with 71% of these patients being poor. The rate of infection was more common in smokers than tobacco dipper (niswar). A single snuff dipper was not positive for Entamoeba gingivalis or Trichomonas Tenax.*

Key Words: *Entamoeba, Trichomonas, Parasitic infections.*

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INTRODUCTION:

The oral protozoa Entamoeba gingivalis and Trichomonas tenax showed a rather uncertain approach during the study. Barrett and Smith reported that they observed Entamoeba in almost all patients with periodontitis studied. Bass and Johns reported that they had found E gingivalis in 86 patients with periodontal disease and found that many normal people do not have this organism. They suggested that these protozoa may be pathogenic on the basis of evidence that emetin hydrochloride, a therapeutic drug used against parasitic amoebiasis, is beneficial. An additional cofoid study revealed gingivitis in 75% or more of those over 40 years of age. This study showed that this body also dominates in healthy mouths. Bateman discovered the tenax Trichomonas (later called Trichomonas buccalis) in 26.5% of diseased mouths and 11.4% of normal mouths, and decided that diseased mouths offer a more convenient area for this organism than clean and healthy mouths, but still doubt it. Clear culture methods better than the wet smear method for detecting this organism. In 1958, Wantland et al. They described a comprehensive study of oral hygiene conditions, including the incidence of these two oral protozoa.

The purpose of this study was to determine the occurrence of oral parasites.

MATERIALS AND METHODS:

This study was held in the Department of Oral Dentistry, Punjab Dental Hospital for one year duration from March 2018 to March 2019.

Materials used for staining

1. Curette 2. Slides 3. Normal saline solution 4. Test tube 5. Methanol 6. Light 7. Eosin 8. Alcohol 9. Water 10. Microscope 11. Immersion 12. Canadabalsum 13. Cotton Swab 14. Xylem 15. Nail Polish 16. Cover glass 17. Glycerine 18. Dropper.

To determine the occurrence of oral parasites, namely Entamoeba Gingivalis and Trichomonas Tenax, a total of 150 oral swabs were taken from patient's oral cavity. Intraoral examination was carried out using a dental mirror, transport probe and CPITN (Community Periodontal Treatment Need Index). (Souls 1996) General research instruments were also used, i.e. oral mirror, thin periodontal probes (Iqbal 1981). Oral extracts were examined by indirect method to determine the presence of protozoa (oral parasites). The oral extract was carefully collected from the supra and subgingival areas of the oral cavity using a curette. One drop of extract (kept in normal saline) was placed on a clean slide after 1-2 minutes, after which a drop of methanol was added, followed by a drop of 70% alcohol for 5 minutes. Then we added the eosin solution and waited for a while, then placed a drop of canadabalsum on the material, and then a cover slip was placed. Be careful to avoid the formation of air bubbles. Slides were ready for microscopic examination. The test was performed by immersion in oil under x100 target values. When collecting oral extracts, detailed data on the study variables was collected. Various variables studied;

1 Gender distribution among patients

2 Socio-economic status of patients

3 Social habits (Smoking habits and smokeless tobacco (Niswar)

4 Oral Hygiene Measures Tooth brush users Miswak Users

RESULTS:

Of the 150 oral swabs taken, 90 were positive for moth parasites and the overall incidence of parasitic infections was 60% (Table 1 and Fig. 1).

Total sample	Total positive	E gingi-valis	%	T tenax	%
150	90	85	57%	5	3.3%

TABLE 1. SPECIES WISE INFECTION

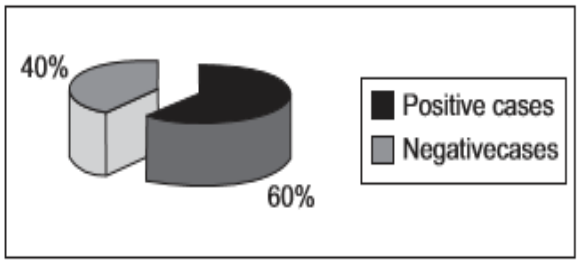

Fig. 1. Overall incidence of mouth parasites

Five (3.3%) out of 90 positive cases were positive for the protozoal parasites Trichomonas tenax, while (Table 1) 61.1% of the 90 male patients were positive for the protozoal oral parasites. 58.3% of 60 women were positive.

Socioeconomic class	Total number of cases	Number of positive class	Percent positive
Upper	30	10	33.3%
Middle	50	25	50%
Lower	70	55	71%

TABLE 2. SOCIOECONOMIC DISTRIBUTION OF PATIENTS

This shows a 3% more prevalence in men than in women. (Table 2) A positive correlation was found between the occurrence of oral parasites and poverty. A high incidence was found in the subclass group, i.e. 71%. Of the 40 patients who smoked, 22 were positive exhibiting 55% higher occurrence, i.e. than non-smokers 40%. (Table 3). None of the 30 snuff dipper patients were positive for E. gingivalis and T. tenax. It is noteworthy that tobacco addicted patients do not have a single protozoal parasite in their mouths. (Table 3) Of the 60 toothbrush user samples, 25 were positive, i.e. Among 90 non tooth brush users 60 were found positive showing 67% incidence. (Table 3) Amongst 50 samples of Miswak users 25 were found positive i.e., 50%. While 75% were those who were not using Miswak (Table 3).

No	Contents	Total no of cases	No of Positive cases	Percent positive
1)	Male	90	55	61.1%
	Female	60	35	58.3%
2)	Smokers	40	22	55%
	Non Smokers	50	20	40%
3)	Snuff dippers	30	Nil	Nil
	Non snuff dippers	60	60	50%
4)	Tooth brush users	60	25	42%
	Non- users	90	60	67%
5)	Miswak users	50	25	50%
	Non users	40	30	75%

TABLE 3: INFECTION IN DIFFERENT GROUPS OF INDIVIDUALS

DISCUSSION:

Studies on oral and dental parasites are very limited and have been carried out in only a few countries. These studies revealed the presence of two parasitic protozoa called E. gingivalis and T. tenax.E. Gingivalis belongs to the family Entamoebaidae. This parasite occurs only in the form of trophozoite in the range from 5 to 35 µm. Morphologically, this protozoan is similar to E. histolytica, and the diagnosis requires due attention to be distinguished from E. histolytica released from protozoal lung abscesses. This amoeba has many pseudopods. This parasite lives around the teeth and gums, in the space between the teeth, and especially in caries. In some cases, tonsil crypts and tonsil tissue sections are isolated. Among the various modes of transmission, close contact, contaminated food, vessels and oral droplets can be mentioned. The prevalence rate in patients with periodontitis ranges from 55% to 86%. The prevalence rate is related to age and gender. The incidence reported in Japan and the Czech Republic is 9% and 8-30% respectively. According to some studies, this amoeba is considered an important cause of periodontal disease. It destroys itchy gums, palate pain, and unpleasant smell from the mouth, fatigue, severe headaches and periodontal tissue. T. tenax is a member of the Trichomonadidae family. The flagella organism is only in the form of trophozoite, and its size is from 5 to 12 µm. T. tenax and E. gingivalis are oral residents, but T. tenax is more active. T. tenax and E. gingivalis are transmitted in the same way, but T. tenax may remain in water for several hours or several days. The T. tenax infection rate varies from 0-20% depending on the oral hygiene. The incidence of E. gingivalis, T. tenax and mixed infection was 39%, 23% and 17.7%, respectively.

General tooth decay and the occurrence of gum disease, oral hygiene, diet model, lack of dental education, socioeconomic status, ignorance of the value of a toothbrush or wooden slat (Miswak), increased costs of private dental clinics and lack of dental care facilities in many parts of the country . Only 10% go to the dentist. It is difficult to pay to those who spend most of their income on food, private oral health, and even emergency dental treatment is unattainable (Iqbal 1981). The current

survey shows that the previous statement is not only accurate but also more intense. Muslims use different devices to maintain oral hygiene. Miswak is one of them. Miswak is mainly obtained from the Arak (Persian Salvador) plant grown in Saudi Arabia and other parts of the Middle East. It is used by Muslim communities around the world as spiritual traditions and habits. According to Preber (1955), smoking is an important risk factor for both early periodontitis and early periodontitis. In the mouths of people addicted to tobacco, there are biological changes in the mouth caused by chewing tobacco. In our opinion, the pH of the mouth of people addicted to tobacco is so distorted that protozoa cannot survive there. It is noteworthy that there is not a single protozoan in the mouth of tobacco addicts. According to Crossner and Holm (1975), the socioeconomic factor of a given population directly affects oral health.

According to the World Health Organization, a toothbrush and chewing stick (Miswak) can be effective mechanical means for removing plaque to ensure that both instructions are necessary to successfully remove plaque from tissue without injury. . This survey is consistent with the previous statement, and people brushing their teeth with toothpaste twice a day for 4 to 5 minutes take care of gum health and life. Therefore, to prepare each mandatory ablution of sentences, or "Voodoo," use Miswak to clean teeth and eliminate odor. According to Pervaiz, many people use Miswak or a brush, but oral hygiene is very poor. This is due to the fact that many people do not understand the proper use of a toothbrush or Miswak wooden stick.

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