Gingivitis affects an estimated 80% of the population, most periodontal disease arises from or is aggravated by accumulation of plaque, and periodontitis is associated particularly with anaerobes such as Bacteroides. Calculus (tartar) may form calcification of plaque above or below the gum line, and the plaque that collects on calculus exacerbates the inflammation. The inflammatory reaction is associated with progressive loss of periodontal ligament and alveolar bone. T. tenax is a widespread flagellated protozoan that inhabits the human oral cavity in and around diseased teeth and gums. The role of Trichomonas tenax as a pathogen had been clearly implicated in various pathological processes that arise outside the boundaries of the mouth. Although a relationship between the increased occurrence of this protozoan and progression of periodontal disease has been demonstrated so the present study aimed to estimate the occurrence of T. tenax in individuals having oral infections. Calculus samples were collected from 58 patients who were diagnosed as having periodontitis and/or gingivitis, then were subjected to direct smear examination. The results showed that the positivity rate of T. tenax is 13%.

Conclusions: This result support the association between T. tenax infection and bad oral hygiene and suggest the usefulness of elimination of this protozoan to achieve radical cure of gingivitis and periodontitis.

KEYWORDS: Trichomonas tenax, periodontitis, gingivitis.
Exclusion criteria
The patients receive antibiotic or periodontal treatment.

Sampling and materials
58 Periodontal swab samples were taken from patients and rapidly spread on glass slide then they were fixed with ethanol as preservative after that the fixed samples were transferred to our university lab to subjected to Gram stain . After that the samples were subjected to the microscopic examination.

Microscopic examination
The samples were examined with x40 and x100 objective of light microscope - Statistical Analysis:

Data were coded, entered, and analyzed using SPSS version 19.

Ethical considerations:
Ethical approval for this study was obtained from the Ethics Review Committee of the College of Applied Medical Sciences at Al-Taif University. Moreover, all patients included in the study were informed of the study objectives and a written signed consent was taken from each one of them.

4. RESULT
Regarding sex distribution among samples the females were 34 (59%) however males were 24 (41%) as showing in figure (1). Based on microscopic examination a lot of variation was detected of microorganisms. Mixed samples Gram positive and negative were the most dominant by 24 (41%) samples while gram negative bacilli samples were the least by 2 (3%) samples and the results showed Gram positive cocci were 20 (34%), 5 (9%) Fungi , 7 (13%) positive T.tenax samples as showing in figure (2). Some samples were recorded as photos in picture (1 and 2).

4. DISCUSSION
The human oral cavity is home to numerous microorganisms (Feki et al.,1990). Since mouth infection symptoms derive from the interaction between pathogenic microbiota and the host’s defense mechanisms, it is extremely important to study the microorganisms that cause periodontal disease in adults. Hence, local irritating factors, particularly the dental bacterial biofilm, seem to have a critical role in the susceptibility to, and onset and progression of, periodontal disease (Noodoed et al.,2000). Gingivitis is a form of periodontal disease. Periodontal disease involves inflammation and infection that destroys the tissues that support the teeth, including the gums, the periodontal ligaments, and the tooth sockets (alveolar bone). Gingivitis is due to the long-term effects of plaque deposits. Plaque is a sticky material made of bacteria, mucus, and food debris that develops on the exposed parts of the teeth. It is a major cause of tooth decay. If you do not remove plaque, it turns into a hard deposit called tartar that becomes trapped at the base of the tooth. Plaque and tartar irritate and inflame the gums. Bacteria and the toxins they produce cause the gums to become infected, swollen, and tender. This exposes people to infection with Trichomonas tenax Causing inflammation of the gums. The oral cavity is suitable for invasion of many microorganisms, the protozoan Entamoeba gingivalis and Trichomonas tenax are recognized eukaryotic representatives. Although these forms are not generally associated with pathogenesis, their presence in the oral cavity is taken as a sign of poor dental hygiene (Jian et al.,2008 and Abulqumsaan et al.,2010).

It is extremely important to study the microorganisms that cause periodontitis and gingivitis in human (Junior et al.,2011). Entamoeba gingivalis and Trichomonas tenax were the first commensal foud in human oral cavity, they occur only as a trophozoit, and these are found in gingival tissues, particularly in suppurative, inflammatory processes, due to there are preference for anaerobic environments (Chen et al.,2001).

It is believed that these commensal could be opportunistic, that these, capable of proliferating in a gingival environment modified by periodontal and gingivitis in human (El-Azzoumi et al.,1994). The trophozoites of Trichomonas tenax are proliferating in a gingival environment modified by periodontal and gingivitis in human (Junior et al.,2011). Entamoeba gingivalis and Trichomonas tenax are recognized eukaryotic representatives. Although these forms are not generally associated with pathogenesis, their presence in the oral cavity is taken as a sign of poor dental hygiene (Jian et al.,2008 and Abulqumsaan et al.,2010).

There are only few reports on the role of oral commensals in the pathogenesis of periodontitis and gingivitis despite the high incidence of certain protozoa, such as Trichomonas tenax. study was conducted in Iran on Entamoeba gingivalis (E. gingivalis) and Trichomonas tenax (T. tenax) may be responsible for oral parasitic infection (Ghabanchi et al.,2010), the case control study conducted in Iran showed that in the case group, nine patients were infected to the parasites, six (66.7%) with E. gingivalis, and three (33.3%) with T. tenax. This study showed that patients with periodontal disease were more prone to parasitic infections. The prevalence of oral trichomoniasis in study (33.3%) was compatible with many other published reports, which mostly ranged from 12 - 32% (Sarowaska et al.,2004).
The results of our research were on 58 patients, 34(59%) women and men 24 (41%) and their ages ranged from 20 to 50 years . 34% had Gram positive cocci and 3% Gram negative bacilli . Where the mixture is between Gram positive cocci and Gram negative bacilli was 41% Of samples , the sample contained fungi was 9% . In the current study the frequency of oral trichomoniasis in patients having oral infections 13% is compatible with many published reports in which it mostly has ranged from 12% to 32% . Among them was suffering from gingivitis. Patients did not use antibiotics. The prevalence of T.tenax in our study is 13% this was lower than the previous study in Iran 33.3%. Many factors might have affected the differences reported; including sample size of the patients examined, the methods of parasite detection used and the type of samples analyzed. As parasitic infections are relatively common in our patients with periodontal disease and increase in periodontal disease would result into an increase in parasitic infestations, it seems that following oral and general hygiene instructions are essential in control of parasitic infestations. So this result support the association between T. tenax infection and bad oral hygiene and suggest the usefulness of elimination of this protozoa to achieve radical cure of gingivitis and periodontitis, we recommend to do test for the diagnosis of T.tenax to decrease the resistance to the treatment

REFERENCES: