CHAPTER I
INTRODUCTION

The dog has remained a constant companion, friend and protector and has been portrayed in written documents in ancient era. A dog is a valuable member of family so deserves proper health attention and care. Forever 10,000 years, the dog has been an integral player in man’s social and cultural development. Its blood and toil have helped humans discover new lands and build civilizations, and its use in war has helped topple the same. It has hunted alongside humans for centuries and has been hunted by man for food. As eyes for the blind and ears for the deaf, the dog has become an indispensable member of our modern society (Chris, 2004).

Dental health is an extremely important but under rated aspect of companion animal health care. Hence, prevention and treatment of dental diseases are also at most important for general health of companion animals. Dental problems are frequently observed in small animals and these conditions encompass the whole spectrum of problems as seen in man. According to the American Veterinary Dental Society, after three years of age 80 percent of dogs showed signs of oral diseases as the most common problem. The lack of oral hygiene cause plaque deposition and calculus formation, which harbours the bacteria and eventually induces gingival inflammation (Lindhe et al., 1975 and Page and Schroeder, 1982). The persistent infection of oral cavity does not only discomfort the affected animal but may also cause disease in other organs and tissues (De Bowes, 1994).

Oral diseases can be subdivided into conditions affecting to the tooth, periodontium or other oral tissue. Disease that affects tooth structure may results in lesions of periodontal apparatus, oral mucosa or both. Diseases affecting periodontium may result in exfoliation of teeth. Conditions primarily affecting teeth are abrasion, attrition, erosion, fracture, odontoclastic resorption and pulpitities. Conditions primarily affecting the periodontium or oral mucosa are chemical or thermal burns, gingival hyperplasia, gingivitis, gingivostomatitis, neoplasia, periapical abscess, periodontitis and ulcers (Ellen et al., 2010).

Periodontal disease (PD) refers to a group of inflammatory diseases caused by bacterial plaque in the periodontium. The periodontium contains the supporting structure of the teeth and includes the gingiva, alveolar bone, periodontal ligament
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and cementum. In veterinary medicine, PD is the most prevalent disease in domestic carnivores and is found in approximately 80% of dogs aged 2 years or older (Carlos et al., 2012).

PD is progressive and involves two stages: gingivitis and periodontitis. It is caused by plaque buildup on teeth. The plaque is a smooth membrane, adhesive, contaminated with saliva, bacteria and debris. Bacteria and bacterial products cause inflammation of soft tissue. The plaque becomes mineralized to form calculus, which migrates into gingival sulcus, causing additional inflammation, loss of periodontal ligament, bone loss and ultimately tooth loss (Ford and Mazzaferro, 2007). The ultimate prevention of periodontal disease is directly proportional to the degree of success in the elimination of dental plaque prevention is the key to prevent periodontal diseases (Andrew, 2004).

PD is a multifactorial disease that results from the interaction of the host defense mechanisms with the plaque microorganisms. Early detection, diagnosis and treatment are essential in the control of this disease. PD has an enormous impact on human and veterinary medicine due to its high prevalence (Carlos et al., 2012).

PD is clinically manifested by halitosis, gingival recession, loss of supporting bone, tooth mobility, furcation exposure and periodontal pocket formation depending upon the severity of disease present and damage inflicted upon the tissue supporting teeth. Once the supporting tissue and the bone lost, the stability of the tooth and the health of the mouth are changed forever (Rawlinson, 2003). PD itself cause discomfort to the affected animal, but it is also possible that the condition could cause disease in other organs and tissues (De Bowes, 1994).

The corner stone of periodontal prevention and treatment remains the elimination and control of sub gingival plaque. Traditionally, this has been achieved by manual or mechanical scaling of coronal calculus, manual debridement (surgical and nonsurgical) sub gingival and polishing. In recent years, several other modalities of treatment have been introduced and there are several more on the horizon that may dramatically affect our ability to not only control, but also reverse periodontal disease. Early ultrasonic scalers were clumsy and cumbersome and were intended for use on the supra gingival surfaces only (Haake, 1996).

The present study was undertaken to note the incidence of dental affections in the dogs presented to TVCC, College of Veterinary Science and Animal Husbandry, Junagadh Agricultural University, Junagadh to diagnose various dental affections with
precision using available diagnostic tools for maintaining dental hygiene. Further, study was also planned to note the changes in haemato-biochemical parameters in the dogs suffering from various dental affections. Therefore, to achieve above mentioned task the study was conducted with following objectives.

**OBJECTIVES:-**

1. To study the prevalence of dental affections in dogs during March 2014 to March 2017 at Teaching Veterinary Clinical Complex (T.V.C.C).
2. To study mineral composition of dental plaque in a selected cases.
3. To identify the oral micro flora and its antibiotics sensitivity test.
4. To study haematological and biochemical changes in dogs with periodontal diseases.