

Introduction

Diabetes mellitus is recognized as genetic disorder of carbohydrate metabolism, characterized by hyperglycaemia and glucosuria due to deficiency of insulin resulting either from insufficient supply or diminished effectiveness (Maliness 1969¹ and Fajans 1971²).

Despite a voluminous literature on the subject. Opinions still differs regarding the exact relationship of diabetes and periodontal condition. Because diabetes mellitus is a disorder of metabolism and one which have serious effects on general health, it is essential that oral manifestations and dental aspects be recognized where it will affect both the periodontium and the incidence of dental caries (Campbell 1967)³.

Several studies have been reported to evaluate the biological changes of the periodontium in diabetics. Cohen, et al. 1970⁴ concluded that, there are some factors which can be implicated in the severity of the periodontal changes in diabetics, where it has been proposed that the diabetes mellitus adversely affect the metabolism of periodontal tissues (Sander and Stall 1954)⁵ or the metabolic alternations

metabolism is

2

irritative agent

only accentuated the response of the gingiva to irritative agent. (Benvensite, et al. 1967)⁶ and/or the number of years a person has been a diabetes is also an important consideration (Lße 1968⁷, Glavind, et al. 1968⁸). On the other hand, some investigators did not find an association between this systemic condition and the state of the periodontium (Machenzie and Millard 1963⁹, Benvensite⁶, et al. 1967 and Hove and Stallard 1970¹⁰).

For many years, the Warburg manometric technique¹¹(1926) was a procedure of choice for measuring gingival tissue respiration.

Glickman, et al. (1949)¹² found that, the alternation of gingival respiratory condition depends on the metabolic activity of the gingival tissue on both physiological and pathological level.

In 1966¹³ Rebert, et al., determined the oxygen consumption of human gingiva and they stated that the normal gingiva has a very low respiratory rate. While in the presence of inflammation, this rate was increased due to the presence of proliferation of the tissue, but there was marked decrease

why Keratinized tissue / few fine vld capillaries

in the presence of degeneration.

None of the numerous reports appearing in the literature correlate between the gingival condition and the oxygen consumption in controlled and uncontrolled diabetics.