

Diabetes Mellitus Associated With Oral Disease – A Retrospective Study

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INTRODUCTION:

Diabetes is chronic metabolic disorder. It is characterised by the high blood sugar level, insulin resistance and lack of insulin. People with gestational diabetes are more prone to diabetes mellitus. There are two types of diabetes which are type 1 diabetes and type 2 diabetes, insulin dependent and non insulin dependent respectively. There are numerous complications involved. Diabetes was first disease describes with Egyptian manuscript. Diabetes is a chronic condition. Diabetes was related to the term sweet urine and excessive loss of muscle. Many people are unaware that they have diabetes, especially in its early stages when symptoms may not be presents. The major causes of diabetes mellitus are poor eating habits, obesity and lack of exercise. The age and genetic factor also plays a crucial role in diabetes mellitus.

There are numerous oral disease which are associated with diabetes mellitus. Among them, the most common disease is the periodontal diseases. The elevation of blood glucose level causes gum complications which leads to the periodontal disease. Periodontal disease have increased prevalence in both type 1 and type 2 diabetes. The other disease include dental caries, tooth loss, gingivitis and certain other infections such as candidiasis and neurosensory disorders. Due to lack of metabolic control, there is a crevicular fluid which in turn causes increase in salivary glucose and decrease in salivary secretion(1). Hence it creates a relationship with dental caries with diabetes mellitus.

MATERIALS AND METHOD :

This study included 100 diabetes individuals. The study was based on investigating the diabetes individuals who come for dental treatment about the most common dental problem they come across. The study was carried In saveetha dental college and hospitals. The diabetic patients who visited the dental clinics were considered as the subject. The data was collected with questionnaire composed of patients name, age, sex and treatment. Statistics was done. The data was analysed by SPSS software. The main ideology behind this study is to highlight the dental disease associated with diabetes mellitus.

RESULTS:

Male	Treatment	Extraction	N	1	1	5	4	9	20
			%	20.0%	8.3%	41.7%	40.0%	75.0%	39.2%
		FPD	N	0	1	0	0	0	1
			%	.0%	8.3%	.0%	.0%	.0%	2.0%
		Gingivitis	N	0	3	0	0	0	3
			%	.0%	25.0%	.0%	.0%	.0%	5.9%
		Implant	N	0	0	0	1	0	1
			%	.0%	.0%	.0%	10.0%	.0%	2.0%
		Periodontitis	N	0	0	4	4	2	10
			%	.0%	.0%	33.3%	40.0%	16.7%	19.6%
		RCT	N	1	1	2	0	0	4
			%	20.0%	8.3%	16.7%	.0%	.0%	7.8%
		Restoration	N	2	2	1	0	0	5
			%	40.0%	16.7%	8.3%	.0%	.0%	9.8%
		Scaling	N	0	4	0	1	1	6
			%	.0%	33.3%	.0%	10.0%	8.3%	11.8%
	Total		N	5	12	12	10	12	51
			%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SEX			AGE.CAT					Total	
			< 30	31 to 40	41 to 50	51 to 60	> 60		
Female	Treatment	Extraction	N	0	2	1	4	5	12
			%	.0%	13.3%	8.3%	40.0%	71.4%	24.5%
		FPD	N	0	2	2	0	1	5
			%	.0%	13.3%	16.7%	.0%	14.3%	10.2%
		Gingivitis	N	1	1	0	1	0	3
			%	20.0%	6.7%	.0%	10.0%	.0%	6.1%
		Implant	N	0	0	1	0	0	1
			%	.0%	.0%	8.3%	.0%	.0%	2.0%
		Periodontitis	N	0	1	3	3	1	8
			%	.0%	6.7%	25.0%	30.0%	14.3%	16.3%
		RCT	N	2	1	0	1	0	4
			%	40.0%	6.7%	.0%	10.0%	.0%	8.2%
		Restoration	N	1	2	1	0	0	4
			%	20.0%	13.3%	8.3%	.0%	.0%	8.2%
		Scaling	N	1	6	4	1	0	12
			%	20.0%	40.0%	33.3%	10.0%	.0%	24.5%
	Total		N	5	15	12	10	7	49
			%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	100	23	80	47.86	13.353
Valid N (listwise)	100				

11.8% of the population that participated for the study came for scaling to a dental clinic . 24.5% of the population visiting a dental clinic came for extraction . 5% of the patients came for fixed partial denture treatment . 1% of the population crisis the clinic for implant placement . 16.3% of the population visits for treatment of periodontitis . 8.2% of the people that took part in the study had come for treatment of root canal treatment. 8.2% of the population came for restoration .

DISCUSSION:

The mechanism of diabetes correlation with periodontitis primarily involves vascular changes, neutrophilic dysfunction, impaired collagen synthesis and genetic predisposition. It is known that diabetes induces vascular changes in all tissues, including capillaries of periodontal structures(2). Gingival capillaries undergo basal membrane thickening, however, other pathologic changes such as membrane disruption, intro membranous presence of collagen and oedematous endothelium may also be observed. These changes have been postulated to impair leukocyte migration, immune factor activities and thus contributing to progression of periodontitis and tooth loss by disordered microcirculation in diabetes(3).

There's is a strong relationship existing between diabetes and periodontics. Diabetes is considered to be a risk factor for periodontal diseases. Gingivitis often progresses disease does affect those individuals who do not have diabetes, but diabetics are especially prone to developing these conditions due to sugar imbalances in the body that promote bacteria growth into periodontitis if left untreated. Slow circulation of the blood, Decreased immune system – the decrease in white blood cells results in a reduced ability to fight off infectious bacteria, High glucose levels connected to diabetes are in the blood and saliva. The bacteria leading to Periodontal disease thrive and multiply on sugar, Smoking and xerostomia contributes to the relationship between periodontal diseases and diabetics. Several studies have reported that periodontal therapy results in improved glycemic control in some individuals with diabetes(4). Diabetes mellitus affects negatively the periodontal health leading to gingivitis, periodontitis and tooth loss(5).

CONCLUSION:

Prevention is better than cure. So it is necessary for everyone of us to maintain the blood sugar level so that diabetes can be prevented. Good health is integral to general health. It is always necessary to pay attention to diabetes mellitus. Diabetes affects many major organs like heart, blood vessels, nerves, eyes, and kidney. It is a must to take care of our body and treat it right so that it can be good to us in return.

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