



DENTAL IMPLANTS IN MEDICALLY COMPROMISED PATIENTS

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ABSTRACT The present study was carried out with an aim and interest to evaluate the status of implant, its function, and durability which are placed in the medically compromised patient. The literature review was done in order to identify the medically compromised patients with implants and were on medication with oral bisphosphonates for the ossification to be formed around dental implants for its vital function. The articles published between the years 2001 to 2010 were included in the study. The articles of clinical studies in which 7-8 patients were treated, consensus articles, review articles and meta analysis were included. The total of 34 articles was found in which 26 articles met the inclusion criteria. The systematic diseases/ medically compromised are those patients with cardiac, diabetic, endocrine disorders and who are also seems to treated with dental implant and its outcomes.

KEYWORDS : Dental implant, Medically compromised patient , systemic diseases, bisphosphonates

INTRODUCTION

Dental implantology is the field of dentistry that is concerned with the replacement of missing teeth and their supporting structures with artificial prostheses anchored to the jawbone. Besides functional problems, tooth loss can lead to psychological problems due to low self-esteem and social impairment thus considerably affecting the quality of one's life. A dental implant is an endosseous placement of the prosthesis, that interfere with the bone of the jaw or skull to support a dental prosthesis such as crown, ridge, facial prosthesis or to act as an orthodontic anchor. Dental implant is that where classified as endosseous, subperiosteal, transosseous, contra indicated in the patient with metabolic disorder, diabetic disorder, other disorder. Where the review study involves here is to evaluate the medically compromised patient with implant.

Replacing lost teeth with a bone anchored device is not a new concept. To successfully replace missing teeth and their supporting structures with artificial teeth has been an aspiration of humankind for centuries. The phenomenon of osseointegration of titanium implants was discovered by a Swedish orthopaedic surgeon, P I Brånemark, in 1952 who defined osseointegration as "a direct structural and functional connection between ordered living bone and the surface of a load-carrying implant".

Medically compromised patient are those, the patient they have already affected with systemic disorders. Medical and dental interdisciplinary cooperation is critical in appropriate assessment of the medical history and the subsequent management of the medically compromised dental patient. This interdisciplinary, rather than multidisciplinary, cooperation must extend beyond the physician and include the patient, family, caregivers, therapists, and anyone else involved in the life of the particular individual. The patient with a medical condition is one with a significant disability affecting many facets of life. The critical activity on the part of the dentist in managing the medically compromised dental patient is the cognitive skill ability. If properly accomplished, the cognitive skills will permit appropriate use of the proper technique and behavioral skills. Proper oral health care can contribute significantly to a person's quantity and quality of life. The concept of optimum dental treatment planning differs from ideal dental treatment planning, but is not to be considered compromised dental treatment planning. Finally, an evaluation tool, the PARS (Prognosis and Assessment of Risk Scale) is a means to aid dental treatment planning for the medically compromised dental patient. Dental care for the patient with medically compromising conditions can be difficult and infinitely challenging, but ultimately rewarding. This medically compromised state includes patients with systemic disorders involving CVS, Gastrointestinal, Renal, Endocrine, CNS and various other organs.

OBJECTIVE OF THE STUDY:

The aim and objective of the study is to evaluate the dental implants and its status in medically compromised patients.

MATERIAL AND METHODS:

The review articles are undertaken from PUBMED website. The articles included/ analysed in the study were published between the years 2001 to 2010. The clinical study over a publication contained 34 articles. Based on the inclusion criteria, it is reduced to 26 articles were taken for the study. This clinical study contains at least 7-8 patients who treated with dental implant in medically compromised conditions/ situations.

RESULTS AND DISCUSSION:

After thorough search, total of 34 articles were found. About 26 articles described that the evidence of the failure of dental implants in medically compromised patient is minimal (1). A retrospective study with 3 years of follow up over the age of above 70 years showed low failure rates in the dental implant (2). Cardiac patients with controlled cardiac problem can be endangered with reduced nutrient level and oxygen level osseointegration process of dental implant (3,4). Radiotherapy plays an important risk factor for the dental implant failure (5). Radiotherapy lead to failure of dental implant that can be treated with hyperbaric oxygen could be reduce the incidence of failure (6). Lee y cols; in 2010 with prospective study evidenced no contraindication found in geriatric medically compromised patients (7). Bornstein y cols; 2009 and Michaeli y cols 2009 in their review article revealed MCP suffering with diabetes mellitus has more affinity implant failure (8,9). Holahens y cols 2008 in his retrospective study and Sverzut y cols 2008 in their review articles explained the

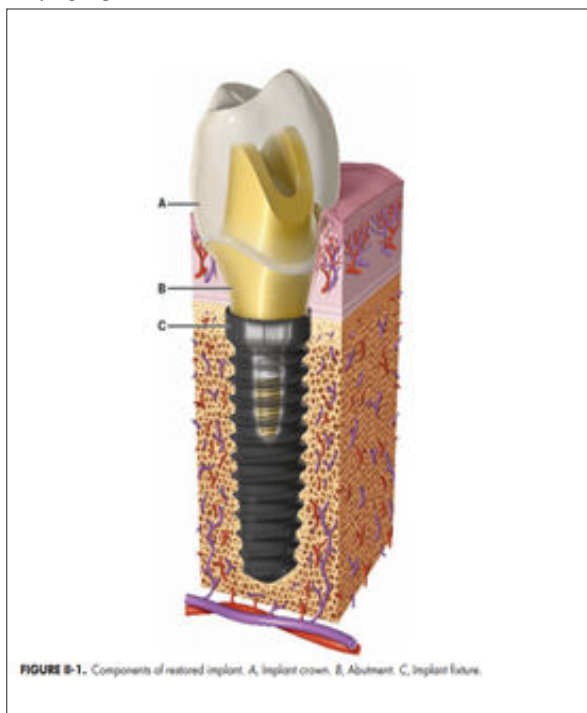


FIGURE B-1. Components of restored implant. A, Implant crown. B, Abutment. C, Implant fixture.

smoking can ultimately lead to condition of implant failure. Alsaadi y cols 2008 stated in his review article that radiotherapy leads to implant failure (2). Mombelly y cionca 2006 in his review articles described implant failures in Diabetes mellitus (3). Beikler y flemming 2003 revealed that dental implant status are better in subjects with DM 2 with antibiotic prophylaxis (14). Various articles also have shown that subjects with osteoporosis who are under bisphosphonate therapy with the regular follow up also exhibits osteonecrosis

CONCLUSION:

Failure of the dental implant is a mainly due to negligence on the maintenance of the dental implants both by the dentists and as well as by MCPs. Thorough review of the articles between 2001 to 2010, the prophylaxis of the radiotherapy patient with hyperbaric therapy give the better outcome in the MCP. DM type 1 patients generally have poor outcomes. In type 2 DM, patients can be provided implant with antibiotic prophylaxis. Subjects with smoking usually have less failure of dental implant. Hypertensive patient also have a less failure of dental implant. Thus our review study shows and also enlightens the rate of implant failure in medically compromised patients and also highlights the need for prophylactic measures which are to be undertaken for successful implant therapies.

Ethical clearance – Not needed as it is a review article

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Conflict of interest- Nil

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