Original Research Paper

Volume-9 | Issue-7 | July - 2019 | PRINT ISSN No. 2249 - 555X

Dental Science

IMPLANT SUPPORTED MANDIBULAR OVERDENTURES- A BLESSING FOR THE GERIATRIC PATIENT

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ABSTRACT People are living longer as the mortality rates have significantly dropped. The geriatric population is in immense need for better treatment options to replace the missing teeth. Age is usually related with ridge resorption and sometimes poor bone quality. However, when treatment planning is being done, patients should be presented with all possible options irrespective of age. Conventional dentures have been the standard norm since a long time, but are usually associated with complaints of lose-fit and inadequate chewing ability of hard food. The implant supported mandibular overdenture has been proven to be a predictable method for better retention and masticatory efficiency, greater patient satisfaction and improved Quality of life. This article aims at highlighting the advantages of this treatment option over the conventional dentures. It also emphasises on spreading more awareness about implants in developing nations along with provision of newer dental health schemes to match patients affordability.

KEYWORDS : Dental Implants, Overdentures, Geriatric

INTRODUCTION:

The mouth is often referred to as mirror of overall health, reinforcing that oral health is an integral part of general health[1]. Throughout the world, people are living longer, and the problem of missing teeth continues to be more prevalent among elderly population than among other age groups[2, 3]. India has been termed as the "aging" country by WHO, as the population of the elderly accounts for 7.7% of the total population.

Increased life expectancy in contemporary society has lead to higher percentage of edentulous patients requiring rehabilitation[4]. This population has unique problems that necessitate alteration in their treatment plan. Older people often desire to replace their missing teeth but they have complex anatomical, medical, social, and economic, resource and personal issues that must be accounted for. In developing nations like India: superstition, ignorance of current trends in dentistry and most importantly the affordability of the retired elderly population plays a major role in decision making. However, the implantologist must carefully assess these patients's chief complaint and provide them with a treatment plan most congenial for their oral health needs laying emphasis on improved quality of life, nutritional status and long term patient satisfaction.

Implant Supported Mandibular Overdentures

Since 1980's, endosseous oral implants are used to support mandibular dentures. In recent years, the treatment concept has been widely accepted and even evolved as the first choice treatment for the edentulous patients with retention problems related to their conventional mandibular denture[5].

As the Mc Gill consensus established in 2002; overdentures, particularly mandibular implant-retained overdentures with individual attachments, are an adequate treatment for these patients[5]. Moreover, insertion of oral implants to support mandibular overdentures is not age-restricted[6,7].

Removable implant supported overdentures suppose a better quality of life in all aspects including personal comfort and even dietary habits. Overdentures produced an increased retention and stability and, most importantly, they improve the psychological response to prosthetic rehabilitation among completely edentulous patients[8].

Tooth replacement therapy can vary from single tooth replacement with conventional or implant supported restorations to full arch replacement with individual implants or implant supported overdentures. An overdenture maybe the treatment of choice for patients with moderate to severe ridge resorption or for patients with history of ill fitting conventional dentures. (figure 1)

An overdenture should use a sufficient number of implants for long term stability, typically four in the maxilla and 2 in the lower canine (figure 2) or premolar region[9]. Two implants spaced between 12mm-16mm apart (edge to edge) in the mandibular canine region can be restored with free standing attachments such as ball attachments (figure 3-4), locator attachments or with an overdenture bar and clip assembly. It is useful, especially as a means to provide function and lip and aesthetic support in a reduced amount of time and with less morbidity relative to the restoration of implants with conventional crowns or FPD's[10-13]. (figure 4)



Figure 1: Mandibular complete edentulism with severe ridge resorption

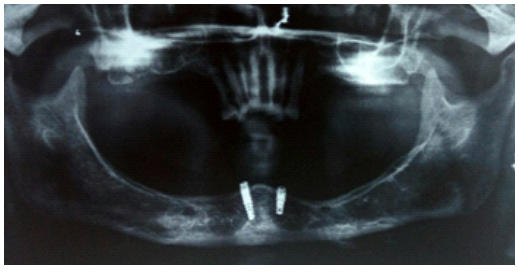


Figure 2: Two endosseous implants placed in the anterior region of the mandibular ridge.

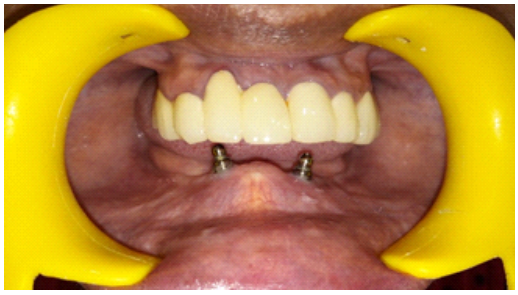


Figure 3: Image showing clinical ball attachments over endosseous implants in the mandibular arch



Figure 4: Implant supported mandibular over denture with an opposing fixed partial denture in the maxilla.

Advantages Of Implant Supported Overdentures Over Conventional Removable Dentures:

For centuries, conventional complete dentures have been the only treatment for the edentulous patients, but now there has been a move to make a maxillary conventional denture over a two implant mandibualr overdenture, the new minimum standard of care[5].

Conventional dentures are known to cause ridge resorption and patients frequently visit the dental office for denture adjustments. This becomes tiring and exhausting for them. Moreover, they are seldom completely satisfied with their set of dentures. We found several of them asking if anything else can be done to make the dentures fit better. Also, dentures often require replacement after certain years of use.

Elderly patients often avoid many types of foods, particularly raw vegetables and other hard and tough foods, because they cannot chew these with conventional dentures[14-16]. As a result such individuals consume significantly less protein and other key nutrients- including fibre, calcium, non-heme iron and some vitamins-than do individuals with teeth[17].

Several studies have shown that the ability of edentulous patient to chew most foods improves significantly when the mandibular denture is fully or partly supported by endosseous implants[18,19]. Awad et al., 2000 have recently shown that simple overdenture with ball attachments on 2 implants in the anterior mandible provides significantly greater satisfaction, masticatory function and oral health related quality of life (OHRQoL)[20].

Limitations:

Implant supported overdentures have many advantages, however, in our practice we have observed certain limitations we often encounter.

1. Although many patients would chose the implant overdentures, many of them are constrained in their ability to pay. In developing nations like India, the cost difference between the two treatment choices is vast and unavailability of adequate dental insurance and schemes makes it a difficult choice for the patient.
2. Many patients are completely unaware about the procedure and advantages of dental implants. This unawareness and fear of surgery makes them unsure of getting treatment done.
3. Several studies have proven that manidibublar dentures supported by 2 implants increases food choice for individuals accustomed to wearing conventional dentures; they find it easier to consume hard, tough and crisp food. However, the dietary changes were not reflected in the nutritional intake calculated from the food diaries[21].
4. Endosseous implant therapy takes longer time than conventional dentures.
5. Placement of implants also becomes a challenge in very old dependant patients and in medically compromised patients.
6. Psychology and attitude of the patient is another factor to be circumvented.

CONCLUSION:

Implant supported overdentures offer the best opportunity to bring about improvement to both the oral health and quality of life of the geriratic patients. In our practice, we observed that it not only improves retention, and masticatory efficiency, but also boosts patient confidence, and so improve their social life. However, cost, psychological reasons, limited knowledge and fear of surgical intervention are the strongest objections.

Implant supported overdentures have many advantages over conventional dentures: reduction in bone resorption, reduced movement of prosthesis, better aesthetics and phonetics, equal load distribution and better chewing ability.

Regardless of age, dental implants should be placed when patients are in good health and live independently so that they can benefit from the functional advantages until late in life. However, the major concern for our patients is the treatment cost and hence newer dental insurance schemes would be welcomed by both the practitioner and the patients. We would also like to stress on spreading awareness of this treatment option amongst the older population so as to combat their anxiety and fears related to newer treatment options and surgical intervention.

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