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COMPARISON STUDY OF PATIENT SATISFACTION OF IMPLANT SUPPORTED FULL MOUTH REHABILITATION: ALL ON 4 VS ALL ON 2

Dentistry

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ABSTRACT

Rehabilitation of completely edentulous patients is very vital to their physical, mental and social well being. Various treatment options are available for replacement of the same. Implant supported prosthesis is by far the most accepted rehabilitation scientifically and increased compliance is seen in patients with respect to implants. Implant placement was trickier in cases where bone availability was less. All on 4 and All on 2 concepts brought about simple solution avoiding tedious surgical adjuvant procedures for placement of implants.

The aim of this study was to evaluate the level of patient satisfaction in All on 4 Vs All on 2 in our center, MAEORIS Dental implants and Esthetic Care Center. Parameters like length of surgical procedure, ease of maintenance and quality of life were assessed. Study included 15 patients in each group for the period of 2015-2020.

Results show there is increase ease of maintenance in All on 2 compared to that of All on 4. Surgical time was increased in All on 4 but overall increase in Quality of life was with All on 4.

Implant supported prosthesis is a boon for edentulous condition. Both the options provide excellent results compared to complete removable denture. The selection of either of the options depend on the bone availability, cost factor, patient preference etc

KEYWORDS

INTRODUCTION

Fully edentulous patients have the options for removable, fixed or fixed- removable prosthesis. The removable complete dentures although have significant improvements will lead to varying degrees of bone loss. Implant supported rehabilitation gives the patient increased comfort, chewing efficiency, speech clarity and overall well being which is scientifically accepted.[1,2,3,4,5]

In implant supported prosthesis full mouth rehabilitation options include All on 8, All on 6, All on 4 or All on 2. Only All on 2 has an implant supported removable prosthesis. The selection process includes the patient's age, systemic disease, bone availability, length of the arch, economic restraints.

All on 4 treatment concept was developed by Paulo Malo[6,7] with straight and angled multi unit abutments. This concept was introduced to avoid elaborate surgical techniques like sinus lift with bone graft, nerve repositioning or ridge split procedure. The rationale of using distal implants longer implants and placed in 45 degrees angulations to reduce the prosthetic cantilever. The anterior implants are placed in the straight angulation in the lateral incisor region. The emergence of the distal implants is at the region of second premolar. The anatomic region is in between mental formina in mandible and between mesial walls of sinus in maxilla.

All on 2 involves placing two implants on each jaw. This technique is ideal for severely atrophied jaws without doing complex surgical management. There is a relative ease in management of the locator supported overdenture as it is removable. The cost involved is also drastically reduced.

By placing implants in the edentulous mandible and subsequently loading them, bone resorption can be limited as light irritative stimuli lead to changes in bone architecture, shape and volume resulting in subperiosteal growth[8].This is supported by Wolff's law, which states that a change in function leads to a change in structure[9].

AIM

Aim of this study is to compare the patient satisfaction of All on 4 and All on 2 at our center MAEORIS Dental Implant and Esthetic Care Center, Dindigul, TamilNadu,India

MATERIAL AND METHOD

Sample size of 15 patients each in All on 4 and All on 2 categories all flapless between Jan 2015 to Jan 2020. The parameters assessed were length of surgical procedure, ease of maintenance, loosening of prosthesis & breakage of prosthesis.

Inclusion criteria all patients were at least 18 years of age who are completely edentulous. Exclusion criteria of patients with history of chemotherapy, head and neck radiotherapy and other systemic illness which contraindicates the placement of implants.

All on 4 Surgical Protocol

Pre operative CBCT was taken and the bone availability was assessed. Patient was painted and draped . local anesthesia with adrenaline administered in the site. Flapless surgical technique was used. Sequential drilling done and implant placed in designated sites ie 4 implants in between mental formina and between mesial walls of maxillary sinus. Screw retained prosthesis was designed and fixed after 3 months.

All on 2 Surgical Protocol

Pre operative CBCT was taken and the bone availability was assessed. Patient was painted and draped, local anesthesia with adrenaline administered in the site. Flapless surgical technique was used. Sequential drilling done and two implants were placed in each arch in the region of canine. Locator abutment placed and an overdenture was given after 3 months.

Hygiene Maintenance

Patients in the All on 4 category was asked to brush with normal tooth brush twice daily , in addition to which they were asked to use interdental brush and water floss as part of their daily routine hygiene maintenance.

Patients in the All on 2 category was asked to remove the overdenture and clean it with soap and water/ to place overnight in bowl of water with or without denture cleaning tablet. Patient is asked to rinse the denture in water in the morning before wearing.

RESULTS

The length of duration taken during implant placement an average of 22.8 minutes in All on 2 cases whereas in case of All on 4 cases average time is 42.1 minutes. Ease of maintenance was measured using a scale of 1 to 10 (1 being most difficult and 10 being the easiest). The maintenance in case of All on 2 cases has an average of 7.3 as the ease factor whereas in All on 4 the ease factor was about 6. Improvement in quality of life (QOL) was measured on a scale of 1 to 10 (1 being the least and 10 being the highest improvement in QOL). QOL in All on 2 group had about an average of 7.2 whereas the All on 4 group had about an average of 9.3.

CONCLUSION

Both the concepts of All on 2 and All on 4 cater to many patients from different walks of life. It gives an opportunity to avoid lengthy surgical procedure and the risks of those procedures. While All on 2 has the greatest ease of maintenance the better quality of life is the fixed option of All on 4 technique. The selection of each follows careful scrutiny of various factors. These techniques are boon as they can overcome the

difficulties of the conventional implant placement and offer a much better solution than age old removable complete denture.

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