

SynCone - A New Dimension In Implant Overdenture : A Case Report.

Prof.(Dr.) Manoj Shetty¹, Dr. Azlinder², Prof.(Dr)Rakshith Hegde³, Prof (Dr) Chethan Hegde⁴, Dr. Nivya John*

ABSTRACT

AnkylosSynCone concept has become an emerging trend among implantologists in order to provide rehabilitation of edentulous ridges. With the luxury of friction fit telescoping crowns and the immediate loading concept, SynCone concept thrives to be the next big thing in the implant world. Here is a case report on mandibular edentulous rehabilitation with SynCone concept. The telescopic crown technique has benefits such as excellent three dimensional immobilization of the restoration, flexibility of design and optimum access for oral hygiene with cost effective procedures. With these features, we can foresee a new dimension in rehabilitation of missing natural teeth.

KEYWORDS: SynCone, degumomes, immediate loading, telescopic copings.

INTRODUCTION:

Implants have now become the forefront of modern day dentistry when it comes to rehabilitation of the missing tooth or teeth. Various implant concepts provided by various implant systems give us a wide range of options for treatment planning.

One such newly trending concept is the SynCone concept. This concept attributes to the replacement of implants and immediately loading the prosthesis.

The benefit of SynCone concept is its versatility. They provide fast and cost efficient restorations of edentulous ridges. Minimally invasive treatment makes it possible to load the prosthesis under local anaesthesia on the same day. For delayed restorations it serves as a prefabricated retaining element for the maxillary and mandibular ridge. New abutment angulations provide improved parallelization.¹

Here is a case report on rehabilitation of the edentulous mandible with implant placements interforaminally using the SynCone concept.

*Professor and Head Of Oral Implantology, MDS¹, BDS², Professor. MDS³, Head Of The Department, MDS⁴, Final Year Post Graduate**

CASE REPORT:

A 45 year old female patient(fig 1) reported at the out patient department of Prosthodontics and Implantology ,with periodontally damaged lower teeth and maxillary ridge was rehabilitated with fixed restorations.(Fig 2)

Patients chief complaint was poor esthetics and difficulty in chewing due to missing lower back teeth. Patient was in a good health condition. Blood picture showed normal values for the surgical treatment. Intra oral clinical examination revealed Grade II mobility with respect to all the teeth of the mandibular arch. Bone density, bone height and bone width were analysed using the preoperative radiograph(fig 3). Implant selection was done accordingly.

MATERIAL AND METHODS:

TREATMENT PLAN:

- Extraction of all teeth and immediate implant placement.
- Placement of 4 implants in the mandibular region with immediate loading-Ankylos SynCone Concept.

The treatment plan was explained to the patient and the consent was taken.

Pre surgical antibiotic prophylaxis was commenced one day before surgery, and 1 hour before the surgery. The patient was prescribed (Cap Amox 500Mg ,Thrice daily)

THE SURGICAL PHASE:

The patient was prepared and sterilized surgical instruments were arranged.(fig 4) Atraumatic extraction was carried out with respect to mandibular anterior teeth under local anaesthesia.(fig 5)

Implant osteotomies were carried out with recommended sequence of drills with copious irrigation. Lindermandrill was used to prepare the osteotomy site(Fig 6a). Trispadedrill(3.5mm) was used to extend the osteotomy site(fig 6b) .Paralleling pins were placed in each osteotomy indicating their parallelism.(fig 7) Bone reamer was then used and implants (ankylos A9.5,A11,A11,A9.5 wrt 34,33,43,44) were placed avoiding the mental foramen.(fig 8)

Prefabricated 4° SynCone abutments were then placed.(fig 9) The correct positions of the implant and the SynCone abutments were then checked with four paralleling pins. Vicryl 3.0 sutures were then placed.

THE PROSTHETIC PHASE:

The abutments were then isolated with rubberdam.(fig 10) petroleum jelly was applied to the mandibular ridge in order to protect the mucosa.

SynCone gold degunomes were then inserted (fig 11)

A window was prepared in the mandibular denture that involved the areas with the degumones which was later picked up by self cure acrylic resin.(fig 12)The denture was then trimmed of the excess material, polished and loaded immediately in the patient.(fig 13)

The post op radiograph confirmed ideal placement of the implants.(fig 14)

POST SURGICAL TREATMENT:

The patient was advised to follow the prescription below.

Cap Amox (500mg)----- 15

Three times daily for 5 days.

Tab Imol Plus -----10

Two times daily for 5 days.

Chlorhexidine mouthwash was advised to be gargled twice daily for 15 days.

Patient was given instructions on maintenance of oral hygiene and recalled after one week, one month and three months.(fig 15)

DISCUSSION:

SynCone Concept has become an emerging trend in implant dentistry. Mostly because of its unique abutment retainer system. Because the implants have Morse taper connection the SynCone abutment retains a full degree of rotational movement. ¹In this system, pre machined titanium abutment is used which is available in a 4.5° or a 6° taper. The abutments are also fabricated in a 15° and 22.5° and 30° angulations when correction of angulations is needed especially in the maxillary arch. The SynCone abutments are available with sulcus heights of 1.5mm, 3mm, 4.5mm to accommodate variability in sulcus heights and also to subcrestally place implants.¹

The long term retentive characteristics of the abutments was assessed by Zhang et al. Authors concluded that in spite of the removal and cleaning of the denture, a constant retentive force was expected for 5 yrs. ³Huan and Jhu reported no adverse effects on 12-24 month follow up of immediately replaced mandibular overdenture ⁵Marco et al in his studies showed a 98.9% success rate of implant supported overdenture using SynCone concept.

The precision fit provided by the gold copings and the SynCone abutments in the denture, prevents excessive horizontal forces on the implant which may alter the course of an otherwise uneventful osseointegration. This treatment concept can be applied in significantly non parallel divergent implant placement due to 4 and 6 degree SynCone abutment taper and the use of angled abutments

The AnkylosSyncone provides an immediately functional overdenture , chair side, while the patient is still anesthetized. This is one of the most important characteristics of using Syncone abutments, that the patient can leave the clinic with a fully functional and esthetically pleasing prosthesis .

The AnkylosSyncone Concept is gaining popularity because of the possibility of immediately loading and a new system of telescopic crown technique. The friction fit of the degunomes and the abutments gives it a high end retention. The telescopic design of the coping and its ability to be attached to the SynCone abutment without the use of any cement or a screw gives it a cutting edge among other treatments. These two features enable the prosthodontist to fabricate a restoration that is extremely stable and performs as well as a fixed restoration yet at the same time can be removed by the patient for daily maintenance.

The concept of immediate loading provides this concept its efficiency.⁶The telescopic crown technique has benefits such as excellent three dimensional immobilization of the restoration , flexibility of design and optimum access for oral hygiene with cost effective procedures. With these features ,we can foresee a new dimension in rehabilitation of missing natural teeth.

CONCLUSION :

The rapid technological advances in the field of dentistry have resulted in the wide use of implants to support and retain fixed and removable prosthesis .One of the options in implant – supported removable prosthesis within the Ankylos Dental Implant system is the Syncone overdenture concept. The excellent immediate functional and esthetic result of SynCone concept marks a turning point in the future of implant dentistry.

FIGURES:



Fig 1: Showing the patient



Fig 2a: Showing the mandibular teeth



Fig 2b: Showing the maxillary restorations

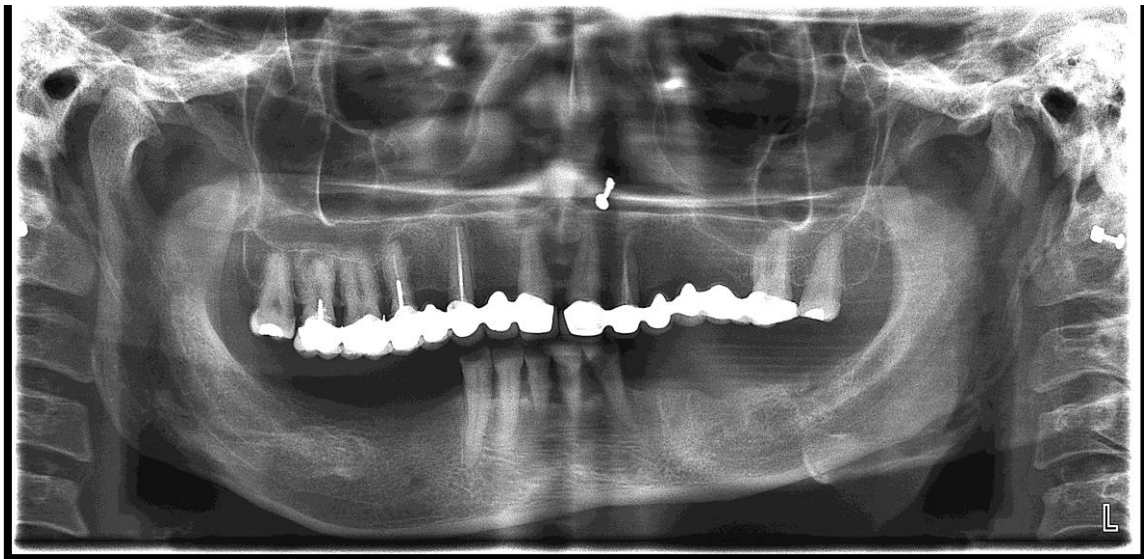


Fig 3 : Showing the pre-op Radiograph

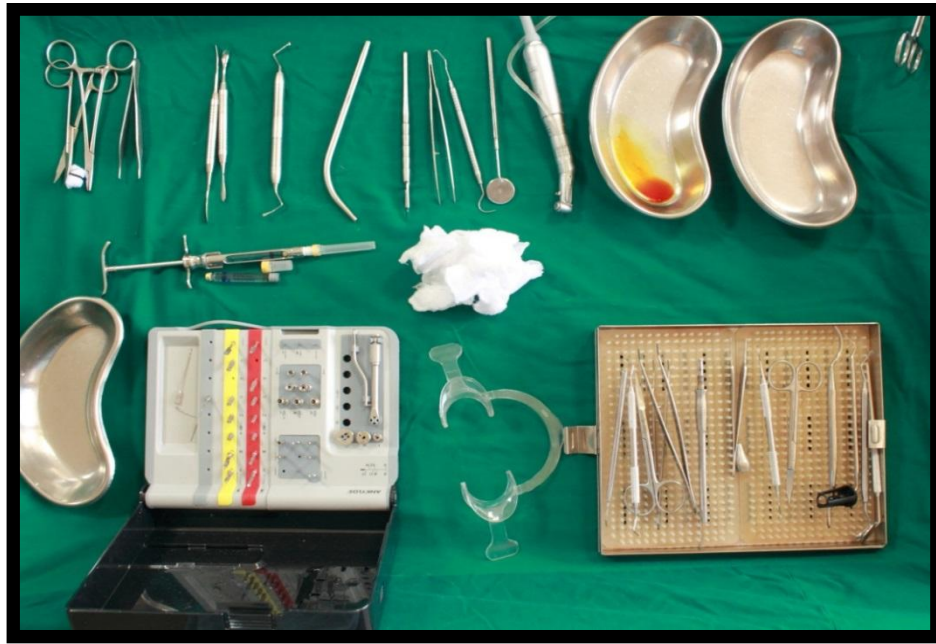


Fig 4: Showing the sterilized armamentarium.



Fig 5a: Showing atraumatic extraction of mandibular anterior teeth



Fig 5b: Showing the extracted teeth

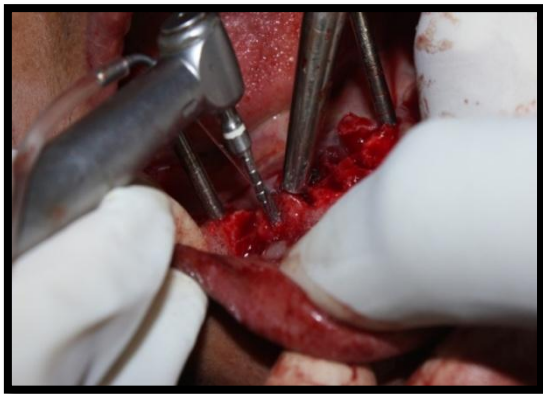


Fig 6a

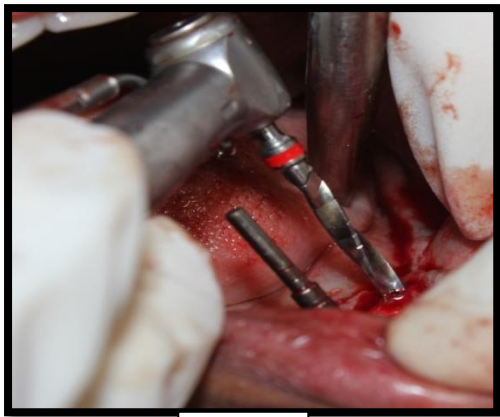


Fig 6b

Fig 6 : Osteotomy site showing pilot drill(a) and trispade drill(b)

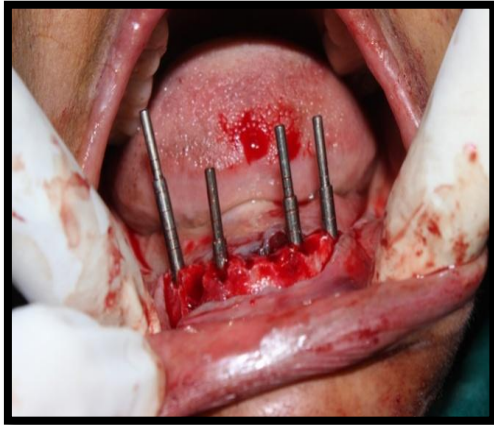


Fig 7: Placement of paralleling pins.

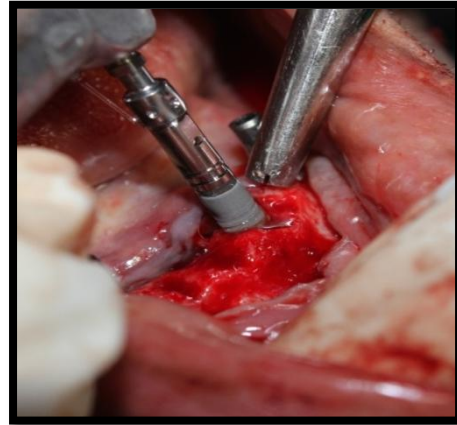


Fig 8 Showing :ankylos implant being placed.

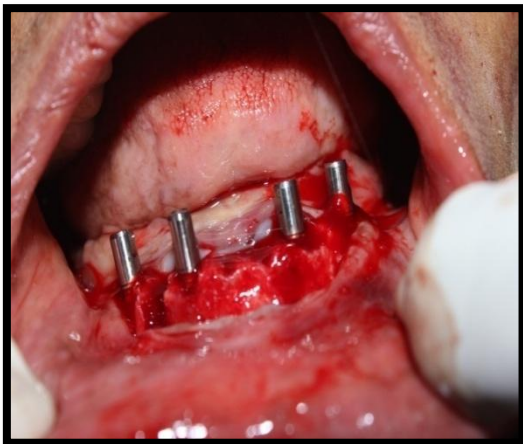


Fig 9: Showing the SynCone abutments in placed.

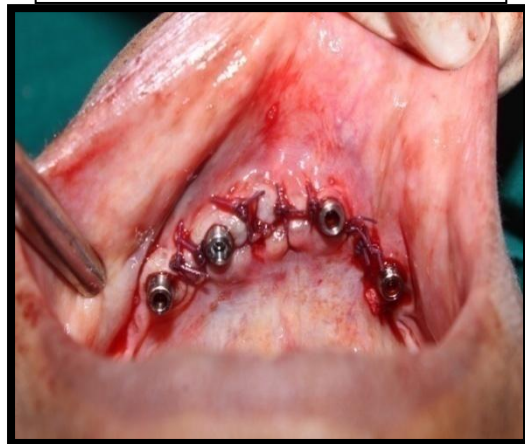


Fig 10: Showing the placement of sutures.



Fig 11: Showing rubber dam placement.

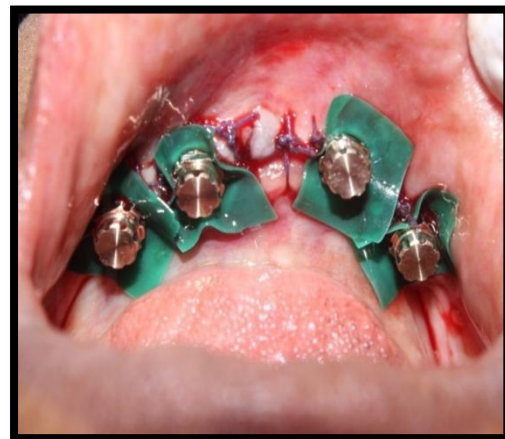


Fig 12: Showing the inserted gold degunomes.



Fig 13: Showing the pick up impression with cold cure acrylic resin.



Fig 14: Showing the finished and polished overdenture.

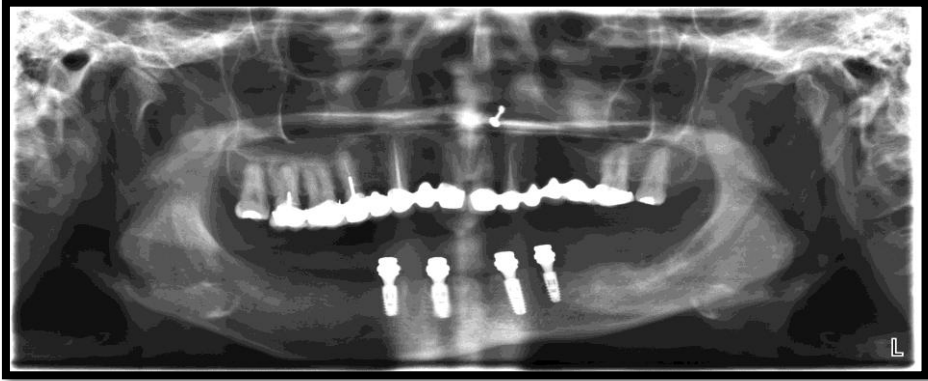


Fig 14: Post op radiograph showing the fit of the abutments and degunomes



Fig 14: Patient after treatment

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