



**“KOS ONE PIECE IMPLANT” AN EXCELLENT CHOICE IN
RESORBED AND NARROW RIDGE – A CASE REPORT**


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ABSTRACT

Immediate loading is an accepted and an alternate treatment of choice for the past two decade which is an excellent choice of treatment in a patient with compromised ridge. The aim of this article is to describe a clinical case in which the ridge has been resorbed and become narrow due to mesial migration of the posterior teeth after a long term being edentulous. Here we have treated the case with single KOS one piece implant and done with immediate loading.

Key words: immediate loading, alternate treatment of choice, resorbed ridge, narrow ridge, KOS implant.

Access this article online		
Home page: http://www.mcmed.us/journal/ijacr	Quick Response code 	
DOI: http://dx.doi.org/10.21276/ijacr.2018.5.2.4		
Received:25.04.18	Revised:12.05.18	Accepted:15.05.18

INTRODUCTION

Restoring the maxilla and mandible tooth in any region has become common in today’s practice. For any successful implant placement it is predicted the bone height should be minimum 13-15mm and the width should be minimum 5-7 mm. When the available bone is not sufficient, procedures such as inlay or onlay alveolar grafts, nerve repositioning, sinus lift and even nasal lift use to place a conventional implant which has its own advantages and disadvantages [1]. For the past two decades cases with resorbed ridges and narrow ridges are treated with basal implant system. The basal implant system is most successful in such cases also with minimally invasive technique. Basically basal implants have two different approaches to have primary stability. It is based on the design of the implant one relies on the lateral condensation of the cancellous bone whereas the other establish a direct cortical anchorage [2]. Here we present one such case treated with basal implant which has ability to compress the lateral bone for primary stability.

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CASE REPORT

A 25 year old patient reported with chief complaint of missing teeth in her lower posterior right and left back tooth region for past 6 years. There was no contributing medical history. Her dental history revealed patient underwent uneventful extraction 6 years ago due to dental caries. On intra oral examination number of teeth present was 26 with missing in relation to 36 and 46 (Fig 1 & 2) where the edentulous area is narrow due to mesial migration of the posterior teeth and resorbed, also restoration was evident in relation to 47. Further patient was explained about implant placement in the edentulous region for prosthetic restoration in relation to 36 and 46.

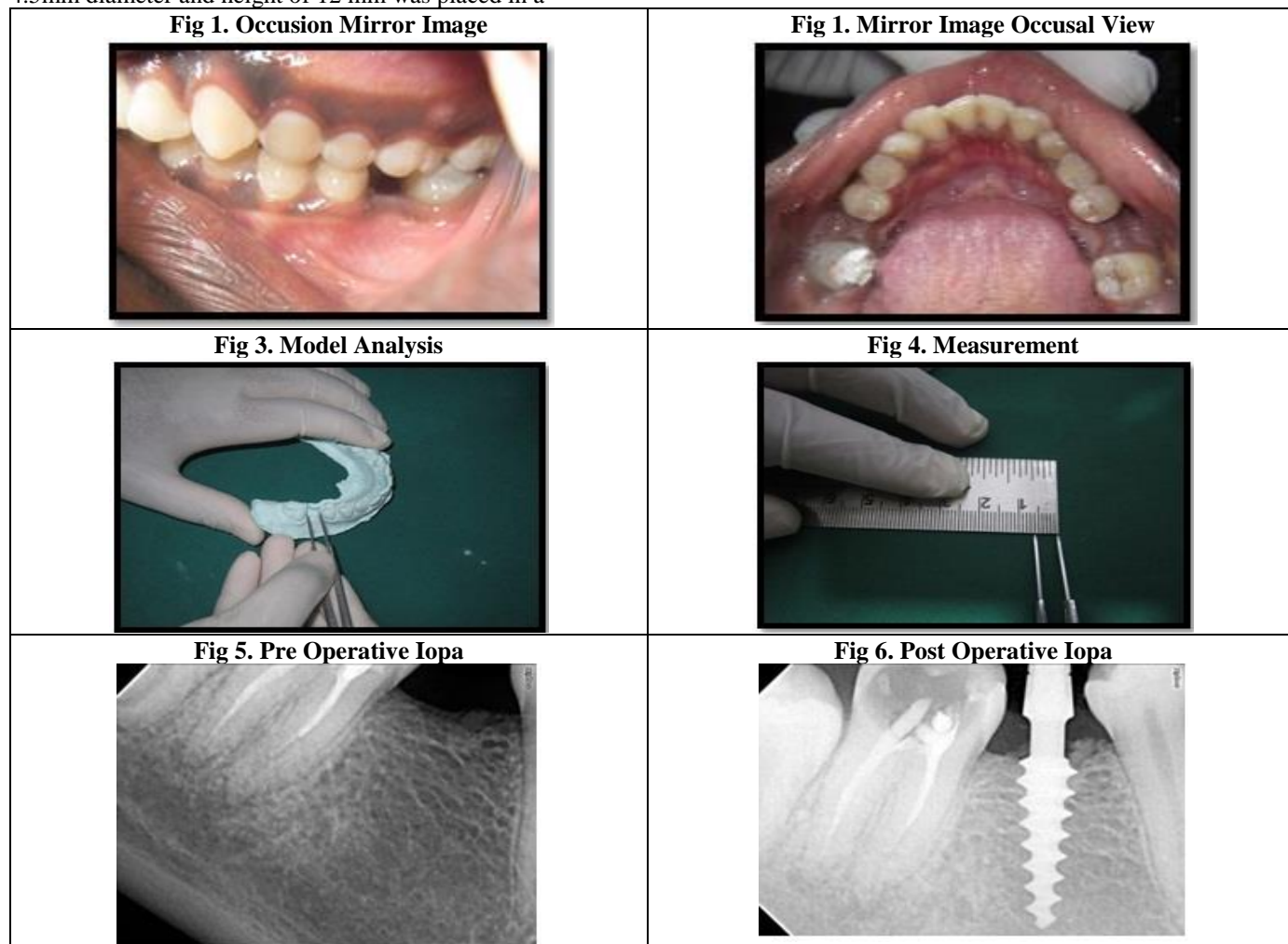
Following which the ridge width has been analysed with the bone caliper and impressions were taken along with photographs for analysing (Fig- 3 & 4). Patient was also subjected to intra oral periapical radiography for radiographic evaluation of the implant placement site (Fig- 5).

On analysing the width of the ridge in relation to 46 with bone caliper reveals 5 mm also the mesiodistal width was analysed from the model which reveals 6 mm. Radiographically the height of the alveolar bone form its

crest to the Inferior alveolar nerve canal (limiting structure) revealed 14 mm. Based on the width measurement mesiodistally and buccolingually our team has decided to place KOS one piece implant which is an excellent choice in case of narrow ridge.

Under local anesthesia the KOS one piece implant 4.5mm diameter and height of 12 mm was placed in a

flapless technique after the pilot drill (Fig – 6). During the placement of the implant the torque achieved is more the 50 Nm which is the required torque. The impression was taken after placing the transfer cap and the implant analog was transfer to the model for prosthetic procedure. Within 3 days PFM was given.



DISCUSSION

Centuries ago people have tried a various methods to restore the functional and esthetic in concern to maxillofacial region which include implants. The implants before the era of osseointegration with various design have not much documented also has fair success rate, which include materials like porcelain, cobalt-chromium and iridioplatinum [3]. After the concepts of osseointegration given by Branemark titanium alloy were extensively used for implant till date [4]. The implant design has been modified to various form which is influenced by biomechanical bond between bone and the implant to increase the success rate.

Dr. Jean-Marc Julliet was the first person to introduce single piece implant in the year 1972 [1].

After several years of research finally in 1980 the matching surgical tool was introduced. Later these implants also greatly modified in accordance to improve success rate. In 2005 Dr. Stefan Ihde introduced the modified basal implant which is design in the screw form BCS and KOS. Basically these basal implants have two different approaches to have primary stability. It is based on the design of the implant one relies on the lateral condensation of the cancellous bone whereas the other establish a direct cortical anchorage [2].

One of the common reasons for failure of conventional implant is the inadequate bone width [5]. The ridge resorbtion occur commonly due to long standing edentulous. however various methods are employed to overcome this problems which include augmentation of the

alveolar crest such as guided bone regeneration, bone block grafting, ridge splitting for bone expansion, and distraction osteogenesis [6]. Of these procedures ridge split technique is most commonly advocated in this type of cases. The ridge split technique also has certain disadvantages such as bone loss sometime very extensive occasionally with infections, implant loosening, sloughing of the implant edges, and loss of graft material.⁵ These procedures are often technique sensitive, invasive and also expensive. Basal implants with compression types serves as a better alternative in such resorbed ridges [7]. Basal implants are mainly indicated in cases with resorbed ridge and where the bone height from the limiting structure is compromised [8].

Our present case was presented with a resorbed ridge in the edentulous 46 region which itself an indication for the use of basal implant in this case. This case was restored with a single KOS implant and PFM crown was given within 3 days.

CONCLUSION

KOS one piece implant is an excellent choice in resorbed and narrow ridge when compare to other invasive procedures. The implant success rate is also high when compare to the other treatment protocol. This implant system also has an advantage of immediate loading which was impossible in other systems.

STATEMENT OF HUMAN AND ANIMAL RIGHTS

All procedures performed in human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors

ACKNOWLEDGEMENT

Nil

CONFLICT OF INTEREST

No interest

REFERENCES

1. Aakarshan DG, Aviral V, Tanay D, Saloni T. (2017). Basal Osseointegrated Implants: Classification and Review. *International Journal of Contemporary Medical Research*, 4(11), 23.
2. www.FranzMedien.com.
3. Rajan R, Zakariya C, Monica S, Sowmya S, Ravi RR. (2016). A Brief Chronological Review of Dental Implant History. *International Dental Journal of Students Research*, 4(3), 105-107
4. Branemark PI, Hansson BO, Adell R, et al. (1997). Osseointegrated implants in the treatment of the edentulous jaw. Experience from a 10-year period. *Scand J Plast Reconstr Surg Suppl*, 16, 1-132.
5. Deepak A, Alka S, Vilas N, Amit G, Subhash J. (2014). Narrow Ridge Management with Ridge Splitting with Piezotome for Implant Placement: Report of 2 Cases. *J Indian Prosthodont Soc*, 14(3), 305-309.
6. Scipioni A, Bruschi GB, Calesini G. (1994). The edentulous ridge expansion technique: a five-year study. *Int J Periodontics Restorative Dent*, 14(5), 451-459
7. Nair C, Bharathi S, Jawade R, Jain M. (2013). Basal implants - a panacea for atrophic ridges. *Journal of dental sciences & oral rehabilitation*, 1-4.
8. <http://drmurugavel.in/content/boi-dental-implants-india-basal-dental-implants-india>.

Cite this article:

Shanmugasundaram M, Priya Bharathi. KOS one piece implant an excellent choice in resorbed and narrow ridge – a case report. *International Journal Of Advances In Case Reports*,5(2), 2018,44-46. DOI: <http://dx.doi.org/10.21276/ijacr.2018.5.2.4>



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