

ORIGINAL ARTICLE

Complications associated with Dental Implant Therapy- A Retrospective Study

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ABSTRACT:

Background: Dental caries and periodontal disease are the most frequent reasons for the dental visit. After the loss of the tooth, the people may look out for substitutes that can re establish their form and function. The use of dental implant has revolutionised the teeth replacement protocol. It is an exact replica of natural tooth. The aim of the present study is to retrospectively analyse the complications associated with the use of dental implants. **Materials and method:** The present retrospective study was conducted in the Department of oral and Maxillofacial surgery, Institute, State during a period of 2 years. The data was arranged in a tabulated form and analysed using SPSS software. The study included a total of 40 subjects. The data was obtained from the records of the institute. The dental implants were placed by single experienced surgeon so that the surgeon's effect on the rate of complications is minimised. **Results:** The mean age of the study was 28.34+/- 4.33 years. The study involved 27 males and 13 females. There were 32.5% (n=13) patients in whom 4 implants were placed. In 20% subjects 5 implants were placed. Mucositis were seen in 20% (n=12) subjects. Peri implantitis was seen in 22.5% (n=9) subjects. There were 20% subjects with poor oral hygiene. Crown fracture was seen in 20% (n=8) subjects. **Conclusion:** From the above study we can conclude that mucositis is a commonly seen complication after implant therapy.

Key words: caries, Dental, Mucositis, Implant

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INTRODUCTION

The type of dental treatment is mainly dependent on the pattern of teeth loss and it varies geographically and gender wise.¹ Dental caries and periodontal disease are the most frequent reasons for the dental visit. After the loss of the tooth, the people may look out for substitutes that can re establish their form and function. The replacement should be both esthetic and functionally correct.^{2,3} various choices for the replacement of missing teeth include removable partial dentures, fixed partial dentures, crowns and bridges.^{4,5} The use of dental implant has revolutionised the teeth replacement protocol. It is an exact replica of natural tooth. Dental implant surgery is a routinely performed dental procedure and is safe with high success rate. However complications are unavoidable. Therefore a consideration should also be given to complications associated with dental implant surgery. Haemorrhages, implant fracture, loss of bone are certain commonly seen reasons that lead to implant failure. Paraesthesia or anaesthesia are also seen with some cases. In a study conducted by Aglietta et al wrote a review on the complications associated with dental

implants and their 5 year survival rate.⁶ The aim of the present study is to retrospectively analyse the complications associated with the use of dental implants.

MATERIALS & METHODS

The present retrospective study was conducted in the Department of oral and Maxillofacial surgery, Institute, State during a period of 2 years. The study included subjects more than 18 years of age undergoing dental implant treatment. Subjects belonging to ASA grade III or IV were excluded from the study. The study was conducted from August 20XX to September 20XX. The study was approved by the institutional ethical committee and a written consent was obtained from all the subjects before the initiation of the study. The study included a total of 40 subjects. The data was obtained from the records of the institute. The dental implants were placed by single experienced surgeon so that the surgeon's effect on the rate of complications is minimised. Complete demographic and clinical details were obtained from all the subjects. The data was arranged in a tabulated form

and analysed using SPSS software. All the data was arranged in percentage of total.

RESULTS

The present study enrolled 40 subjects. The mean age of the study was 28.34+/- 4.33 years. The study involved 27 males and 13 females.

Table 1 shows the total number of implants placed. There were 32.5% (n=13) patients in whom 4 implants were placed. In 20% subjects 5 implants were placed. In 15 patients 6 implants were placed. There were 2 subjects each in whom 7 and 8 implants were placed respectively. Table 2 shows the complications that were seen after the placement of dental implants. Mucositis were seen in 20% (n=12) subjects. Peri implantitis was seen in 22.5% (n=9) subjects. There were 20% subjects with poor oral hygiene. Crown fracture was seen in 20% (n=8) subjects. Screw fracture was seen in 17.5% subjects. There were 3 patients having ulcer. Prosthesis base fracture was seen in 5% (n=2) subjects. Mucositis was the most commonly seen complication.

Table 1: Total number of implants placed

Number Of Implants	Number Of Cases	Percentage
Four	13	32.5
Five	8	20
Six	15	37.5
Seven	2	5
Eight	2	5
Total	40	100

Table 2: Complications associated with use of implants

Complications	Frequency	Percentage
Mucositis	12	30
Peri implantitis	9	22.5
Poor oral hygiene	8	20
Crown fracture	8	20
Screw fracture	7	17.5
Ulcer	3	7.5
Prosthetic base fracture	2	5

DISCUSSION

Studies have shown the survival rate upto 10 years with the use of implant supported prosthesis.⁷⁻⁹ Implant supported prosthesis are regarded as easily accessible, solid treatment option for missing teeth and they really do not have much adverse effects.^{11,12} With the increase in the use of dental implants there is also an increase in number of obstacles associated with dental implant surgery.¹² The aim of the present study was to retrospectively analyse the various complications associated with the use of dental implants. In the present study, mucositis were seen in 20% (n=12) subjects. Peri implantitis was seen in 22.5% (n=9) subjects. There were 20% subjects with poor oral hygiene. Crown fracture was seen in 20% (n=8) subjects. Screw fracture was seen in 17.5% subjects. There were 3 patients having ulcer. Prosthesis base fracture was seen in 5% (n=2) subjects. Mucositis was the most commonly seen complication. In

a study conducted by Gallucci GO et al¹³ conducted a multicentre prospective study to evaluate the 5 year survival rate and success associated with the use of mandibular implant supported prosthesis. The parameters that were evaluated were Sulcus bleeding ndex (SBI) at four sites per implant, width of facial and lingual keratinized gingival (mm), peri-implant mucosal level, modified plaque index, mobility and peri-implant radiolucency.

He studied a total of 237 implants. Survival rate was 100%. Success rate was 95.5%. Implants associated with distal cantilever were successful for 5 year observational period. Complications were divided into two groups- biological and technical. In our study, there were 32.5% (n=13) patients in whom 4 implants were placed. In 20% subjects 5 implants were placed. In 15 patients 6 implants were placed. There were 2 subjects each in whom 7 and 8 implants were placed respectively. In a study conducted by Cordaro L et al¹⁴ the implant survival rate was 99% over 24- 94 month period and the success rate was 96%. They concluded that the use of intact teeth for fixed implants may result in intrusion of teeth when non rigid connectors are used. The limitations of our study were smaller sample size and short follow up period.

CONCLUSION

From the above study we can conclude that mucositis is a commonly seen complication after implant therapy. Implants are widely used for the replacement of missing teeth. Proper preoperative evaluation of both hard and soft tissue should be done before the placement of implant.

REFERENCES

- Murray H, Locker D, Kay EJ. Patterns of and reasons for tooth extractions in general dental practice in Ontario, Canada. *Community Dent Oral Epidemiol.* 1996;24:196–200.
- Reich E, Hiller KA. Reasons for tooth extraction in the Western states of Germany. *Community Dent Oral Epidemiol.* 1993;21:379–83.
- Ong G, Yeo JF, Bhole S. A survey of reasons for extraction of permanent teeth in Singapore. *Community Dent Oral Epidemiol.* 1996;24:124–7.
- Angelillo IF, Nobile CG, Pavia M. Survey of reasons for extraction of permanent teeth in Italy. *Community Dent Oral Epidemiol.* 1996;24:336–40.
- Haseeb M, Ali K, Munir MF. Causes of tooth extraction at a tertiary care centre in Pakistan. *J Pak Med Assoc.* 2012;62:812–5.
- Aglietta M, Siciliano VI, Zwahlen M, Brägger U, Pjetursson BE, Lang NP. A systematic review of the survival and complication rates of implant supported fixed dental prostheses with cantilever extensions after an observation period of at least 5 years. *Clin Oral Implants Res.* 2009;20:441–451.
- Vigolo P, Mutinelli S, Givani A, Stellini E. Cemented versus screw-retained implantsupported single-tooth crowns: A 10-year randomised controlled trial. *Eur J Oral Implantol.* 2012;5:355–64.
- Berglundh T, Persson L, Klinge B. A systematic review of the incidence of biological and technical complications in implant dentistry reported in prospective longitudinal

- studies of at least 5 years. *J Clin Periodontol.* 2002;29(Suppl 3):197–212.
9. Klinge B, Hultin M, Berglundh T. Periimplantitis. *Dent Clin North Am.* 2005;49:661.
 10. Quirynen M, De Soete M, van Steenberghe D. Infectious risks for oral implants: A review of the literature. *Clin Oral Implants Res.* 2002;13:1–19.
 11. Romero GG, Engelmeier R, Powers JM, Canterbury AA. Accuracy of three corrective techniques for implant bar fabrication. *J Prosthet Dent.* 2000;84:602–7.
 12. Hebel KS, Gajjar RC. Cement-retained versus screw-retained implant restorations: Achieving optimal occlusion and esthetics in implant dentistry. *J Prosthet Dent.* 1997;77:28–35.
 13. Gallucci GO1, Doughtie CB, Hwang JW, Fiorellini JP, Weber HP. Five-year results of fixed implant-supported rehabilitations with distal cantilevers for the edentulous mandible. *Clin Oral Implants Res.* 2009 Jun;20(6):601-7.
 14. Cordaro L1, Ercoli C, Rossini C, Torsello F, Feng C. Retrospective evaluation of complete-arch fixed partial dentures connecting teeth and implant abutments in patients with normal and reduced periodontal support. *J Prosthet Dent.* 2005 Oct;94(4):313-20.

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