

Original Article

Complications Associated with Dental Implants- A Retrospective Study

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ABSTRACT:

Background: Apart from high demand of dental implants among patients, there are many related factors affecting success of dental implants. The present study was conducted to assess complications associated with dental implants. **Materials & Methods:** This retrospective study was conducted on 180 dental implants inserted in 112 patients. In all patients, complications such as fracture of implant, loosening of screw, peri- implantitis, fracture of prosthetic part, mucocitis and ulcers were recorded. **Results:** Out of 112 patients, males were 68 in which 102 dental implants and females were 44 in which 78 dental implants were inserted. The difference was non- significant ($P > 0.05$). Out of 68 males, 12 and out of 44 females, 7 had complications. The difference was significant ($P < 0.05$). Common complications were fracture of implant in males (2) and females (1), loosening of screws in male (1) and female (1), peri-implantitis in males (3) and females (2), prosthetic part fracture in males (1) and females (1), mucocitis in males (4) and ulcers in male (1) and females (1). The difference was non- significant ($P > 0.05$). **Conclusion:** Complications in dental implants are not uncommon. Mostly fracture of implant, loosening of screw, peri- implantitis, fracture of prosthetic part, mucocitis and ulcers are found.

Key words: Implant, Peri- implantitis, Ulcer.

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INTRODUCTION

Quality of dental treatment to be provided is determined by understanding the pattern of tooth loss in a populace, which fluctuates geologically and socially between nations. Studies have exhibited that dental caries and periodontal illnesses are most frequently visit purpose behind tooth extraction. Once a tooth is lost, an individual may look for its substitution with the goal that his/her capacity and style could be re-established.¹

Apart from high demand of dental implants among patients, there are many related factors affecting success of dental implants. First group of factors is host related factors on which success rate of implant depends, such as age and gender of the patient, oral hygiene status, deleterious habits such as smoking and various systemic diseases. Second group is implant placement site related factors such as implant position in jaw, quality and quantity of bone in which implant has to be placed. Surgery related factors such as angulation and direction of implant in arch and the

efficiency of an operator constitutes third group. Fourth group is implant fixture related factors, such as length & diameter of implant, surface roughness, microstructure and macrostructure of an implant fixture. Fifth group is factors related to implant prosthesis such as prosthesis type, retention method and occlusal scheme.²

Whether the implant is exposed or submerged in healing may impact the outcome spontaneous implant exposure is a risk factor when submerged type healing is planned. Furthermore, spontaneous early exposure of submerged implants may be associated with abnormal healing. All of these risk factors must be considered in the prognosis of implant success. The experience of the clinician is another controversial factor in the prognosis of implant success and survival rate.³The present study was conducted to assess complications associated with dental implants.

MATERIALS & METHODS

This retrospective study was conducted in department of Prosthodontics. It included 180 dental implants inserted in 112 patients. All patients were informed regarding the study and written consent was obtained. Patient’s information such as name, age, gender etc. was recorded. In all patients, dental implants were inserted by experienced

Prosthodontics following standardized operative procedures. Complications such as fracture of implant, loosening of screw, peri- implantitis, fracture of prosthetic part, mucocitis and ulcers were recorded. Results thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

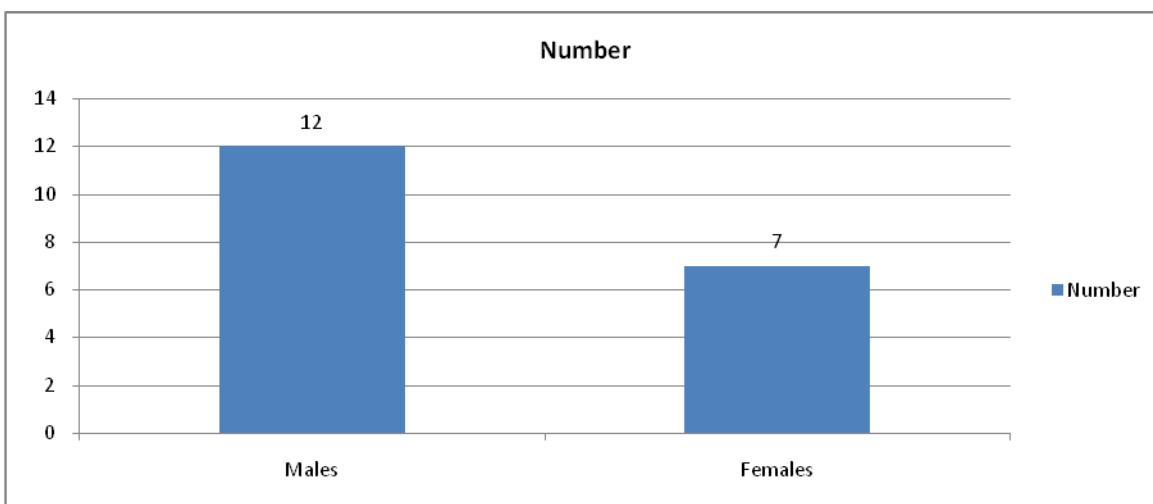
RESULTS

Table I Distribution of patients

		Total- 112	
Males		Females	P value
68 (102)		44 (78)	0.1

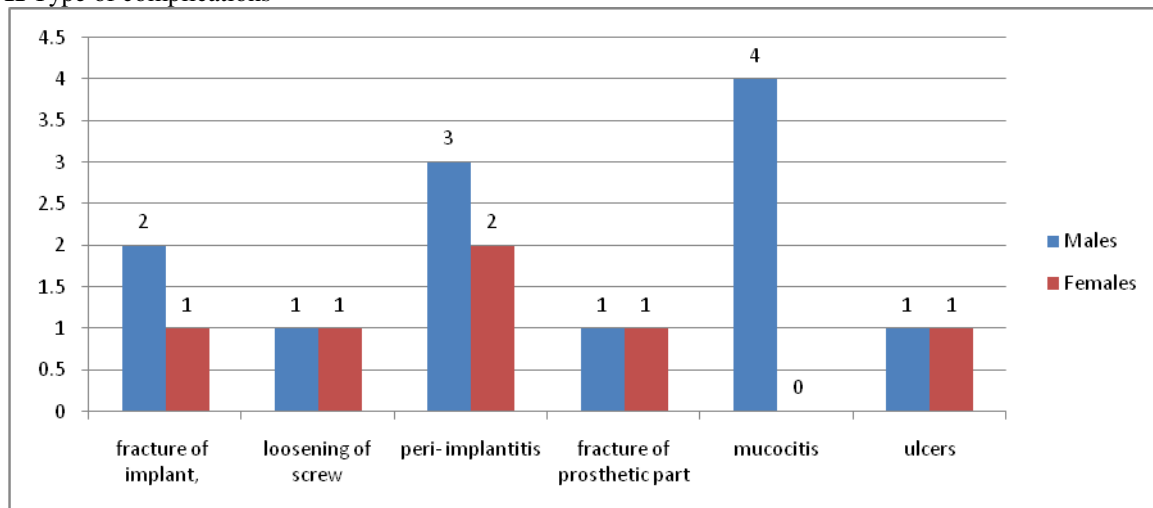
Table I shows that out of 112 patients, males were 68 in which 102 dental implants and females were 44 in which 78 dental implants were inserted. The difference was non- significant (P> 0.05).

Graph I Frequency of complications in patients



Graph I shows that out of 68 males, 12 and out of 44 females, 7 had complications. The difference was significant (P< 0.05).

Graph II Type of complications



Graph II shows that common complications were fracture of implant in males (2) and females (1), loosening of screws in male (1) and female (1), peri- implantitis in males (3) and females (2), prosthetic part fracture in males (1) and females (1), mucocitis in males (4) and ulcers in male (1) and females (1). The difference was non- significant ($P > 0.05$).

DISCUSSION

Various precise reviews have been directed on the survival and difficulty rates of fixed partial dentures (FPDs) upheld by dental implants. Great survival rates of up to 10 years have been accounted for both single-unit and different unit implant upheld FPDs. With significant proof accessible, fixed implant-supported prostheses are completely recognized as a solid treatment. Dental implants have become the need of time for replacement of missing teeth. The longevity of implants and no need of adjacent tooth preparation as in case of fixed partial denture etc. have increased the demand of implants among patients. The success of implant depends on osseointegration of bone with dental implants. Better the osseointegration, more is the survival rate of implant.⁴

In present study, out of 112 patients, males were 68 in which 102 dental implants and females were 44 in which 78 dental implants were inserted. This is similar to Gakili et al.⁵. In present study, out of 68 males, 12 and out of 44 females, 7 had complications.

A study by Rakesh et al.⁶, a total of 30 cases were included. In 10 and 6 subjects, four and five implants per patients were placed respectively. 33.3 percent of the cases showed presence of associated mucositis. In eight subjects, dental implant associated peri-implantitis was present.

In present study, common complications were fracture of implant in males (2) and females (1), loosening of screws in male (1) and female (1), peri- implantitis in males (3) and females (2), prosthetic part fracture in males (1) and females (1), mucocitis in males (4) and ulcers in male (1) and females (1). This is in agreement with hashim et al.⁷

Schnitman⁸ in his study found that cumulative survival rate after 5 years of loading was 94.9%. In binary logistic regression analysis, smoking status and presence of spontaneous cover screw exposure were significantly related to 5-year survival of implants. In stepwise multiple regression analysis, smoking status, type of abutment connection ($P < 0.001$) and implant surface were significantly related to peri-implant marginal bone level.

Leckholm⁹ found that lack of primary stability, surgical trauma, and infection seem to be the most important causes of early implant failure. Early signs of infection may be an indication of a much more critical result than if the same complications occur later, because of disturbance of the primary bone healing process. Occlusal overload and periimplantitis seem to be the most important factors associated with late failure.

Gallucci GO et al¹⁰ evaluated the survival rate, success rate and primary complications associated with mandibular fixed implant supported rehabilitations with distal cantilevers over 5 years of function. In this prospective multicenter trial, 45 fully edentulous patients were treated with implant-supported mandibular hybrid prostheses with distal extension cantilevers. Biological, implant and prosthetic parameters defining survival and success were evaluated for each implant including: sulcus bleeding index (SBI) at four sites per implant, width of facial and lingual keratinized gingival (mm), peri-implant mucosal level (mid-facial from the top of the implant collar, measured in mm), modified plaque index (MPI) at four sites per implant, mobility and peri-implant radiolucency. Author found that most of the patients had peri- implantitis and mobility as complications.

CONCLUSION

Complications in dental implants are not uncommon. Mostly fracture of implant, loosening of screw, peri-implantitis, fracture of prosthetic part, mucocitis and ulcers are found.

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