

Fate of Immediate Implants Vs Single Tooth Implants: A Review Article

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Abstract

Dental Implants have over the decades become one of the most versatile treatment techniques with good survivability rates. They have come a long way and have advanced further and further, improving all qualities. A more recent technique of implant placement is Immediate Loading Implants. Yet it has not yet become the go to technique for day to day treatment of edentulous cases as it has a significant chance of failure.

Methodology: Pubmed database was searched for the keywords “IMMEDIATE IMPLANTS”, “DELAYED IMPLANTS”, “FATE OF IMPLANTS” 158 articles were found.

Out of the 158 articles, the non dental articles were excluded to get 38 articles.

The duplicates were excluded to get 4 articles

These 4 articles were then reviewed and data for this Review Article was obtained.

Keywords: *Immediate Implants fate, Single tooth implants survival*

Introduction

During the past few decades dental implants have come a long way from the implants used and studied by Dr. P. Brånemark in 1978. He was the 1st person to observe and thus describe the concept of osseointegration. Although the credit of 1st ever dental implant to be used in recorded history goes to the amazing Mayan civilization in 600AD, where they successfully used pieces of shell as replacement for mandibular teeth. Many more physicians, scientists and dentists have over the centuries helped to make dental implantology as it is today, a very reliable rehabilitation method for edentulous spaces in both the maxilla and mandible.

According to the time interval between extraction and implant placement, there are three different types of implants placement techniques, namely: (i) Immediate Implants (ii) Delayed Immediate Implants and (iii) Conventional Implants. Immediate implants are placed and loaded immediately into the extraction socket after the tooth has been extracted. Delayed Immediate type is placed and loaded about 10 days after extraction has been done. The conventional implants are placed well after soft and hard tissues have completely healed. We shall now delve deeply into the fate of Immediate Implants vs Conventional Single tooth Implants.

Discussion

In 1999, Judith Maria Pinheiro Ottoni, *et al*^[1] did a comparison study on immediate implants and single tooth implants. The study was done on 155 patients. Among them 77 patients were subjected to immediate implant placement technique. The other 78 were the control group who were treated with the conventional single tooth implant technique. Patient follow-up

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was done and results were gathered at 24 hours, and at 1, 3, 6, 12, 18 and 24 months. The experiment was standardized using 20 Ncm of torque. The survivability of the implants was independent of implant length, position, bone quality and quantity. 9 implants failed from the immediate implant group before the 24-month mark, and only 1 implant failed from the control group. The study concluded that routine immediate loading implants should not be proposed, as the data showed unacceptable rates of survival. Thus, conventional single tooth implants are the better choice.

From 1997 to 1998, GavrielChaushu, *et al*^[2] did a study comparing Immediate Loading Single Implants to Conventional Single Implants. 26 patients were chosen among the age group of 18 to 70 years. 19 implants were that of immediate loading technique, placed into fresh sockets and 9 were of the conventional technique, placed after the sockets healed completely. Follow up was done from 3 to 24 months. At 24 months' time the survival rate of immediate implants was that of 82.4% and that of conventional type was 100%. Although bone loss was somewhat similar in both groups. The study concluded the immediate implants had a significant failure rate of 20%. Thus, it remains to be seen whether it is worthwhile to take the risk.

In early 2019, Dr. Aleksandar Lazarov^[3], performed a study on immediate implants on 87 patients. 42 of them were male and 45 were female. The patients' age ranged from 40 to 60 years. 20.8% of them were hypertensive and 5.7 suffered from diabetes mellitus. 30.2% were smokers. Follow-up was done till 57 months. A total of 5100 implants were placed and among them 105 were losses between 12 and 57 months. 6 patients lost 55 implants, whereas, other 50 implants were lost among 38 patients. This indicated that implant losses might be associated with specific case to case factors. The study concluded that when comparing immediate to conventional implant protocols, a higher risk of failure is seen in case of immediate implants although difference in marginal bone level and probing depth were not to great.

Conclusion

Thus, we can conclude that immediate loading implants have still not reached the optimum level of long-term survivability as compared to conventional single tooth implants. The survivability of implants being a multifactorial entity, we still cannot use immediately loading implants as a day to day treatment modality owing to its significant chance of failure. Thus, conventional implants can be still considered the gold standard until a specific, novel design is devised for immediate loading implants to augment its survivability.

Ethical Clearance – Not required since it is a review article

Source of Funding – Nil

Conflict of Interest – Nil

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