

Important Numbers in Implant Dentistry

99.2

1 year survival rates of 378 AnyRidge implants with Xpeed surface ; A retrospective study in 156 partially edentulous patients.

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Introduction

There are many factors to be considered for the successful implant therapy. Most of all, the surface treatment of implant has been being a main concern. Over the years, to increase the speed of osseointegration and promote the response between fixture and bone tissues, many kinds of surface treatments have been developed. HA, RBM and SLA are representative. The Xpeed surface treatment was applied to AnyRidge® Implant (MegaGen Co., Korea), which fast and strong osseointegration is possible with nano bone matrix layer due to Ca⁺ incorporation on the SLA surface and more safety come from double checking system.

This retrospective study investigates the survival rate of 378 AnyRidge® implant (MegaGen Co. Korea) with Xpeed® surface placed in the edentulous ridge in 156 patients after loading for minimum 6 months from June 2012 to april 2013.

Materials & Methods

The retrospective study group consisted of the 156 consecutive patients (68 males, 88 females, mean age 60.7 years) treated with AnyRidge® implant (MegaGen Co., Korea, Xpeed® surface) in Daegu Mir dental Hospital, between June 2012 and April 2013. In most cases, crestal incisions technique was used, and implant sites were drilled according to the guidelines given by the manufacturer. A total of 378 implants were placed; 208 implants in the maxilla and 170 in the mandible (94 immediate placement after extraction). Implant fixture diameter was from 3.5 to 8.0mm and from 7 to 15mm in length (Table 1). In 103 patient, 209 implants was placed with GBR procedures.

Table 1.

	Ø 3.5	Ø 4.0	Ø 4.5	Ø 5.0	Ø 5.5	Ø 6.0	Ø 6.5	Ø 7.0	Ø 7.5	Ø 8.0
7 mm	-	-	-	-	-	-	-	-	-	-
8.5 mm	2	17	8	16	-	14	3	1	1	-
10 mm	11	55	35	11	-	17	6	2	-	-
11.5mm	20	36	22	6	1	7	7	3	2	-
13 mm	23	24	23	2	-	-	2	-	-	-
15 mm	-	-	1	-	-	-	-	-	-	-

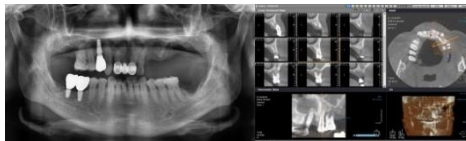


During the process of Xpeed®, treatment, the SLA surface is completely neutralized without any acid residue. The blue color of Xpeed® surface is the symbol of purity.

XPEED® surface



Case Report



pre-operative panoramic view

pre-operative CT view (left maxilla)



healed surgical site after extraction 3 months later.

AnyRidge (MegaGen Co., Korea) treated by Xpeed surface



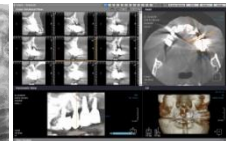
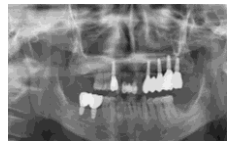
AnyRidge® (MegaGen Co., Korea) treated by Xpeed® surface
Bony defect was filled with MegaOss Bovine®, (MegaGen Co., Korea)
+ i-gen® (MegaGen Co., Korea)



Customized Zirconia abutment (After OP 5 months later)



Monolithic full Zirconia Crown



Results

378 AnyRidge® Implant (MegaGen Co., Korea) in 156 patients was placed and loaded after final restoration delivery for minimum 6 months. For less than 6 months, 1 implants in 1 patient was failed. A cumulative survival rate was 99.2% for AnyRidge® implant (MegaGen Co., Korea) with Xpeed® surface. Table 2. (The success and survival criteria used in this report are a modification of the success criteria suggested by Van Steenberghe) Of the 378 implants, 1 implant was extracted after loading less 6 months, 2 implants were mobile at time of the osseointegration period with 3-6 months after surgery. Table 3 is previous study that is AnyRidge® with super RBM surface result.

Table 2. AnyRidge® implant with Xpeed® surface (N : Numbers) : 2012-2013

	N implants	N failure	Survival rate
Sum	378	3	99.2%

Table 3. AnyRidge® with Super RBM surface (N : Numbers) : 2009-2012 (Courtesy by 2012 MegaGen symposium poster)

		N implants	N failure	Survival rate
Sex	Male	584	19	96.7%
	Female	634	7	98.9%
Time of fixation	Immediate	351	7	98.0%
	delay (healed)	867	19	97.8%
Length	≤ 10.0	717	11	98.5%
	≥ 11.5	501	15	97.0%
Diameter	≤ 4.0	378	12	96.8%
	≥ 4.5	804	14	98.3%
GBR	Yes	611	17	97.2%
	No	607	9	98.5%
Sum		1218	26	97.9%

Discussion

In this study, we investigated the survival rate of 378 AnyRidge® implant in 156 patients after loading minimum 6 months. A cumulative survival rate was 99.2%. Consequently, Anyridge® implant with Xpeed surface treatment shows successful results. Although the follow up period and numbers are less compared to previous our study, it seems that the survival rates after 6 months loading period are enough to regard implant treatment to success. Two implants were extracted before loading and one implant after loading less 6 months. All of these were large bony defects without sufficient bone. More studies with larger patient numbers needed to make AnyRidge® Implant (MegaGen Co., Korea) completely evidence based.

References

1. Liran Levin etc. A retrospective Evaluation of 1,387 single-tooth implants : A 6-year follow-up. J periodontal 2006; 77:2080-2083
2. Van Steenberghe D. Outcome and their measurement in clinical trials of endosseous oral implants. Ann Periodontol 1997; 2:291-298