

C-16. Long-term Evaluation of IMZ Implants ; Success and Survival rates

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Background

The 'intramobile cylinder implant system(IMZ)' is one of the oldest and most used systems in Germany. It was developed by Koch and modified by Kirsch, Kirsch and Ackermann, and Kirsch and Mentag. In previous study, it was reported that at 5 year after insertion 96.0% of all implants were in situ and noninflamed and after 10 years the survival rate was 82.4%³. The other study reported that the survival rate of IMZ system was 89.9% after 60 months and 83.2% after 100 months⁵. Recently, but, failure cases of this system often have been reported and it was suggested our long-term outcomes will be some different from previous studies.

Materials and Methods

Between February 1992 and April 1994, a total of 837 implants were inserted. The annual clinical evaluation included the assessment of several clinical parameter as described previously(Albrektsson & Zarb. 1986)⁶. In addition, a radiographic examination was performed consisting either of panoramic radiograph or periapical radiograph. Based of the clinical and radiographic examination, each implant was classified with 'success', 'survival', 'failed'. The statistical analysis was performed with the survival analysis described by Kaplan & Meier(1958)¹⁷. The marginal bone loss was measured utilizing STARPACSTM program digitalizing radiographs.

Results

27 implants of 83 implants were failed. If censored implants are in 'survival', survival rates is 67.5%. The success rate is 49.4%. Most of failure cases were due to progressive bone loss around implants and combined with fixture fractures occasionally.

Conclusion

The causatives of failure are regarded as cylindrical design, titanium plasma flame spray coating, intramobile elements or intramobile connector. This study will be considered to choose implant system and furthermore develop implant system.

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