

## PR-II-15. Clinical and Histological Evaluation of RBM-Surfaced Implants Placed Immediately in Fresh Extraction Sockets of Beagle Dogs

심재만, 유도현, 김봉진, 선기중, 김운상, 피성익, 유형근, 신형식  
원광대학교 치과대학 치주과학교실

### Background

Numerous studies have been conducted to enhance surface geometry of implant. Resorbable blast media(RBM)-surfaced implant was specifically developed to provide uniform roughness and enhanced surface for osseointegration of titanium.

Nowadays, a variety of domestic implants are being developed. However, the data related to surface characteristics of these materials are quite insufficient.

The aim of this study was to compare the reaction of peri-implant tissues to three kinds of RBM-surfaced implants placed immediately in extraction sockets of beagle dogs.

### Materials and method

Three kinds of RBM-surfaced implants were randomly inserted into seven beagle dogs Lifecore (4.1 mm × 8 mm STAGE-1<sup>®</sup>, Lifecore, U.S.A.), Avana (4.0 mm × 8.5 mm SS-III<sup>®</sup>, OSSTEM, Korea.) and Dio (4.0 mm × 8 mm, IFI<sup>®</sup> DIO, Korea). Total of 21 implants were used. Clinical and histological examinations were performed at 6 weeks and 12 weeks after placement.

### Results

All the inserted site showed normal healing patterns without failure and inflammation. Periotest values(PTV) for clinical evaluation were not significantly different among the implants at both 6 and 12 weeks ( $p < 0.05$ ).

Histologically, bone to implant contact ratios(BIC) were  $42.4 \pm 17.3\%$  for Lifecore,  $32.0 \pm 11.1\%$  for Avana, and  $34.9 \pm 20.3\%$  for Dio at 6 weeks. At 12 weeks, BIC were  $58.5 \pm 5.1\%$ ,  $61.9 \pm 6.1\%$ , and  $57.5 \pm 6.0\%$  in the same order. There were no significant differences among the implants at both 6 and 12 weeks. ( $p < 0.05$ ).

## Conclusion

From the results of clinical and histological evaluation, 2 kinds of domestic implants were comparable to Lifecore implant in terms of stability of implant and degree of osseointegration.