Author’s response to reviews

Title: Developing evidence-based clinical imaging guidelines of justification for radiographic examination after dental implant installation

Authors:

Min-Ji Kim (mingzzing22@snu.ac.kr)
Sam-Sun Lee (raylee@snu.ac.kr)
Miyoung Choi (myhams95@gmail.com)
Hwan Seok Yong (yhwanseok@naver.com)
Chena Lee (CHENALEE@yuhs.ac)
Jo-Eun Kim (noel1st@snu.ac.kr)
Min-Suk Heo (hmslsh@snu.ac.kr)

Version: 2 Date: 10 Aug 2020

Author’s response to reviews:

Thank you for reviewing my manuscript. First of all, there was a comment asking if there were enough differences, as it contained some textual duplication from other previously published studies. As a result of this review, there were similarities in the research method. In the case of this research method, the specified protocol was followed, and references of protocol were also marked accordingly. Other than this, the subject is different, so I think it is a study that is clearly different from the previous literature. And this is the revision according to the additional comment.

1. The title was revised by emphasizing the appropriate image modalities for radiographic examination after implant installation. (Title page)

2. Likewise, in the discussion section, we added content related to the appropriate image modalities for radiographic examination after implant surgery.
   1) About a study that conventional radiographic imaging is used to measure the bone height around the implant. Several studies that investigated the correlation between height of implant abutment and peri-implant bone loss also used panoramic radiography and periapical radiography. And these studies showed significant results of the relationship between height of implant abutment and bone loss around the implant. (Discussion section, line 19 of page 13 ~ line 1 of page 14)
2) Contents of errors that appear in CBCT among image modalities for radiographic examination after implant placement.: In the follow-up of implants, CBCT is often used as a means for early diagnosis of peri-implantitis. Due to metal artifact of the implant, the buccal bone of the implant is about 0.3 mm less (the diameter of the implant is 12-15% larger). Therefore, if the bone around the implant is not clearly visible due to the implant metal artifact in the cone beam CT image, the subjective judgment of the dentist is required for diagnosis. (Discussion section, line 6-10 of page 14)

Although the CBCT is useful to some extent in the structural analysis of the bony trabeculae, the CBCT is not reliable for evaluation of the bone density. The Pseudo-Hounsfield value of CBCT is unreliable, so additional examination is necessary when CBCT is used in assessing quality and density of bone. These studies support the rationale that CBCT is not the primary examination in the follow-up after implant installation. (Discussion section, line 11-15 of page 14)