



Analysis of Risk Factors for Early Crestal Peri-implant Bone Loss in Unrestored Implants

Sara AlHachache, DDS¹, Bansari Shah, BDS,MSD¹, Ike Cheng, DDS, MSD¹, Michael Sekula¹

HimaBindu Dukka, BDS, MSD, MPH¹

Departments of Periodontics¹, University of Louisville, KY, USA



Introduction

Evidence regarding the etiology behind bone loss around submerged, prosthetically non-loaded implants is still limited.

This early crestal peri-implant bone loss (ECIBL) excludes marginal bone remodeling and involves bone loss at least till the first implant thread.

Aim

Analyze the possible patient-level, tooth, and implant related factors for ECIBL around unrestored implants.

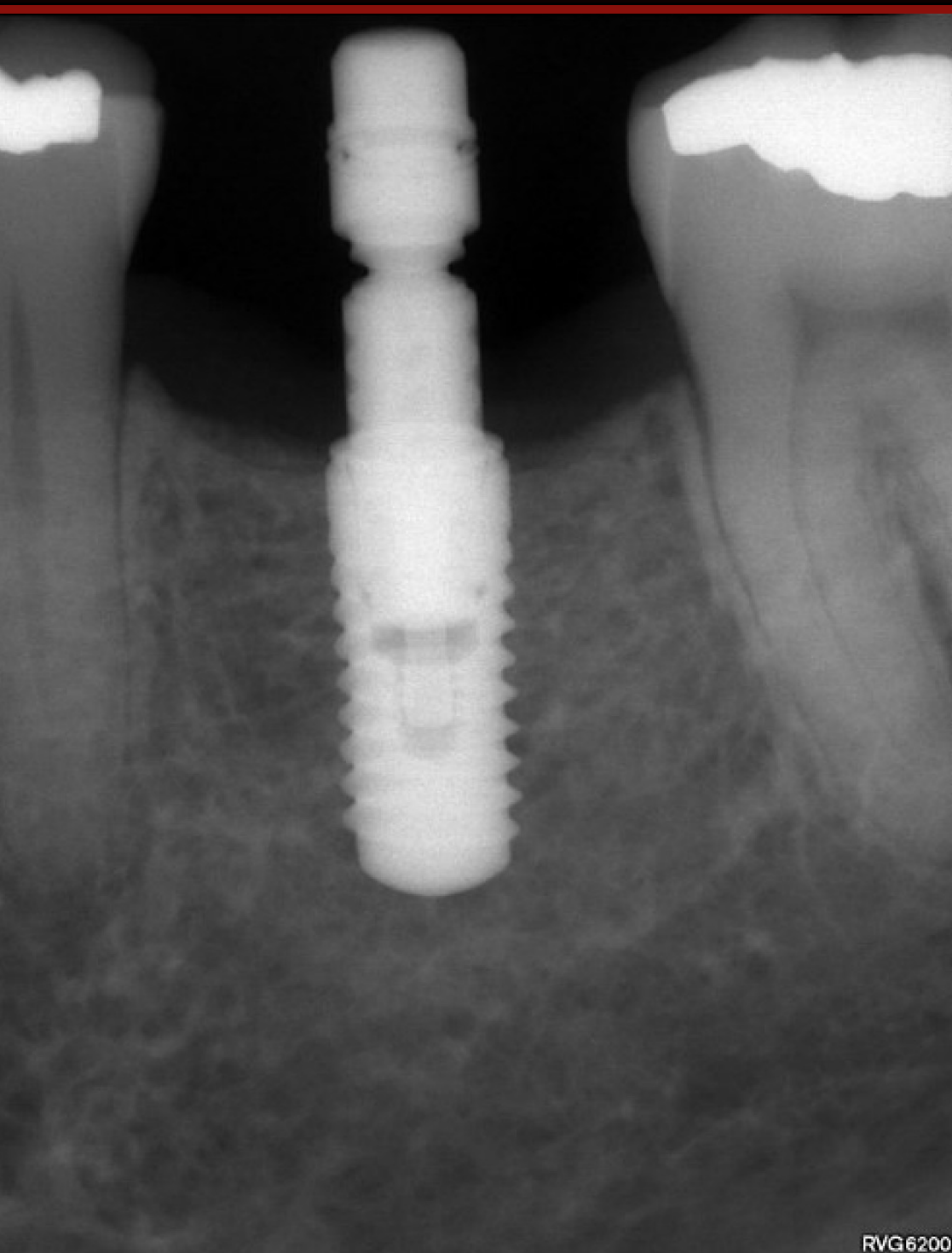
Methods

Retrospective data was collected from patient electronic health records that were treated at the UofL, Department of Periodontics between 2015 and 2021.

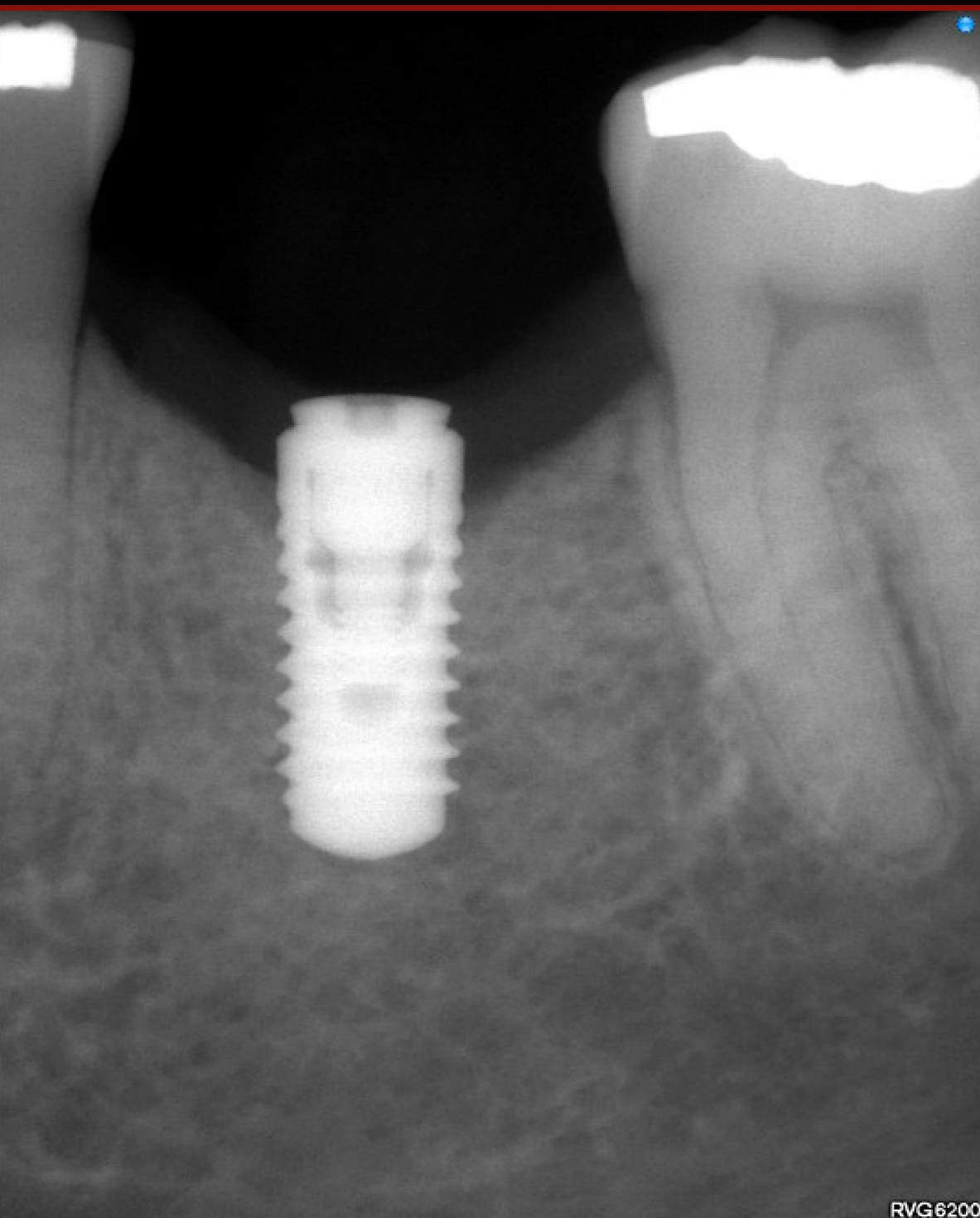
Patient level data, tooth and implant level data comprising periodontal status, reason for extraction, ridge preservation, and implant characteristics were included.

ECIBL was assessed using standardized peri-apical radiographs obtained during implant placement and second-stage surgeries.

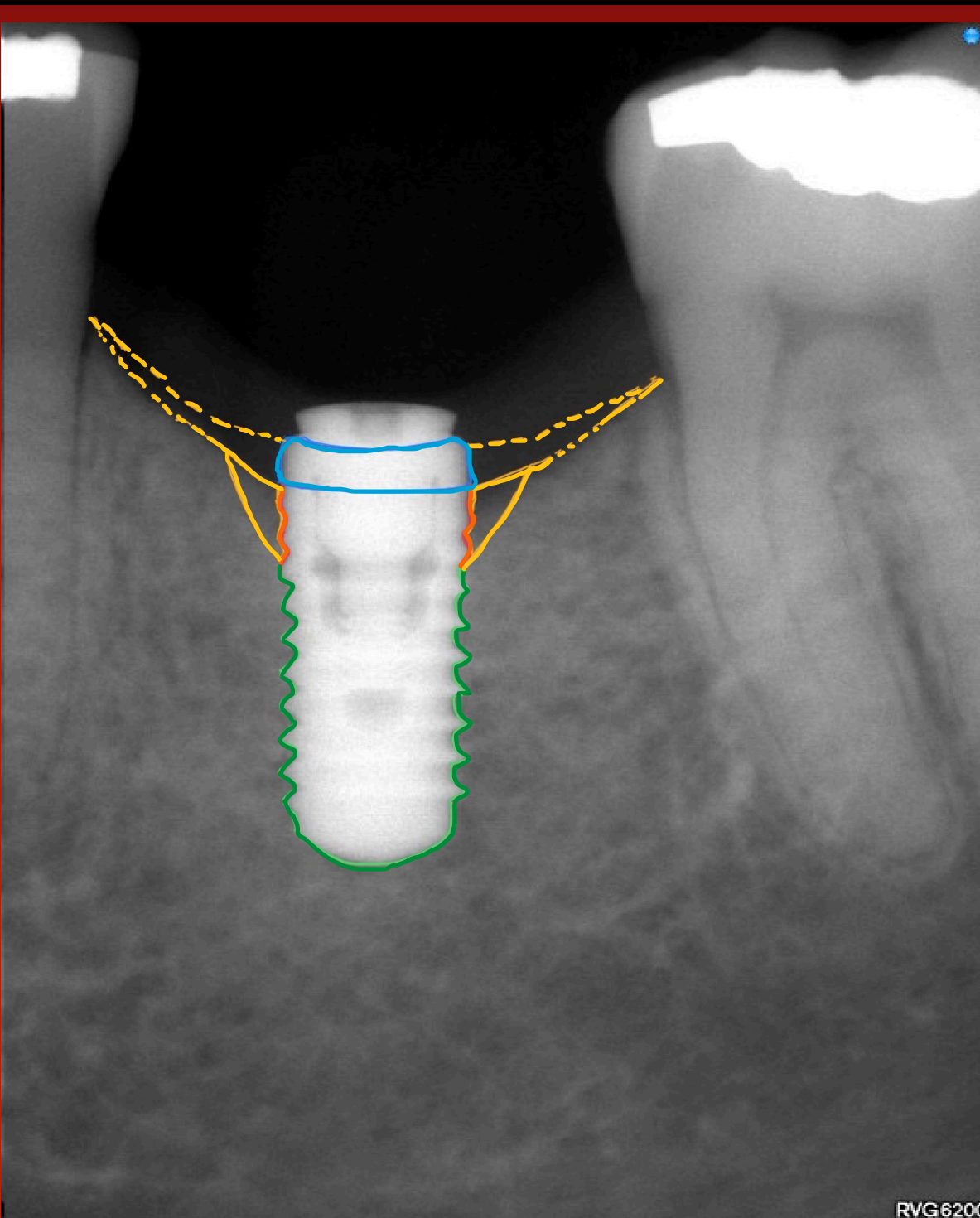
ECIBL as seen on radiographs during second stage surgery



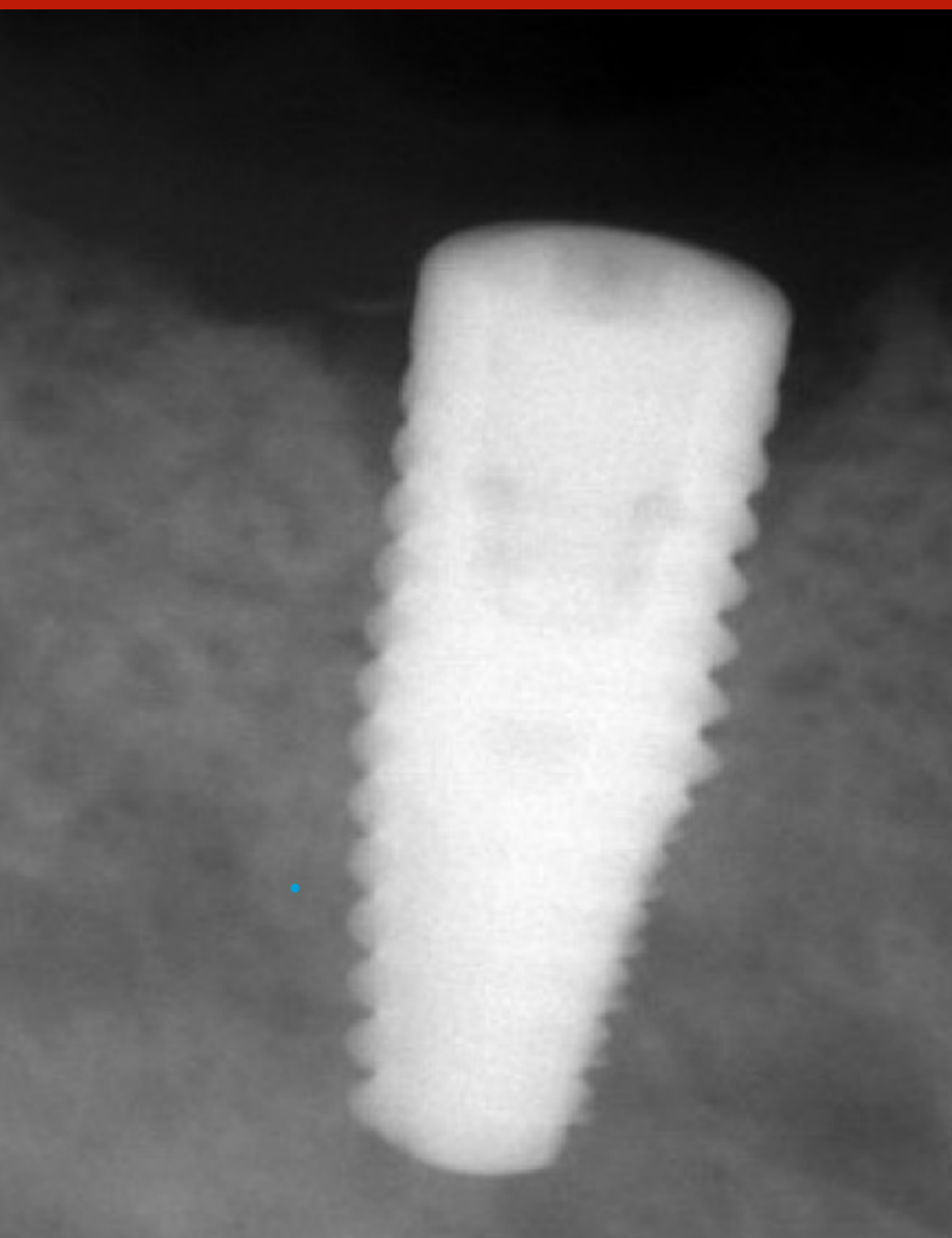
Implant Placement



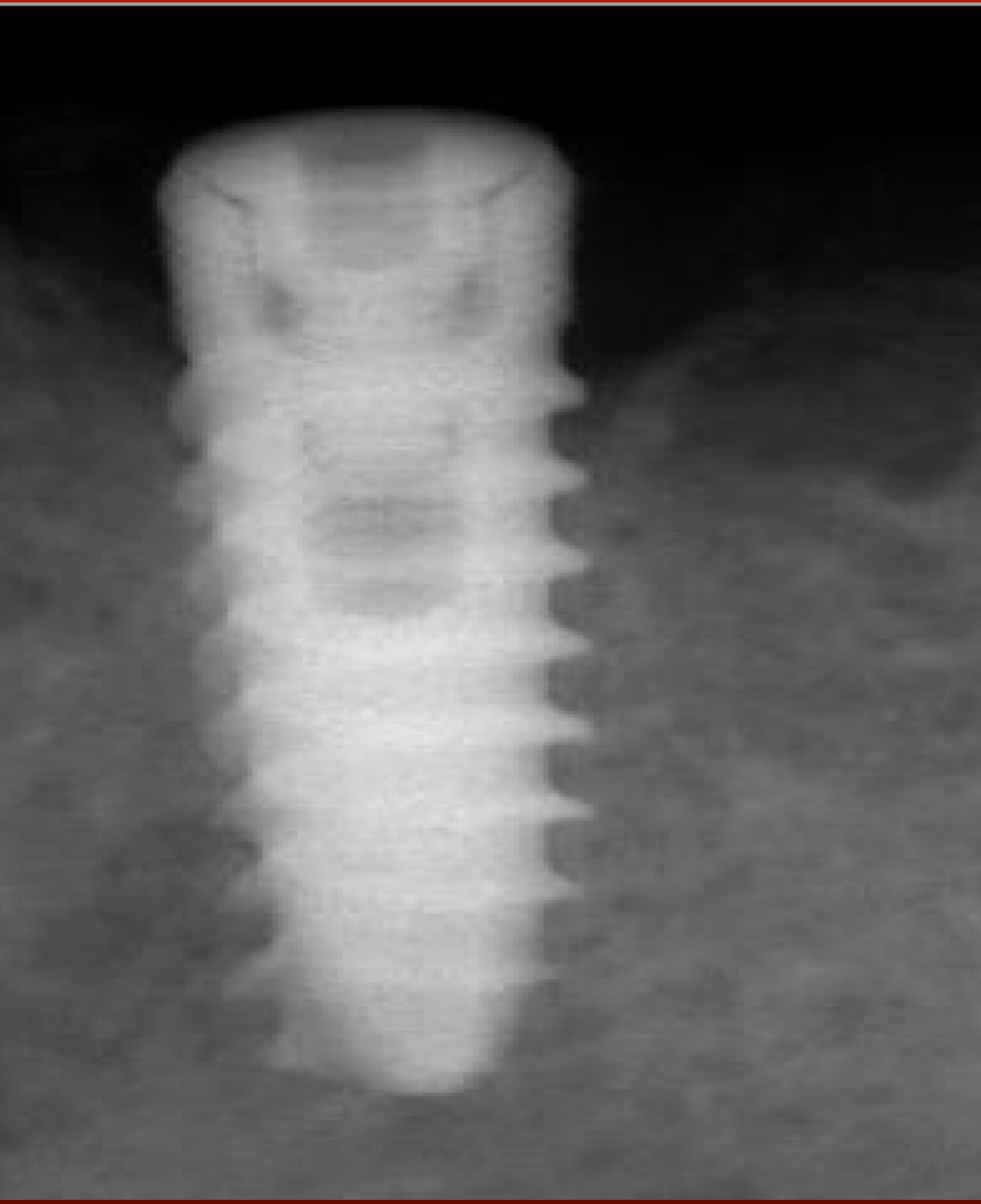
Implant Uncover



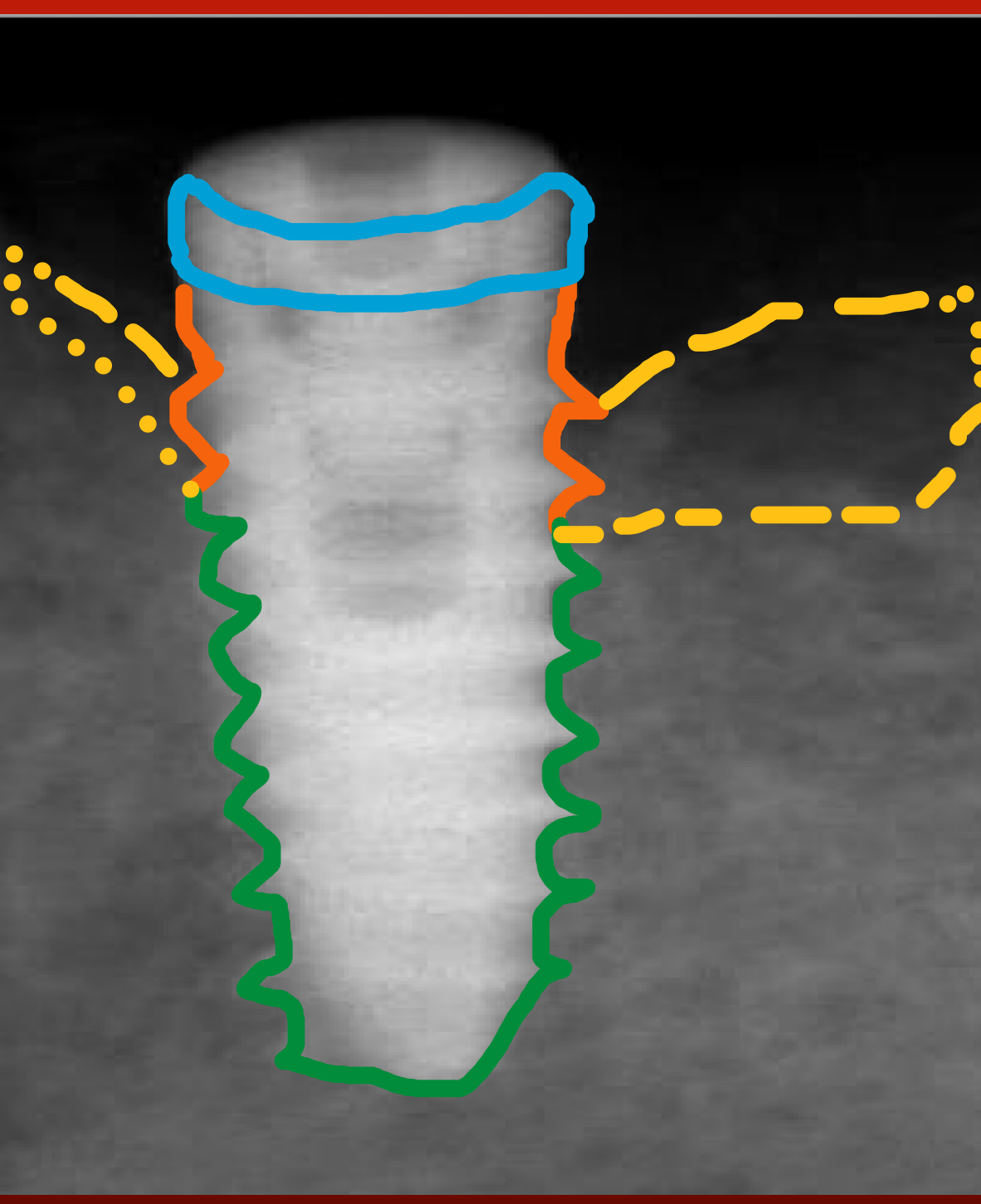
ECIBL



Implant Uncover



Implant Uncover



ECIBL

Clinical Relevance

This study underscores the importance of periodontal treatment and SPT for peri-implant health.

Results

The total number of included implants was 200 of which 100 was in the control group having healthy implants with no crestal bone loss and 100 in the test group with ECIBL.

Males and smokers were at a higher risk for having ECIBL with the odds ratio of 1.6 and 2.3, respectively.

Patients with a history of untreated periodontitis had 1.8 > risk of ECIBL.

Lack of supportive periodontal therapy (SPT) was shown to have 4> risk and was statistically significant ($p<0.05$).

Conclusion

Our study indicated that untreated periodontitis and lack of SPT have the potential to influence ECIBL in unrestored implants.

Sub-epithelial connective tissue grafts could be used to achieve increased peri-implant mucosal thickness, which could aid in preventing further progression of the ECIBL.

For more Data



Scan me!