

Rutin C Improve Osseointegration of Dental Implant and Healing of Soft Tissue

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Abstract : Background: Wound healing after dental implant surgery is critical to the procedure's success. The aim of this study was to explore the effects of rutin+vitamin C supplementation in wound healing following the placement of dental implants. Methodology: There were 20 participants in this randomized controlled clinical trial who needed dental implants to replace missing teeth. Patients were divided into two groups, and group A received dental implants. Group B received dental implants with vitamin C administration. Follow-up appointments were performed on day 3, day 7, and day 14 post-surgery, during which soft tissue healing and pain response scores were evaluated using the visual analog scale. Postoperative digital panoramas were taken immediately after surgery, 3 months and 6 months postoperatively. Changes in bone density along with the bone-implant interface at the mesial, distal and apical sides were assessed using the digora software. Results: An independent t-test was used to compare the means of variables between the two groups. At the same time, repeated measures were employed to compare the means of variables between two groups. ANOVA was used to compare bone density for the same group at different dates. Significant increased differences were observed at the mesial, distal and apical sides Surrounding the implants of both groups per time. However, the rate of increase was significantly higher in group B The mean difference at the mesial side after 6 months was 21.99 ± 5.48 in the group B and 14.21 ± 4.95 in group A, while it read 21.74 ± 3.56 in the group B and 10.78 ± 3.90 in group A at the distal side and was 18.90 ± 5.91 in the group B and 10.39 ± 3.49 group A at the apical side. Significance was recorded at $P = 0.004$, $P = 0.0001$, and 0.001 at the mesial, distal and apical sides respectively. The mean pain score and wound healing were significantly higher in group A as compared to group B, respectively. Conclusion: The rutin c + vitamin c group significantly promoted bone healing and speeded up the osseointegration process and improved soft tissue healing.

Keywords : osseointegration, soft tissue, rutin c, dental implant

Conference Title : ICDOID 2022 : International Conference on Dentistry, Orthodontics in Implant Dentistry

Conference Location : Barcelona, Spain

Conference Dates : August 16-17, 2022