

**Comparison Between Titanium and Zirconia Inserts in Oral Mucosa Tissue Healing in Rabbits****Ahmed F. Alamori, Wael T. Alwattar and Abdulsattar S. Mahmood**

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Abstract:

AFTER THE INSERTION of a foreign material beneath a surgically prepared wound the body immune system, respond in an inflammatory reaction, which is followed by healing if the inserted material is biocompatible with the tissue. This study we aimed to evaluate the healing process of a surgically prepared wound in lab rabbits' oral mucosa following the insertion of different set of biomaterials these were Titanium and Zirconia. Using histological examination of collected samples. The measuring parameters were the inflammatory cells infiltration, granulation tissue formation, reepithelization and two immunohistochemical tests using cluster of differentiation 31 and matrix metalloproteinase 3 expression in the collected samples to Determine the best material that allow for mucosal healing in contact with from the examined two types and monitor any complications that may arise during the healing of the soft tissue that is in contact with the mentioned materials. In conclusion, Oral mucosal reaction to Titanium and Zirconia sounds similar based on the recorded results in term of healing process with a slight advantage for the latter. The immunohistochemical analysis of the healing process sounds like an effective way to measure the monitored process since both the CD 31 and MMP 3 showed a tuned result with the reepithelization which is considered as the hallmark of healing. Zirconia implants exhibited slight faster resolution of inflammation and enhanced tissue healing compared to Titanium implants, suggesting potential advantages in clinical applications.