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Effect of bone substitutes in maintaining bone volume after tooth's extractions

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Statement of the problem: Preservation of the width and the height of alveolar crest following tooth extraction is a real challenge. Indeed, when a tooth is extracted, a bone resorption inevitably occurs. If uncontrolled, this vertical and horizontal bone loss could disrupt the stability of prosthesis and aesthetic demands. Perhaps, filling the sockets immediately after tooth extraction with bone substitutes will help to minimize bone resorption which naturally occurs. Different averages of bone gain have been found. This study aimed to evaluate the clinical effect of bone substitute in alveolar crest preservation.

Methodology: We realized a randomized clinical trial on 26 subjects divided into two groups. Firstly, we realized a traumatic dental extraction. Then in 14 of the patients representing the treatment group, the surgical site was preserved with granules of Beta Tricalcique phosphate. The control group followed the same protocol except they did not receive the bone substitutes. The length of the study was six months and the primary outcome was an increase of the vertical height during the study period. The secondary outcomes were the stability or the increase of the horizontal height and width of crestal bone. Finally, bone modifications of the alveolar crest were carried out through a clinical measurement (alveolar width) and radiologic measurements (horizontal and vertical heights). The measurements were performed respectively after 3 and 6 months.

Results: Six months after therapy, the width and the horizontal height were constant, but we observed a significantly increase of the vertical heights during the same period. In the control group the reduction of the width and both heights of sockets were significant. **Conclusion:** The use of bone substitute in filling sockets following tooth extraction has a beneficial and osteogenic effect. Therefore, socket's filling preserves alveolar volume.

Biography

Himelda Difo has completed her Medicine Doctorate degree at the age of 23 from the Faculty of Medicine and Biomedical Sciences of the University of Yaounde I. She is the youngest graduate Dentist among the 2017 cohort in Cameroon. She is member of the cameroonian board of Dental surgeon. She has also been Vice President of the Cameroon Dental Student Association and also member of several national and international scientific associations.

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