02.09.2022

Comparison of I-Prf Impregnated Collagen with L-Prf in terms of Postoperative Complications and Wound Healing After Lower Impacted Third Molar Teeth Surgery

Levent Ciğerim DDS, PhD [1], Volkan KAPLAN, DDS, PhD[2],Mehmet Güzel[1]

[1] Van Yuzuncu Yil University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Van, TURKEY

[2] Tekirdag Namık Kemal University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Tekirdag, TURKEY

Corresponding author: Levent Ciğerim

Address: Van Yüzüncü Yıl University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Van, Turkey Postal Code: 65080

E-mail address: levent139@hotmail.com Phone:+905321633287 Office Phone: 904322251744

Fax: +904322251747

Levent CİĞERİM

Van Yuzuncu Yil University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery

levent139@hotmailmail.com, +905321633287, https://orcid.org/0000-0001-5218-8568

Volkan KAPLAN

Tekirdag Namık Kemal University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery

dr.volkankaplan61@gmail.com, 05325041408, https://orcid.org/0000-0002-7605-1125

Mehmet GÜZEL

Van Yuzuncu Yil University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery

dtmehmetguzel@gmail.com, +905363609854, https://orcid.org/0000-0002-9621-0496

Study Protocol, Methods and Procedures

The study is planned to be performed on a total of 50 patients, aged between 18-80 years, who applied to Van Yüzüncü Yıl University Faculty of Dentistry, Oral and Maxillofacial Surgery Department for extraction of lower impacted wisdom teeth with bilateral full mucosal or semi-bone retention. First, clinical and radiological evaluations will be made in patients. In the clinical evaluation, the systemic condition, tooth deficiency, occlusion and the condition of the impacted tooth will be evaluated. Panoramic film will be taken for radiographic evaluation, and periapical film will be taken if necessary.

Individuals aged 18 and over, patients with semi-impacted or fully impacted wisdom teeth, patients without systemic disease (ASA0 and ASA1 individuals according to ASA classification), volunteers, individuals who did not use any medication in the last two weeks, and individuals without lower second molar tooth deficiency were included in the study. has been included.

Individuals with painful temporomandibular joint disease, internal irregularity and/or inflammatory joint disease with a mouth opening of less than 25 mm, pregnant and lactating individuals, individuals who do not come to their postoperative controls, individuals using different drugs other than those recommended, individuals who are allergic to the study drugs and materials to be used are unable to work. will be excluded.

It is planned as randomized, prospective, bilateral and single blind. 50 patients will be divided into two groups.

First group (study group, one side of the same patients): Leukocyte platelet–rich fibrin (L-PRF, 2700rpm,12 min); For the second group (control group, the other side of the same patient): type 1 collagen impregnated with injectable platelet-rich fibrin (I-PRF, 700rpm, 3min) will be used. Both surgical fields will be sutured with 4\0 silk sutures (18mm, 3\8 sharp, 75cm black). Which material will be used first by which side will be determined randomly. After 4 weeks, the other side will be operated. Platelet–rich fibrin (L-PRF) will be obtained by centrifugation at 2700 r.p.m. for 12 minutes and placed in the extraction socket within 2 minutes. Injectable platelet-rich fibrin (I-PRF) will be obtained by centrifugation at 700 rpm for 3 minutes, drawn into the injector, absorbed into type 1 collagen and applied into the socket within a maximum of 2 minutes.

Check-ups will be made in the first session of the patients, on the 2nd and 7th days after the operation, and in the 2nd and 4th weeks. After the operation in all patients; amoxicillin 500mg(Largopen 500mg, 3*1), ibuprofen 600mg (Brufen 600 mg, 2*1), benzydamine HcL + chlorhexidine Gluconate mouthwash (Andorex 200ml mouthwash, 3*1) will be used routinely. Sutures will be removed after 1 week. Pain in patients will be evaluated with the VAS scale (at 3, 6, 12, and 24 hours and on days 2, 3, 4, 5, 6, and 7). For the evaluation of edema, measurements between Angulus-tragus, angulus-lateral canthus, angulus-nasalis, angulus-labial commissura and angulus-pogonion points will be made just before the operation, 2 days after the operation and 7 days after the operation.

To assess trismus, mouth opening—the distance between the incisal edges of the central teeth at maximum mouth opening—will be measured immediately before, 2 days after, and 7 days after the operation.

Soft tissue opening amount (in mm), plaque index, values and periodontal measurements of the second molar tooth in the incision line will be measured before the operation, 2 days after the operation and 7 days after the operation. Other postoperative complications will also be evaluated in the control sessions. Statistical analysis will be made and interpreted for the data obtained.

Statistical Data Analysis:

Descriptive statistics for continuous variables in our study; As Average, Standard Deviation, Minimum and Maximum values; will be expressed as numbers and percentages for categorical variables. Mann-Whitney U analysis will be used to compare group means in terms of continuous independent variables. In addition, the Wicoxon test will be calculated in the comparison of double dependent groups. In order to determine the relationship between these variables, Spearman correlation coefficients will be calculated separately for the groups. Chi-square test will be used to determine the relationship between groups and categorical variables. Statistical significance level will be taken as 5% in calculations and SPSS statistical package program will be used for calculations.