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Evaluation of the Effects of A-Prf and Oral Dexamethasone Use on Postoperative Complications in Third Molar Tooth Extraction

Study Protocol

This study was conducted on 30 patients who were referred to XXX Oral and Maxillofacial Surgery Clinic and were indicated for extraction of impacted third molars. After clinical and radiographic evaluations of all patients, bilateral similarly positioned lower wisdom teeth with full mucosal retention were included.

The tooth extraction on one side of each patient constituted a study group and the other tooth extraction constituted the control group. In Group 1, A-PRF was placed in the patients' tooth extraction sockets and the flap was closed primarily using 3/0 silk suture. The patients were formed into Group 2 so that the other tooth would be extracted 5 weeks later. In Group 2, primary closure was achieved with 3/0 silk suture without placing any biomaterial in the extraction socket, and after the procedure, the patient was prescribed oral dexamethasone (Dekort 4 mg tablet, S:3*1 DEVA brand) with the statement that it would be used for 3 days.

Surgical Technique and Application

Before the operation, the patients included in the study had their radiological orthopantomography taken and their clinical examinations were performed.

The impacted wisdom teeth of the patients were extracted under local anesthesia after determining which tooth would be extracted first and which group it would be included in a random manner. The patient was administered local anesthesia with 1/100,000 epinephrine containing Ultracain D-S Forte® (Sanofi Aventis, Istanbul-Turkey) and after mandibular, lingual and buccal anesthesia, an envelope incision was made and the flap was lifted. Depending on the position of the tooth, the tooth was removed by separating or dividing it when necessary.

Before the operation where the surgical area where A-PRF would be applied was located, 1 tube, 10 cc (Ayset tube, Ayset Tıbbi Ürünler San. A.Ş., Adana/Türkiye) of blood was taken by the assistant personnel. Blood collection was performed via the peripheral antecubital vein by selecting the appropriate intracatheter for the patient's vascular structure. Care was taken to ensure that the patient was in a comfortable position during blood collection. The collected blood was centrifuged for 14 minutes at 1500 rpm using a centrifuge device (Intra-Lock Intra-Spin L-Prf Device, Intra-Lock International, Inc., FL, USA). The A-PRF obtained at the end of centrifugation was placed in the embedded wisdom tooth extraction cavity and the region was closed primarily.

All patients were prescribed amoxicillin 1000 mg (Largopen 1000 mg, 3*1), ibuprofen 600 mg (Brufen 600 mg, 2*1), benzydamine hcl + chlorhexidine gluconate mouthwash (Chloroben 200 ml mouthwash, 3*1) after the operation. They were asked to use the antibiotic and mouthwash as recommended and to take painkillers when needed. The sutures were removed 1 week later.

The VAS scale was used for the patients' pain assessments. Patients were instructed on how and at what times to fill out the scale, and were asked to fill in the scores from 0 to 10 (0, no pain; 10, unbearable pain) at hours 3, 6, 9, 12, and 24 and days 2, 3, 4, 5, 6, 7, 14, and 30. In order to evaluate the patients' analgesic use, patients were asked to note their additional analgesic use on the forms given to them.

For the patients' edema evaluations, the angulus-tragus, angulus-lateral canthus, angulus-nasal wing, angulus-labial commissure, angulus-pogonion face measurements were made before the operation, on the 2nd day after the operation, on the 7th day, 14th day, and 30th day after the operation. For the patients' trismus evaluations, the maximum mouth opening and the distance between the incisal edges of the central teeth in the most open position of the mouth were measured before the operation, on the 2nd day after the operation, on the 7th day, 14th day, and 30th day after the operation.

Statistical Analyses

While evaluating the findings obtained in the study, NCSS (Number Cruncher Statistical System) 2020 Statistical Software (NCSS LLC, Kaysville, Utah, USA) program was used for statistical analysis. While evaluating the study data, quantitative variables were shown with mean, standard deviation, median, min and max values, and qualitative variables were shown with descriptive statistical methods such as frequency and percentage. Shapiro Wilks test and Box Plot graphics were used to evaluate the conformity of the data to normal distribution. Wilcoxon Signed Ranks Test was used in intra-group comparisons of parameters that did not show normal distribution, and Dunn was used to determine the group causing the difference. The results were evaluated at a confidence interval of 95%, and significance was at the level of $p<0.05$.