The effect of platelet rich fibrin membrane in surgical therapy of medication related osteonecrosis of the jaw

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Abstract

Introduction: Medication-related osteonecrosis of the jaw (MRONJ) is a side effect of antiresorptive and antiangiogenic therapies, which are used in the treatment of oncologic diseases and osteoporosis. In cases of MRONJ recovery occurs only in around 80% of the cases and the frequency of recurrence is high. Aim: We examined the effect of the membranous form of Platelet Rich Fibrin (PRF) on patients suffering from MRONJ. Materials and methods: Those patients were included in our study, which underwent an operation because of 2nd and 3rd stage MRONJ. Diagnosis of medication-related osteonecrosis of the jaw was based on the 2009 and 2014 recommendations of the American Association of Oral and Maxillofacial Surgeons. Based on the duration of the treatment, we divided our patients in two groups. Patients in the 1st group (Gr1) underwent traditional surgical therapy between 2009 and 2014. Patients who underwent Platelet Rich Fibrin membrane supplemented operations between 2015 and 2017 were included in the 2nd group (Gr2). Outcomes were assessed based on patient recovery, stage improvement, and relapse rate. The follow-up period was minimum 1-year in every case. Results: 101 patients were included in our study, Gr1 had 73 patients and Gr2 had 28 patients. In Gr1 recovery was detected in 38 cases (58.46%). In Gr2 wound healing was seen in 23 cases (82.14%). After surgical treatment in Gr1 stage improvement was found in 54 cases (77.14%). In Gr2 stage improvement was seen in 100% of cases. In Gr1 25 patients (65.78%) relapsed. In Gr2 recurrence occurred in 5 cases (21.73%). Gr2 results were significantly better than those in Gr1: recovery (p=0.022), stage improvement p=0.005), relapse rate (p=0.000). Conclusion: In our study PRF membrane-supplemented surgical therapy significantly increased stage improvement and healing rates, as well as significantly decreased relapse rates during the investigated follow-up period.

Image

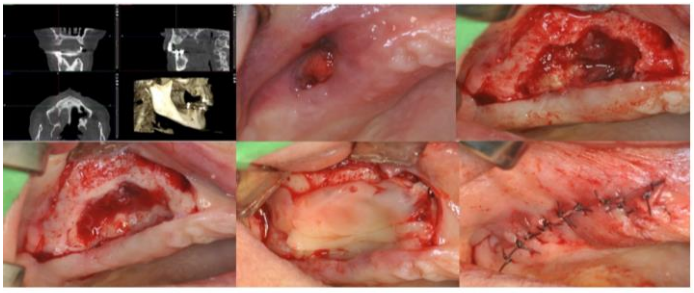


Figure 1: Steps of the operation in PRF membrane-supplemented surgical therapy

Recent Publications

1. Szentpeteri Sz, Schmidt L, Restar L, Csaki G, Szabo Gy, Vaszilko M (2020) The effect of platelet rich fibrin membrane in surgerical therapy of medication related osteonecrosis of the jaw. Journal of Oral and Maxillofacial Surgery 78(5):738-748.
2. Szentpéteri Sz, Restár L, Németh Zs, Vaszilkó M (2020) Prognostic factors of the medication-related osteonecrosis of the jaw. Orvosi Hetilap 161 (8): 283-289.
3. Szentpeteri Sz, Gyorffi A, Deak Gy, Nemeth Zs, Vaszilko M (2021) The role of interleukin 1A and 1B polymorphisms in medication-related osteonecrosis of the jaw. 25th Congress of the European Association for Cranio Maxillo Facial Surgery virtual congress
4. Szentpeteri Sz, Horvath Erzsebet, Dekany Sz, Krasznai M, Kraxner H, Hornyák Csilla, Kovacs T, Tamas L (2015) A szaglászcsökkenés vizsgálata neurodegeneratív megbetegedésben szenvedők körében. FÜL-ORR-GÉGEGYÓGYÁSZAT 61: 4, 147-150.
5. Szentpeteri Sz, Horvath E, Dekany Sz, Kraxner H, Krasznai M, Tamas L (2014) A szaglászcsökkenés vizsgálata neurodegeneratív megbetegedésben szenvedőknél a Neurológiai Klinika betegei körében. FÜL-ORR-GÉGEGYÓGYÁSZAT 60: 114-114.

Photograph



Biography

I graduated from the Faculty of General Medicine at Semmelweis University in 2015, from Faculty of Dentistry at Semmelweis University in 2016. I started working at Semmelweis University in Department of Oro-maxillofacial Surgery and Dentistry in 2015. I obtained a qualification in oral and maxillofacial surgery in 2020. In 2013, I started involving in medication-related osteonecrosis of the jaw research at the Department of Oro-maxillofacial Surgery and Dentistry in Semmelweis University. Initially, we examined the factors in the development and prognosis of the medication-related osteonecrosis of the jaw. After that, we started investigating the effect of supplemented procedures in surgical therapy of medication-related osteonecrosis of the jaw. From 2015, we are examining given Interleukin 1 and Toll-like receptor 4 gene single nucleotide polymorphisms in development and prognosis of medication-related osteonecrosis of the jaw.

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