



## Assessment of the Effectiveness of Alendronic Acid in Dental Implants

1. Ismatov Farrukh Aslidinovich

2. Umarova Yulduz Asliddin kizi

Received 2<sup>nd</sup> Mar 2023,

Accepted 3<sup>rd</sup> Apr 2023,

Online 30<sup>th</sup> May 2023

<sup>1,2</sup> Samarkand State Medical University

**Abstract:** The normal functioning of bone tissue is provided by the balance between the interrelated processes of bone resorption and bone formation, neogenesis. Bone remodeling depends on the balanced work of osteoclasts and osteoblasts, adequate mineralization, and is controlled by a variety of factors, both systemically and locally, such as hormones, cytokines, and growth factors. Disturbance of bone tissue metabolism and predominant resorption processes result in osteopenia and osteoporosis accompanied by loss of support, protective and depositing functions of bone tissue.

**Key words:** bone tissue, dental implants, alendronic acid.

**Introduction.** The normal functioning of bone tissue is especially important for rapid bone repair and osseointegration of dental implants and their effective functioning. Therefore, the question is often raised about the necessity of so called pharmacological support of dental implants, i.e. use of drugs providing accelerated bone recovery and osteointegration, increased bone quality, especially in patients with the presence of osteoporosis or its increased risk. Experimental studies provide a convincing rationale for the use of different bone metabolic regulators to improve implant performance. However, clinical studies are scarce. There are many pharmacological agents that provide inhibition of bone resorption (calcitonin, bisphosphonates), activation of mineralisation (calcium salts), bone formation (fluorides), or have a polymodal effect on resorption and bone formation (vitamin D, ossein-hydroxyapatite complexes). Most of them are effectively used in the pharmacotherapy of osteoporosis and for prophylactic purposes.

**The aim of the research:** To evaluate the effectiveness of alendronic acid in dental implantation and ascertain the nature of its effect on indicators of bone tissue metabolism.

This work was carried out using clinical material. During the period from 2021 to 2023 we examined and treated 151 patients aged 20-67 years with primary and secondary adentia: males - 44 (29,1%), females - 107 (70,9%), with tooth loss lasting from 1 to 25 years. A controlled trial was conducted to assess the effectiveness of alendronic acid as a "pharmacological support" agent for dental implants, in which an open, sequential (alternating) allocation of patients to the comparison or main group (quasi-randomised method) was observed.

Osteogenon (Pierre Fabre, France) was used as a prophylactic agent in a daily dose of 1600 mg (800 mg in the morning and in the evening) for 30 days before surgery, which was carried out not later than 2-3 days after taking the drug. Thus, the course dose of the drug was 48000 mg.

The age and sex structure of patients in the comparison group and in the main group, as well as peculiarities of the surgical intervention are presented in Table 1

**Table 1. Gender and age structure of the patient groups studied**

Group	Men			Women		
	Abs.	%	Age	Abs.	%	Age
Comparison (n = 75)	21	28	39,3±2,2	54	72	41,0 ± 1,4
Basic (n = 76)	23	30	39,0±2,3	53	70	43,0 ± 1,5

Table 1 shows that the study groups were homogeneous with regard to gender and age. The comparison group was awaiting surgery after the examination and did not receive any drug preparation. Patients in the main group received alendronic acid as described above for 30 days before surgery.

**Conclusions:** Prophylactic administration of alendronic acid in the course of preoperative preparation provides 1,7 times lower incidence of postoperative peri-implantitis and unsuccessful outcomes (incidence of peri-implantitis was 6,7 % in comparison group and 3,9 % when using "pharmacological support"). The clinical efficacy combined with the physiological effects of alendronic acid on calcium-phosphorus metabolism and bone tissue metabolism justify its use in preimplantation preparation for dental implants.

#### Literature:

1. Ismatov F.A. Khasanova L.E. Criteria For Evaluating Student Dental Health Index In Accordance With The «8020» Program Methodology // American Journal of Medical Sciences and Pharmaceutical. – 2020. – №. 2(11). – P. 99-105.
2. Исматов Ф.А. Хасанова Л.Э. Стоматологический статус у студентов высших учебных заведений // Узбекистонда Илмий-Амалий тадқиқотлар мавзусидаги конференция материаллари. – 2020. – №. 22 – P. 42.
3. Исматов Ф.А. Л.Э. Хасанова, Комплексная социально-гигиеническая характеристика условий, образа жизни и здоровья студентов. Преимущества обследования студенческой молодежи // Проблемы биологии и медицины– 2020. – №. 1(116). – P. 286-293.
4. Исматов Ф.А. Ибрагимов Д.Д. Изучение стоматологической заболеваемости У студентов высших учебных заведений и пути ее профилактики // Тиббёт талабалари Ва Ёш олимларнинг II халқаро анжумани Материаллари тўплами. – 2020. – №. 2(11). – P. 99-105.
5. Исматов Ф.А. Шодиев С С, Мусурманов Ф.И, Анализ изучения стоматологического и общего здоровья студентов вузов города самарканда // Биомедицина ва амалиёт журналли. – 2020. – №. 6. – P. 34-39.
6. Ismatov F.A. Khasanova L.E, Dental status of students of higher education Institutions // International scientific and practical conference cutting edge-science. – 2020. – №. 2(11). – P. 32-33.
7. Ismatov F.A. Khasanova L.E, Sociological methods for studying the Relationship between dental and general Health of university students // Journal of critical reviews. – 2020. – №. 7(04). – P. 2553-2556

8. Ismatov F.A. Comparative tender characteristics of student dental Health indexes //ACADEMICIA: An International Multidisciplinary Research. – 2020. – №. 10(11). – P. 1394-1399
9. Исмаиов Ф.А. Л.Э. Хасанова, Особенности стоматологического статуса у студентов высших учебных заведений // УЧЕНЫЙ XXI ВЕКА ISSN2410-3586 . – 2020. – №12-6(71). – P. 32- 39
10. Исмаиов Ф.А. Л.Э. Хасанова, Результаты комплексного стоматологического обследования студентов высших учебных заведений // Журнал медицина и инновации JURNAL OF MEDICINE AND INNOVATIONS. . – 2021. – № ISSN2181-1644. – P. 131-143
11. Исмаиов Ф.А. Л.Э. Хасанова,Д.Д. Ибрагимов У.Б.Гаффаров Олий таълим муассасалари талабаларининг стоматологик ҳолатининг ўзига хос хусусиятлари // Междисциплинарный подход по заболеваниям органов головы и шеи журнал стоматологии и краниофациальных исследований. – 2021. – P. 6-11
12. Исмаиов Ф.А. Хазратов А.И.Бузрукзода Ж.Д.The main indicators of oral health in students of the city of samarkand // междисциплинарный подход по заболеваниям органов головы и шеи | 2021 | журнал стоматологии и краниофациальных исследований – 2021. – P. 6-11
13. Исмаиов Ф.А. Олий таълим муассаса талабалар орасида тиш ҳолати ва ҳаёт сифатининг асосий хусусиятлари // Биомедицина ва амалиёт журнали. – 2020. – №6. – P. 148- 153

