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COMPARATIVE DIAGNOSTICS OF THE METHOD OF CLOSURE OF A TOOTH SUN USING A FRAGMENT OF AN EXTRACTED TOOTH AND RESTORATION OF TOOTH CELLS UNDER A BLOOD CLOTT IN PATIENTS WITH EXTRACTED TEETH

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Abstract. In the article, 25-45 48 primary patients who applied to the Department of Oral Surgery and Department of Dental Implantology and Maxillofacial Surgery of Samarkand State Medical University are divided into 2 groups. The 1st experimental group is compared with the extraction of various teeth ending with "clot" and the 3rd group with the use of osteoplastic materials after the extraction of the tooth fragments and the alveolar bone volume preservation technique using the osteoplastic material.

From 202 to 2023, scientific research aimed at preserving the volume of alveolar bone tissue was carried out in the departments of "Oral surgery and dental implantology" of Samarkand State Medical University. In the study, 41 patients underwent surgery.

Key words: tooth extraction, use of tooth piece, bone atrophy, bone tissue atrophy, tooth socket.

Introduction: Tooth extraction is one of the most common operations in surgical dentistry. Defects formed in the rows of teeth are repaired with the help of orthopedic treatment. After tooth extraction, alveolar bone atrophy is observed, and this process is associated with the breakdown of the alveolar walls of the tooth. Atraumatic tooth extraction is used in modern surgical dentistry in order to reduce bone fragmentation and surrounding soft tissue injuries [8,3,9,12].

Physiological atrophy of the alveolar bone is observed even when the tooth is removed in a simple way [2,5,6,24,27,36]. Alveolar bone atrophy after tooth extraction is 1 mm horizontally and 2 mm vertically after 1 year, on average. In the first months after tooth extraction, the loss is maximal (more than 1mm) and accounts for 55% of horizontal resorption [11, 15].

The vestibular bone plate of the front part of the teeth is mainly composed of Sharpey's fibers and alveoli, so bone resorption is more pronounced on the vestibular side.

Physiological atrophy of the bone plate occurs in the first 50 days and averages 0.4 mm in cases where the clot is completely removed to remove the root of the tooth. Depending on the general condition of the patient, location of the causative tooth, gum biotype, regeneration potential and age, these values may differ.

The purpose of the study.

To justify and improve the method of closing the volume of the tooth cage with the extracted tooth piece in order to prevent bone absorption (resorption) processes.

Learning object.

The dissertation is carried out in accordance with the principles and rules of evidence-based medicine. 48 primary patients aged 25-45 who applied to the Department of Oral Surgery and Dental Implantology and Department of Maxillofacial Surgery of Samarkand State Medical

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University are divided into 2 groups. Experimental group 1 using the technique of preserving alveolar bone volume using extracted tooth fragments and osteoplastic material, group 2 different groups of teeth ending with "blood clot" and group 3 tooth cells after tooth extraction using osteoplastic materials are compared.

During the years 2020-2022, scientific research aimed at preserving the volume of alveolar bone tissue was conducted at the "Oral Surgery and Dental Implantology" departments of Samarkand State Medical University. In the study, 41 patients underwent surgery.

In accordance with the research plan, the patients underwent tooth extraction: in the main and control groups, teeth were extracted in an atraumatic manner and the size of the tooth cells was preserved as much as possible. After tooth extraction in the main group, a piece of tooth was sawn from the ligament area around the root of the tooth, then a 2 mm thick fragment was fixed in the tooth cage, and in the control group, the extracted teeth grew normally. Thus, all cases were divided into two groups - main and control groups [45,50,51,58,67,70].

In preparation for the operation, irreparable premolars and molars of the upper and lower jaws were removed. A total of 57 teeth were removed.

In most cases, teeth affected by chronic periodontitis were extracted, and damage was observed below the marginal gingival area of the tooth crown [16,18,22,24,39,43]. Chronic periodontitis was noted in 15 representatives of the main study group (68.1%), in 13 members of the control group (68.4%). Damage to the dental coating below the marginal gum level was observed in 5 members of the main research group (22.7%), in 3 representatives of the control group (15.8%).

Perforation of the root of the tooth: was detected in two members of the main group (9.1%), none in the control group. Exacerbation of chronic periodontitis was not found in the main group, but in 3 patients (15.8%) of the control group [1,4,7,9,10,14,17,19,21]. According to Pearson's $\chi 2$ criterion, as in the previous cases, there were no statistically significant differences between the indicators of both groups (p=0.14), which means that the groups did not differ from each other according to the reasons for tooth extraction. According to the V-Cramer criterion, intergroup communication is weak (V=0.058). Table 1 shows the above data.

Table 1. Reasons for tooth extraction

Reason for removal	The main taste group (n=22)		Control group (n=19)		p	V
	Abs., person	Nis., %	Abs., person	Nis., %		
Chronic periodontitis	15	68,1	13	68,4		
Injury	0	0	0	0		
Tooth crack	0	0	0	0		
Periodontitis	0	0	0	0		
Disintegration of the crown from the level of the marginal gum	5	22,7	3	15,8		

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Perforation	2	9,1	0	0		
Chronic exacerbation of periodontitis	0	0	3	15,8	0,14	0,05
Odontogenic gaymoritis	0	0	0	0		

Note: According to Pearson's χ2 criterion, the differences are statistically significant when r≤0.05.

Many patients had their teeth extracted due to decay of the crown and/or roots due to caries, caries complications, and failure of endodontic treatment (Figure 1).

Figure 1. A tooth to be removed due to deepening caries

Periapical destructive changes in the jaw bones are also one of the reasons for tooth extraction, and this pathological process is clearly visible in orthopantomography (Fig. 2).

Figure 2. Destruction of alveolar bone tissue in the root area of teeth 46 and 47

After curettage in the sockets of the extracted teeth of the patients of the main group, they were closed with the extracted tooth fragment.

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The extracted tooth was divided into transverse fragments using the segmental sawing method. A head and a separation disk were used in this process [63,64,66,68,70]. First, the crown part of the tooth was separated from the root area, then another transverse cut was made, retreating 2 mm above the sawed area. The fragment of the extracted tooth, taken from the front of the neck and with a circular connection on its surface, was fixed surgically and mechanically, and the channels of the fragment were treated with a diamond drill [17,28,32,37,49,53,55,60].

In the initial postoperative period, the patient's condition was evaluated and attention was paid to the following criteria: pain in the area of the removed tooth cage, swelling of the face, the condition of the submandibular lymph nodes, changes in the mucosa of the alveolar barrier in the area of the removed tooth cage, the condition of the tooth cage.

Patients of both groups were included in the clinical examination 7 days after the surgical intervention, and no cases such as pain syndrome, body temperature reaction, swelling of soft tissues of the face, complications in the form of separation of sutures, displacement of the root fragment were detected.

Analysis of the results of clinical observation after tooth extraction showed that after 7-10 days, symptoms of inflammation in the main group were less frequent than in the control group [47,48,52,57,59,63,65].

In the study group, the width of the tooth cage before tooth extraction was 7.25±1.25 mm (7 [6.5;8]), after 4 months it was 6.2±0.5 (6.25 [5 ,9;6,75]) was divided, the change in the width of the tooth cage showed an average of 0.92±0.8 mm (0.75 [0, 5;1.5]). In the control group, the width of the tooth cage was 7.3±0.97 mm (7.1 [6.7;8]), after 4 months it was 4.18±2.2 mm (3.87 [2.5;5 .8]), the average cell width change was 3.2±1.2 mm (.25 [2.1 ;4.25]). The statistical significance of the changes in the control group was greater than that of the study group (p=0.023).

Table 2. Results of both groups maxillary and mandibular frontal incisor width before tooth extraction and 4 months later

Tooth cage height, mm		Search group (n=7)	Control group (n=9)	P
Before tooth extraction	M±SD	7,25±1,25	7,3±0,97	0,87
	Me [Q_1;Q_3]	7 [6,5;8]	7,1 [6,7;8]	
	(Min-Max)	(6-9)	(6,5-8,7)	
4 months after tooth extraction	M±SD	6,32±0,53	4,18±2,2	0,1
	Me [Q_1;Q_3]	6,25 [5,9;6,75]	3,87 [2,5;5,8]	
	(Min-Max)	(5,8-7)	(2-7)	
p		0,22	0,037*	
The difference, mm	M±SD	0,92±0,8	3,2±1,2	0,023*
	Me [Q_1;Q_3]	0,75 [0,35;1,5]	3,25 [2,13;4,25]	
	(Min-Max)	(0,2-2,2)	(1,8-4,5)	

Note: Differences are statistically significant when r≤0.05 according to the Mann-Whitney test.

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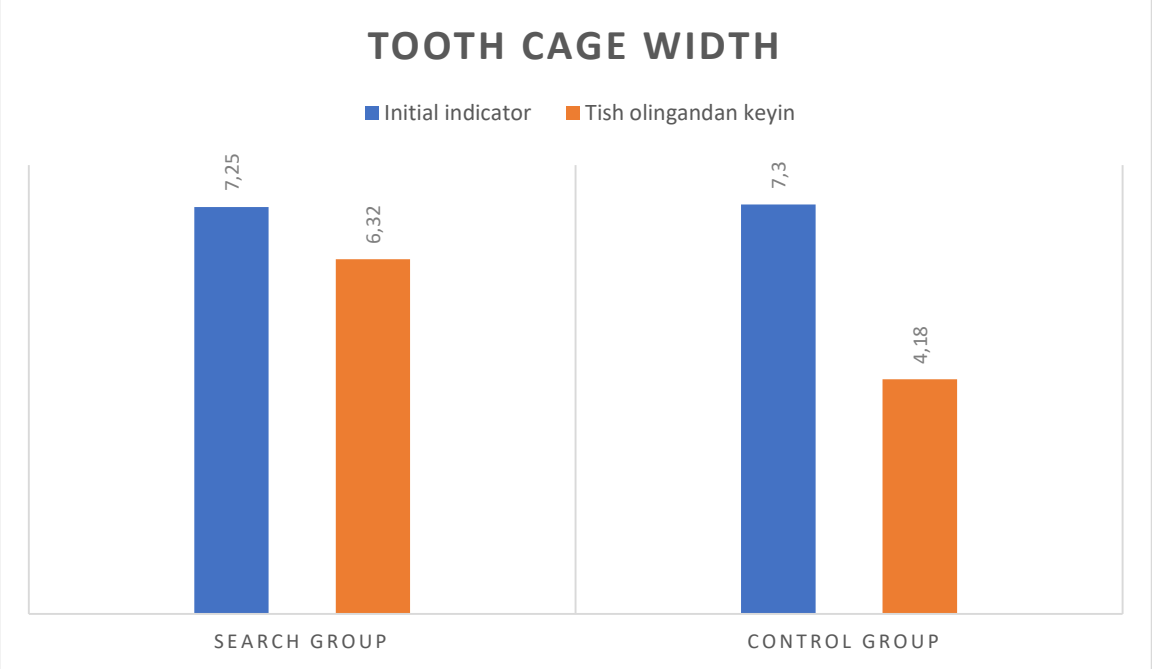

Figure 3 - Maxillary and mandibular frontal incisor widths of both groups before tooth extraction and 4 months later.

The average height of the tooth cage of the research group was 9.61±1.4 mm (9.6 [8.5;10.75]), 4 months after tooth extraction it was 8.95±1.51 mm (8, 9 [7.65;10.25]). The average length of the tooth cage in the study and control group was 20±4.5 mm (20.6 [17.1;2]), after tooth extraction it was 17.1±.8 mm (16.8 [14, 20,25,28,34,44]) showed. On average, the reduction of the tooth cage in the study group was 0.66±0.47 mm (0.83 [0.33;1]), in the control group it was 2.9±1.81 mm (2.7 [1.68; 4.1]) and statistically significant changes were observed in the control group (p=0.35 according to the Mann-Whitney test).

Comparative research showed that no statistically significant indicators were observed in the study group (p=0.53), and no change was observed in the control group before and after tooth extraction (p=0.35).

Statistically significant changes in the height of the tooth cage were observed in the test and control groups before tooth extraction (p=0.003) and 4 months after tooth extraction (p=0.007).

Table 3. Results of maxillary and mandibular frontal incisor height before tooth extraction and 4 months after tooth extraction in both groups

Tooth cage height , mm		Search group (n=7)	Control group (n=9)	P
Before tooth extraction	M±SD	9,61±1,34	20±4,35	0,003*
	Me [Q_1;Q_3]	9,6 [8,5;10,75]	20,6 [17,1;23]	
	(Min-Max)	(8,1-11)	(14,2-24,7)	
4 months after tooth extraction	M±SD	8,95±1,51	17,1±3,8	0,007*
	Me [Q_1;Q_3]	8,9 [7,65;10,25]	16,8 [14,3;20]	
	(Min-Max)	(7,5)10,5	(12,9-22)	

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p		0,53	0,35	
The difference, mm	M±SD	0,66±0,47	2,9±1,81	0.05*
	Me [Q_1;Q_3]	0,83 [0,33;1]	2,37 [1,68;4,1]	
	(Min-Max)	(0-1)	(1,37-5,5)	

Note: Differences are statistically significant when r≤0.05 according to the Mann-Whitney test.

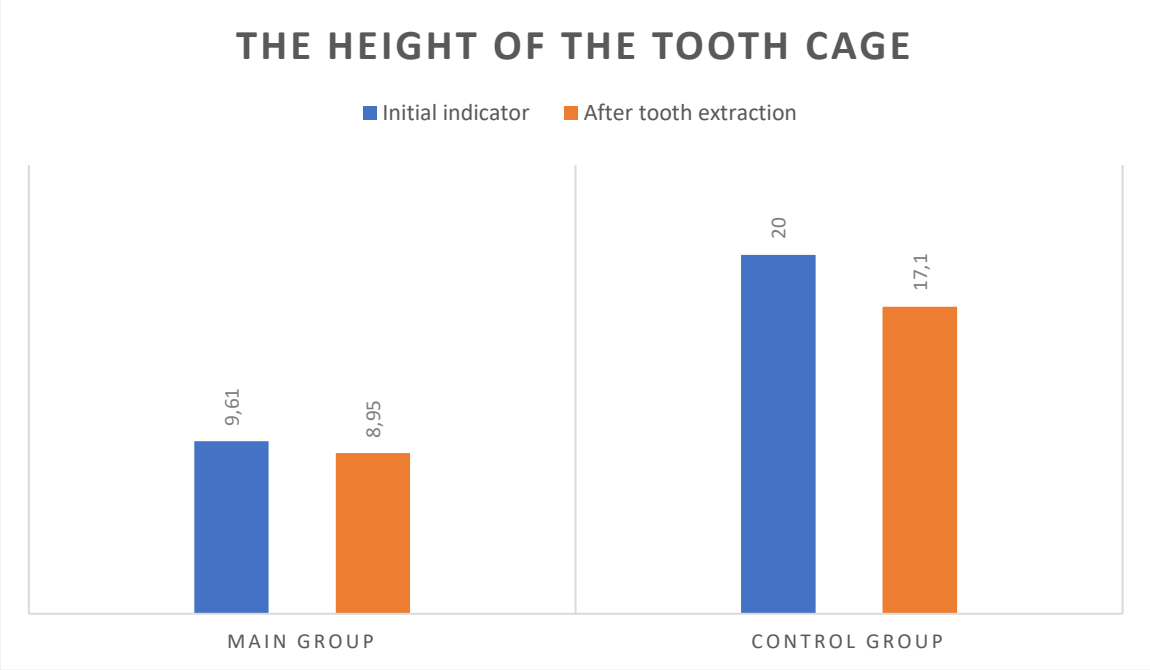

Figure 4 - Maxillary and mandibular frontal incisor heights of both groups before tooth extraction and 4 months later.

Thus, covering the extracted tooth cavity with a piece of tooth gives more results than when the tooth cavity grows under the blood clot. It allows for the placement of direct removable dentures, as well as the placement of a type of intraosseous dental implant that is sized to match the group of teeth being removed.

LITERATURE:

1. ХАЗРАТОВ, А. И., ХАСАНОВ, И. И., АДИЛОВ, А. А., & УГЛИ, Х. Н. Н. (2022, June). СРАВНЕНИЕ РЕЗОРБЦИИ МАРГИНАЛЬНОЙ КОСТНОЙ ТКАНИ ПРИ ОДНОЭТАПНОЙ И ДВУХЭТАПНОЙ ИПЛАНТАЦИИ. In E Conference Zone (pp. 122-127).

2. Шодиев, С. С., Исматов, Ф. А., Нарзиева, Д. Б., Тухтамишев, Н. О., & Ахмедов, Б. С. (2019). Эффективность применения отвара аниса при лечении периимплантитов. Достижения науки и образования, (11 (52)), 99-103.

3. Ризаев, Ж. А., Нарзиева, Д. Б., & Фуркатов, Ш. Ф. (2022). РЕГИОНАРНАЯ ЛИМФОТРОПНАЯ ТЕРАПИЯ ПРИ ФУРУНКУЛАХ И КАРБУНКУЛАХ ЧЕЛЮСТНО-ЛИ-ЦЕВОЙ ОБЛАСТИ. ТОМ-1, 386.

4. Akhrorov, A. S., Pulatova, B. Z., Beknazarovich, K. E., & Bakhtiyorovna, N. D. (2021). Modern Approaches to Surgical Treatment of Fractures of the Zyno-Orbital Region. Annals of the Romanian Society for Cell Biology, 25(1), 242-250.

ISSN: 2582-4686 SJIF 2021-3.261,SJIF 2022-2.889,
2024-6.875 ResearchBib IF: 8.848 / 2024

5. Нарзиева, Д. Б., & Алиев, Х. Р. (2020). Эффективность применения «zub-pre» при воспалительных заболеваниях челюстно-лицевой области. ББК, 56, 168.

6. ИСХАКОВА, З., & НАРЗИЕВА, Д. (2010). 1. Карякина ИА Особенности общеклинических проявлений синдрома Гольденхара. Системная интеграция в здравоохранении, 2, 18-31.

7. Нарзиева, Д. Б. (2023). IMPROVING THE TREATMENT OF PERI-IMPLANTITIS USING THE HERBAL MEDICINE ZUB-PRE. ЖУРНАЛ СТОМАТОЛОГИИ И КРАНИОФАЦИАЛЬНЫХ ИССЛЕДОВАНИЙ, 4(4).

8. Кубаев, А. С., Абдукадыров, А. А., & Юсупов, Ш. Ш. (2013). Особенности риномаксилярного комплекса у взрослых больных с верхней микрогнатией. Здобутки клінічної і експериментальної медицини, (2), 117-119.

9. Мирзоев, Ф. Р., Кубаев, А. С., Абдуллаев, А. С., Бузрукзода, Ж. Д., Шавкатов, П. Х., & Мардонкулов, Ш. К. (2021). Компьютерная томография в диагностике реабилитации пациентов с дисфункцией височно-нижнечелюстного сустава, ассоциированной с переломом нижней челюсти в области суставного отростка. In VOLGAMEDSCIENCE (pp. 745-747).

10. Zuxra, I., Nabixon, A., Dilmurod, A., & Savlatshox, X. (2024). ANALYSIS OF 3D PRINTING TECHNOLOGIES IN MODERN DENTISTRY. *SAMARALI TA'LIM VA BARQAROR INNOVATSIYALAR JURNALI*, *2*(3), 315-321.

11. Исхакова, З. Ш., & Шомурадов, К. Э. (2023). ДИФФЕРЕНЦИАЛЬНАЯ ДИАГНОСТИКА ГНОЙНО-ВОСПАЛИТЕЛЬНЫХ ЗАБОЛЕВАНИЙ ЧЕЛЮСТНО-ЛИЦЕВОЙ ОБЛАСТИ. *ЖУРНАЛ СТОМАТОЛОГИИ И КРАНИОФАЦИАЛЬНЫХ ИССЛЕДОВАНИЙ*, *4*(4).

12. Бекмуратов Л.Р. (2023). Сердечно-сосудистые заболевания у больных сахарным диабетом. *Талим ва ривойланиш тахлили онлайн илмий журналы* , *3* (1), 193-198.

13. Хазратов, А. И., Абдуллаев, Т. З., Фуркатов, Ш. Ф., & Нарзиева, Д. Б. (2023). Особенности течения туберкулёза у подростков. *Pedagogical sciences and teaching methods*, *2*(19), 87-94.

14. Davrnovich, M. D., Isomiddinovich, M. F., Sharifkulovna, I. Z., & Saidolimovich, K. A. (2022). THE PROGRAMME FOR THE COMPREHENSIVE TREATMENT OF MAXILLOFACIAL PHLEGMONITIS PATIENTS WITH VIRAL HEPATITIS B. *Journal of Pharmaceutical Negative Results*, 6365-6372.

15. Iskhakova, Z. S., Iskhakova, F. S., & Narzieva, D. B. (2022). The use of osteogenic material to replace jaw cavity defects. *Applied Information Aspects of Medicine (Prikladnye informacionnye aspekty mediciny)*, *25*(4), 20-25.

16. Ibragimov, D., Boymuradov, S., Gaffarov, U., Iskhakova, Z., Valieva, F., & Kuchkorov, F. (2021). IMMUNOCORRECTION OF PATIENTS IN COMPLEX TREATMENT WITH COMBINED INJURIES OF THE FACE BONES. *InterConf*, 712-720.

17. Ismatov, F., Ibragimov, D., Gaffarov, U., Iskhakova, Z., Valieva, F., & Kuchkorov, F. (2021). ASSESSMENT OF RISK FACTORS INFLUENCING DENTAL HEALTH IN HIGHER EDUCATION STUDENTS. *InterConf*, 721-732.

ISSN: 2582-4686 SJIF 2021-3.261,SJIF 2022-2.889,
2024-6.875 ResearchBib IF: 8.848 / 2024

THE MULTIDISCIPLINARY JOURNAL OF SCIENCE AND TECHNOLOGY

VOLUME-4, ISSUE-5

18. Ibragimov, D. D., Gaffarov, U. B., & Sh, I. Z. (2021). Conducting immunomodulatory therapy in the complex treatment of patients with combined injuries of the Facial Bones. *Central Asian Journal of Medical and Natural Science*, *2*(1), 132-138.

19. Шомуродов, К. Э., & Исхакова, З. Ш. (2020). Повышение эффективности лечения гнойно-воспалительных заболеваний челюстно-лицевой области с применением современных перевязочных средств. *Шляхи розвитку науки в сучасних кризових умовах: тези доп. І міжнародної науково-практичної інтернет-конференції, 28-29 травня 2020 р.–Дніпро, 2020.–Т. 2.–611 с.*, 564.

20. Сирак С. В. и др. Гистохимические изменения в тканях пародонта после аутотрансплантации зубов //Медицинский вестник Северного Кавказа. – 2016. – Т. 11. – №. 1. – С. 99-103.

21. Сирак С. В. и др. Пластика костной ткани альвеолярного отростка верхней челюсти при перфорации верхнечелюстного синуса //Медицинский вестник Северного Кавказа. – 2010. – Т. 17. – №. 1. – С. 4-7.

22. Сливкин А. А. и др. Аутотрансплантация зубов мудрости //Известия Российской Военно-медицинской академии. – 2020. – Т. 39. – №. S3-5. – С. 152-156.

23. Стрельников Е. В. Отдаленные результаты дентальной имплантации у больных с частичной и полной потерей зубов: дис. – 2017.

24. Торрес Ж. А., Кузинье Ф. Использование кальций-фосфатного остеотропного цемента для аугментации дна верхнечелюстной пазухи в комбинации с костным кортико-спонгиозным трансплантатом //Клиническая стоматология. – 2010. – №. 1. – С. 54-56.

25. Туманова А. В. и др. Взаимосвязь анатомических структур черепа //Наука и образование в глобальных процессах. – 2015. – №. 1. – С. 7-13.

26. Федотова Е. А., Иорданишвили А. К., Музыкин М. И. История и перспективы развития аутотрансплантации зубов //Актуальные вопросы стоматологии. – 2021. – С. 917-921.

27. Шайхалиев А. И. и др. Пути восстановления морфофункциональных свойств костной ткани с использованием новых композитных материалов //Вестник Медицинского стоматологического института. – 2012. – №. 1. – С. 56-62.

28. Шаргородский А. Г. Воспалительные заболевания тканей челюстно-лицевой области и шеи //М.: ГОУ ВУНМЦ МЗ РФ. – 2001. – Т. 271.

29. Шукпаров А. Б., Шомуродов К. Э., Мирхусанова Р. С. Принципы направленной костной регенерации: критические предоперационные факторы и критерии успеха //Интегративная стоматология и челюстно-лицевая хирургия. – 2022. – Т. 1. – №. 1. – С. 10-13.

30. Avila-Ortiz G., Chambrone L., Vignoletti F. Effect of alveolar ridge preservation interventions following tooth extraction: A systematic review and meta-analysis //Journal of Clinical Periodontology. – 2019. – Т. 46. – С. 195-223.

31. Baranova J. et al. Tooth formation: are the hardest tissues of human body hard to regenerate? //International journal of molecular sciences. – 2020. – Т. 21. – №. 11. – С. 4031.

32. Chen F. M., Jin Y. Periodontal tissue engineering and regeneration: current approaches and expanding opportunities //Tissue Engineering Part B: Reviews. – 2010. – Т. 16. – №. 2. – С. 219-255.

33. Cosyn J., Cleymaet R., De Bruyn H. Predictors of alveolar process remodeling following ridge preservation in high-risk patients //Clinical implant dentistry and related research. – 2016. – Т. 18. – №. 2. – С. 226-233.

34. de Santana V. M., dos Santos J. A. A., Silva P. C. V. NURSING CARE SYSTEMATIZATION IN THE IMMEDIATE POSTOPERATIVE PERIOD AFTER ORTHOPEDIC SURGERIES //Journal of Nursing UFPE/Revista de Enfermagem UFPE. – 2017. – Т. 11. – №. 10.

35. Elfana A. et al. Alveolar ridge preservation using autogenous whole-tooth versus demineralized dentin grafts: A randomized controlled clinical trial //Clinical Oral Implants Research. – 2021. – Т. 32. – №. 5. – С. 539-548.

36. Filippi A., Pohl Y. Injuries to the Teeth and the Alveolar Process //Oral and maxillofacial surgery: Surgical textbook and atlas. – Berlin, Heidelberg : Springer Berlin Heidelberg, 2023. – С. 317-327.

37. Hoffmann O. et al. Alveolar bone preservation in extraction sockets using non-resorbable dPTFE membranes: a retrospective non-randomized study //Journal of periodontology. – 2008. – Т. 79. – №. 8. – С. 1355-1369.

38. Horowitz R., Holtzclaw D., Rosen P. S. A review on alveolar ridge preservation following tooth extraction //Journal of evidence based dental practice. – 2012. – Т. 12. – №. 3. – С. 149-160.

39. Horváth A. et al. Alveolar ridge preservation. A systematic review //Clinical oral investigations. – 2013. – Т. 17. – С. 341-363.

40. Rizaev, J. A., Khazratov, A. I., Akhmedov, A. A., & Isaev, U. I. (2021). Morphological picture of the resistance of experimental rats against the background of carcinogenesis. Actual problems of dentistry and maxillofacial surgery, 677-678.

41. Ахроров, А. Ш., Исаев, У. И., & Ёкубов, Ф. П. (2023). СПЕЦИАЛИЗИРОВАННОЙ МЕДИЦИНСКОЙ ПОМОЩИ БОЛЬНЫМ С ЧЕЛЮСТНО-ЛИЦЕВОЙ ТРАВМОЙ СРЕДНЕЙ ЗОНЫ ЛИЦА. Journal of new century innovations, 21(1), 126-129.

42. Джалалова Д., Исаев У. и Ахмедов А. (2023). Улучшение сохранности объема альвеолярного барьера с использованием фрагмента удаленного зуба. Наука и инновации , 2 (Д1), 90-97.

43. Isayev, U. I., & Akhmedov, A. A. (2023). Olingan tish bo'lagidan foydalanib alveolyar o'siq hajmini saqlab qolishni takomillashtirish. Boffin Academy, 1(1), 271-283.

44. Ismailovich, I. U. (2023). TISH OLDIRGAN BEMORLARDA OLINGAN TISHLAR BO'LAGIDAN FOYDALANIB KATAKNI YOPILISH USULI VA QON LAXTAGI OSTIDA TISH KATAGINING BITISH BOSQICHILARINI QIYOSIY TAQQOSLASH. ЖУРНАЛ СТОМАТОЛОГИИ И КРАНИОФАЦИАЛЬНЫХ ИССЛЕДОВАНИЙ, 4(4).

45. Isaev, U. (2024). ОБЗОР СОХРАНЕНИЯ ОБЪЕМА АЛВЕОЛЯРНОЙ КОСТИ ПОСЛЕ УДАЛЕНИЯ ЗУБА. Medical science of Uzbekistan, (1), 18-26.

46. Oshima M., Tsuji T. Functional tooth regenerative therapy: tooth tissue regeneration and whole-tooth replacement //Odontology. – 2014. – Т. 102. – С. 123-136.

47. Silva N. F. et al. Patients and informal caregivers' questions about alveolar bone graft post-operative care //Revista Brasileira de Enfermagem. – 2020. – Т. 73.

48. Рустамович Б.Л., Акрамовна Р.Н. (2024). Двухэтапная дентальная имплантация у больных сахарным диабетом: особенности реабилитационного периода. *ЕВРОПЕЙСКИЙ ЖУРНАЛ СОВРЕМЕННОЙ МЕДИЦИНЫ И ПРАКТИКИ* , *4* (2), 242-245.

49. Касимова, Ш. О., Кубаев, С. Э., Хазратов, А. И., Качалиев, Х. Ф., & Жабборова, З. Б. (2022). Оценка эффективности лечения больных после травмы третьей ветви тройничного нерва. *Проблемы биологии и медицины*, *134*(1), 36-39.

50. Исаев У.И., Бекмуратов Л.Р. Сохранение альвеолярного отростка в переднем отделе челюсти с использованием гидроксиапатита и коллагена II типа // Journal of oral medicine and craniofacial research. – 2022. – С. 190-194.

51. Akhmedov A.A., Isayev U.I. Improving the preservation of the alveolar barrier volume using the extracted tooth fragment // Science and innovationinternational scientific journal. – 2023. – С. 90-97.

52. Olingan tish bo'lagidan foydalanib alveolyar o'siq hajmini saqlab qolishni takomillashtirish // Boffin Academy. – 2023. – С. 271-283.

53. Bekmuratov L.R. Cardiovascular diseases in patients with diabetes mellitus // Ta'lim va rivojlanish tahlili onlayn ilmiy jurnali. – 2023. – С. 193-198.

54. Исматов, Ф. А., Мустафоев, А. А., & Фуркатов, Ш. Ф. (2023). АНАЛИЗ ЭФФЕКТИВНОСТИ НЕСТЕРОИДНЫХ АНТИВОСПОЛИТЕЛЬНЫХ ПРЕПАРАТОВ ПРИ ИЗЛЕЧЕНЬЕ ВЕРХНЕЧЕЛЮСТНОГО АЛЬВЕОЛИТА. *THEORY AND ANALYTICAL ASPECTS OF RECENT RESEARCH*, *1*(12), 49-57.

55. Rizaev, J. A., & Bekmuratov, L. R. (2022). Prevention of tissue resorption during immediate implant placement by using socket shield technique. *Art of Medicine. International Medical Scientific Journal*, *2*(3).

56. Исхакова, Ф. Ш., Хамракулова, Н. О., & Хушвакова, Н. Ж. (2018). Оценка эффективности лечения бактериального рецидивирующего синусита. *Прорывные научные исследования как двигатель науки, Сборник статей*.

57. Iskhakova, Z. S., Iskhakova, F. S., & Narzieva, D. B. (2022). The use of osteogenic material to replace jaw cavity defects. *Applied Information Aspects of Medicine (Prikladnye informacionnye aspekty mediciny)*, *25*(4), 20-25.

58. Ибрагимов, Д. Д., Гаффаров, У. Б., Исхакова, З. Ш., Рустамова, Г., & Усмонов, Р. Ф. (2019). Основные свойства препарата «лорамор» в комплексном лечении гнойно-воспалительных заболеваний челюстно-лицевой области. In *Актуальные вопросы современной медицинской науки и здравоохранения: сборник статей IV Международной научно-практической конференции молодых учёных и студентов, IV Всероссийского форума медицинских и фармацевтических вузов «За качественное образование»,(Екатеринбург, 10-12 апреля 2019): в 3-х т.-Екатеринбург: УГМУ, CD-ROM.*. Федеральное государственное бюджетное образовательное учреждение высшего

образования «Уральский государственный медицинский университет» Министерства здравоохранения Российской Федерации.

59. Ибрагимов, Д. Д., Гаффаров, У. Б., Исхакова, З. Ш., & Кучкоров, Ф. Ш. (2018). Клиническое наблюдение наличия в протоке крупного конкремента поднижнечелюстной слюнной железы. Том–іі. *ТОМ–II*, 447.

60. Ибрагимов, Д. Д., & Исхакова, З. Ш. (2018). Хирургический подход при приобретенных дефектах мягких и частично костных тканей нижней и верхней челюсти. *Современные достижения стоматологии*, 55-55.

61. Исхакова, З. Ш., & Нарзиева, Д. Б. (2018). Изучение местного иммунитета у больных с одонтогенными воспалительными заболеваниями. *Современные достижения стоматологии*, 56-56.

62. Хасанов, Х., Исхакова, З., & Джураев, Д. (2015). Состояния полости рта у больных с переломами нижней челюсти до и после шинирования. *Журнал проблемы биологии и медицины*, (4, 1 (85)), 119-121.

63. Исхакова, З., Самадов, Б., Махмудов, Ж., Ибрагимов, Д., & Усманов, Р. (2014). Прогнозирование осложненного течения одонтогенных флегмон челюстно-лицевой области с клинико-иммунологическим иб собенностиями. *Журнал вестник врача*, *1*(3), 105-107.

64. Мухамадиева, П., Худойназаров, У., & Исхакова, З. (2014). Лечение трофических язв венозной этиологии у геронтологических больных. *Журнал проблемы биологии и медицины*, (1 (77)), 51-53.

65. Ибрагимов, Д. Д., & Исхакова, З. Ш. (2018). Хирургический подход при приобретенных дефектах мягких и частично костных тканей нижней и верхней челюсти. *Современные достижения стоматологии*, 55-55.

66. Хушвакова, Н. Ж., Хамракулова, Н. О., Исхакова, Ф. Ш., & Неъматов, Ш. (2020). Оптимизированный метод лечения острого катарального среднего отита у детей. *Евразийский Союз Ученых*, (11-2 (80)), 18-20.

67. Давронова, Г. Б., & Исхакова, Ф. Ш. (2016). Эффективность озонотерапии при нейросенсорной тугоухости сосудистого генеза. *In Situ*, (5), 41-43.

68. Исхакова, З. Ш., Нарзиева, Д. Б., & Исхакова, Ф. Ш. (2023). Роль гидроксиапатита и эллаговой кислоты в остеогенезе. *Innovative developments and research in education*, *2*(14), 116-124.

69. Rizaev, J. A., Khazratov, A. I., Akhmedov, A. A., & Isaev, U. I. (2021). Morphological picture of the resistance of experimental rats against the background of carcinogenesis. *Actual problems of dentistry and maxillofacial surgery*, 677-678.

70. Джалалова Д., Исаев У. и Ахмедов А. (2023). Улучшение сохранности объема альвеолярного барьера с использованием фрагмента удаленного зуба. *Наука и инновации* , *2* (Д1), 90-97.