UDC: 616.351-089.87(574)
MRNTI: 76.29.39
DOI: 10.64854/2790-1289-2026-51-1-05

ANALYSIS OF THE DYNAMICS OF SURGICAL TREATMENT OF HEMORRHOIDS IN MEDICAL ORGANIZATIONS IN ALMATY IN 2012-2021

B. S. Baimanov[1*], M. K. Kulzhanov[2], A. T. Dzhumabekov[1], A. K. Baimanova[3], M. Z. Sarsenbaeva[1]
[1]Kazakhstan's Medical University «KSPH», Kazakhstan, Almaty
[2]Kazakh National Medical University named after S. D. Asfendiyarov, Kazakhstan, Almaty
[3]Al-Farabi Kazakh National University, Kazakhstan, Almaty
**Corresponding author*

Abstract

Relevance. Hemorrhoids are among the most common anorectal diseases and remain an important clinical and organizational challenge in modern coloproctology. However, long-term trends in surgical treatment at the city level have received insufficient attention.

Materials and methods. A retrospective, descriptive, and analytical study of surgical interventions for hemorrhoids performed in medical organizations in Almaty from 2012 to 2021 was conducted. The analysis was based on official aggregated statistical data provided by the Republican Center for Healthcare Development of the Republic of Kazakhstan. The total number of operations, elective and emergency procedures, and the proportion of elective interventions were assessed. Descriptive statistics, linear regression, and time-series forecasting were performed using IBM SPSS Statistics 26.0.

Results. From 2012 to 2021, the total number of operations ranged from 43 to 619 per year, with a mean of 269.9±191.4. The mean annual number of elective operations was 109.5±100.9, while emergency procedures averaged 160.4±136.7. A statistically significant upward trend was identified for the total number of operations (β = 46.418, 95 % CI: 11.446-81.391, p = 0.016, R^2 = 0.539) and for elective procedures (β = 28.103, 95 % CI: 13.504-42.702, p = 0.002, R^2 = 0.711). No significant trend was found for emergency operations (p = 0.245). The proportion of elective procedures showed an upward trend, although it did not reach statistical significance (p = 0.058). Forecast estimates suggested a possible further increase in the total and elective numbers of operations, but these results should be interpreted cautiously due to wide confidence intervals.

Conclusion. In medical organizations in Almaty, surgical treatment for hemorrhoids generally increased from 2012 to 2021, mainly due to the growth of elective procedures. These findings may be useful for assessing the burden on surgical services and for planning proctologic care.

Keywords: *hemorrhoids, surgical treatment, dynamics, forecast, epidemiology.*

Introduction

Hemorrhoids are among the most common diseases of the anorectal region and remain a significant clinical and organizational challenge in modern coloproctology. Despite their high prevalence, the true frequency of this condition remains difficult to estimate, as some patients do not seek medical attention, rely on self-treatment, or present only after complications develop. According to the classic epidemiological study by J.F. Johanson and A. Sonnenberg, the population prevalence of hemorrhoids was 4.4 %, whereas in the study by S. Riss et al., active screening of adults identified the disease in 38.93 % of participants. In a later review, R.S. Sandler and A. F. Peery emphasized that hemorrhoids remain among the most common reasons for outpatient visits to gastroenterologists and colorectal surgeons, although epidemiological data remain limited [1-3].

The clinical significance of hemorrhoids is

determined not only by their prevalence but also by their substantial impact on patients' daily functioning and quality of life. The most common manifestations of the disease include rectal bleeding, prolapse of hemorrhoidal tissue, pain, itching, a sensation of a foreign body, and discomfort during defecation. According to current concepts, hemorrhoids are symptomatic enlargement and distal displacement of the normal vascular cushions of the anal canal. This approach allows the disease to be viewed not merely as a localized vascular disorder, but as a complex disturbance of the anatomical and functional state of the anorectal region [4-6].

The causes of hemorrhoids remain a matter of debate. The literature most frequently discusses chronic constipation, straining, dietary habits, sedentary lifestyle, age-related changes in the supporting structures of the anal canal, and other contributing factors. At the same time, data regarding the role of individual risk factors are not always consistent. For example, the study by A.F. Peery et al. showed that constipation was associated with a greater likelihood of hemorrhoids, whereas higher intake of grain fiber was associated with a lower prevalence of the disease. The importance of dietary fiber is also supported by the meta-analysis by P. Alonso-Coello et al., which demonstrated reductions in symptom severity and bleeding with its use [7; 8].

Treatment strategies for hemorrhoids are determined by the stage of the disease, the nature of symptoms, and the effectiveness of prior therapy. In the early stages, conservative measures and minimally invasive procedures play a leading role, whereas surgical interventions become increasingly important in cases of pronounced prolapse, a complicated disease course, recurrence, or failure of outpatient treatment. The clinical guidelines of the American Society of Colon and Rectal Surgeons, as well as the review by T. Mott et. al., emphasize that treatment selection should be stepwise and should take into account the grade of internal hemorrhoids, symptom severity, and the risk of recurrence [9; 10].

Surgical treatment of hemorrhoids remains an important component of specialized care; however, the choice of the optimal technique and the assessment of long-term outcomes continue to be relevant issues. Systematic reviews have shown that stapled hemorrhoidopexy is associated with less postoperative pain and faster recovery, but may be inferior to conventional hemorrhoidectomy in long-term effectiveness and recurrence rates. Regarding LigaSure technology, meta-analyses indicate reduced early postoperative pain and shorter recovery time, with comparable effectiveness across several outcomes [11-14].

The problem is further compounded by its economic burden on the healthcare system. According to J.Y. Yang et al., among insured adults in the United States alone, outpatient care expenditures for hemorrhoids in 2014 amounted to approximately 770 million US dollars. At the same time, contemporary consensus documents emphasize the need for an individualized approach to treatment selection and for a more precise analysis of the structure of care provided to patients with hemorrhoidal disease [15; 16]. The available literature focuses primarily on the clinical aspects of treatment, whereas long-term trends in surgical activity at the regional and city levels have been addressed much less extensively. Therefore, studying long-term trends in the surgical treatment of hemorrhoids in medical organizations of Almaty is of both scientific and practical interest, as it makes it possible to assess changes in the volume of surgical care, the ratio of elective to emergency interventions, and the prospects for the future burden on surgical services [3; 15; 16].

Aim of the study: to assess trends in the surgical treatment of hemorrhoids in Almaty from 2012 to 2021.

Materials and methods

This retrospective, descriptive, and analytical study of surgical interventions for hemorrhoids performed in medical organizations in Almaty between 2012 and 2021 used official statistical data from the Republican Center for Healthcare Development of the Republic of Kazakhstan.

The study involved cases of surgical treatment for hemorrhoids recorded in medical organizations in Almaty during the study period. The unit of observation was the calendar year. The study included aggregated annual data on the total num-ber of surgical interventions for hemorrhoids, the number of elective procedures, and the number of emergency procedures. In addition, the proportion of elective interventions within the overall opera-tions structure was calculated and expressed as a percentage.

The study was approved by the Local Ethics Committee of the Kazakhstan Medical University «Higher School of Public Health» (Protocol No. 04-09-929/6 dated 23.12.2022).

To analyze temporal changes, a time series was constructed reflecting the annual number of surgical interventions from 2012 to 2021. Descriptive statistical analysis included determining the number of observations, the mean, standard deviation, minimum, and maximum values for the studied indicators.

Linear regression analysis was used to assess the direction and statistical significance of temporal trends. The dependent variables were the total number of surgeries, the number of elective surgeries, the number of emergency surgeries, and the proportion of elective interventions, while the independent variable was the calendar year of observation. The results of the regression analysis were presented as the regression coefficient (β), 95 % confidence interval, coefficient of determination (R^2), and the level of statistical significance (p).

To provide an approximate assessment of the possible future direction of temporal changes, time series forecasting up to 2030 was performed using the Time Series Modeler procedure in IBM SPSS Statistics 26.0. Automatic model selection was carried out using the Expert Modeler method. The Holt model was selected for the total number of surgeries, whereas the Brown model was selected for the number of elective surgeries. The quality of the forecasting models was assessed using R^2, stationary R^2, root mean square error (hereinafter – RMSE), mean absolute percentage error (hereinafter – MAPE), and the confidence interval boundaries of the forecast values. The obtained forecast estimates were regarded as supportive and descriptive, intended to illustrate the possible direction of the time series rather than to serve as a basis for precise quantitative prediction of surgical care volumes.

Primary data processing and systematization were performed in Microsoft Excel 2010. Statistical analysis was conducted using IBM SPSS Statistics version 26.0. Differences were considered statistically significant at $p<0.05$.

Limitations

The analysis was based on aggregated annual statistical data, which did not allow assessment of patient distribution by sex, age, disease stage, type of operation, recurrence rate, or postoperative complications. In addition, outpatient office-based procedures were not included in the study, which limits the completeness of the representation of the overall care system for patients with hemorrhoidal disease. Another limitation is the use of forecasting based on a relatively short time series and aggregated annual indicators; therefore, the forecast values should be interpreted as an approximate indication of possible trends rather than as a precise tool for long-term planning. External organizational factors, possible changes in patient referral pathways, the availability of elective care, and the specific features of statistical case registration in individual years may have also influenced the stability of the forecast estimates.

Results

Between 2012 and 2021, marked year-to-year variability in the number of surgical interventions for hemorrhoids was observed across medical organizations in Almaty. Over the study period, the total number of operations ranged from 43 to 619 per year, with a mean of 269.9±191.4. In 2012, 216 operations were performed. In 2013 and 2014, this indicator declined to 52 and 43 cases, respectively. The total number of interventions increased from 142 in 2015 to 619 in 2019: 163 in 2016, 251 in 2017, and 488 in 2018. In 2020, the number decreased to 282 operations, followed by a renewed increase to 443 in 2021.

The number of elective surgeries during 2012-2021 ranged from 12 to 323 per year, with a mean of 109.5±100.9. The number of emergency surgeries ranged from 31 to 465 per year, with a mean of 160.4±136.7. On average, elective procedures accounted for 37.0±20.0 % of all operations, ranging from 18.3 % to 74.1 % (Table 1).

Linear regression analysis demonstrated a statistically significant increase in the total number of surgical interventions over time. The average annual increase in the total number of operations was 46.4 cases per year ($\beta = 46.418$, 95 % CI: 11.446-81.391, $p = 0.016$, $R^2 = 0.539$). Elective operations also showed a statistically significant upward trend, increasing on average by 28.1 cases per year ($\beta = 28.103$, 95 % CI: 13.504-42.702, $p = 0.002$, $R^2 = 0.711$). For emergency operations, the regression coefficient was positive at 18.3 cases per year, although statistical significance was not reached ($\beta = 18.315$, 95 % CI: -15.324 to 51.955,

Table 1. Trends in the number of surgical interventions for hemorrhoids in medical organizations of Almaty, 2012-2021

Year	Total number of operations, n	Elective operations, n	Emergency operations, n	Proportion of elective operations, %
2012	216	86	130	39.8
2013	52	13	39	25.0
2014	43	12	31	27.9
2015	142	26	116	18.3
2016	163	40	123	24.5
2017	251	78	173	31.1
2018	488	154	334	31.6
2019	619	154	465	24.9
2020	282	209	73	74.1
2021	443	323	120	72.9

Source: compiled by the authors

p = 0.245, R^2 = 0.165). The proportion of elective procedures among all interventions also showed a positive trend, increasing by an average of 4.1 percentage points per year; however, this trend did not reach statistical significance (β = 4.079, 95 % CI: -0.172 to 8.331, p = 0.058, R^2 = 0.380) (Table 2).

Table 2. Results of descriptive statistics and linear regression analysis of surgical interventions for hemorrhoids in medical organizations of Almaty, 2012-2021

Indicator	N	Minimum	Maximum	Mean	Standard deviation	β	95 % CI for β	p	R^2
Total number of operations	10	43	619	269.9	191.358	46.418	11.446-81.391	0.016	0.539
Elective operations	10	12	323	109.5	100.890	28.103	13.504-42.702	0.002	0.711
Emergency operations	10	31	465	160.4	136.677	18.315	-15.324 to 51.955	0.245	0.165
Proportion of elective operations, %	10	18.3	74.1	37.0	20.0449	4.079	-0.172 to 8.331	0.058	0.380

Source: compiled by the authors

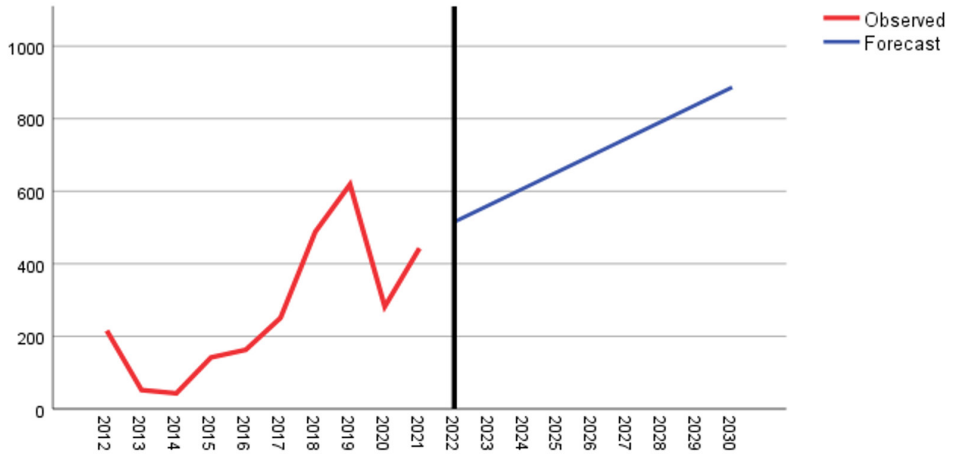

Figure 1. Forecast of the total number of surgical interventions for hemorrhoids in medical organizations of Almaty through 2030
Source: compiled by the authors

Forecasting of the total number of surgical interventions suggested that the upward trajectory of the time series would persist. The forecast values were 515 cases for 2022, 562 for 2023, 608 for 2024, 655 for 2025, 701 for 2026, 747 for 2027, 794 for 2028, 840 for 2029, and 887 for 2030. At that, the interval estimates remained relatively wide, with the lower forecast of 537 and the upper of 1,237 cases for 2030. The model quality indicators suggested moderate forecast accuracy (R^2 = 0.482, Stationary R^2 = 0.747, RMSE = 146.119, MAPE = 59.898 %) (Figure 1).

When forecasting the number of elective operations, the model formally indicated an upward trend over the projected period. The forecast values were 427 cases for 2022, 531 for 2023, 635 for 2024, 739 for 2025, 843 for 2026, 947 for 2027, 1,051 for 2028, 1,155 for 2029, and 1,259 for 2030. However, the forecast intervals widened progressively: for 2030, the lower bound was -284 cases, and the upper bound was 2,802 cases. Despite a formally higher coefficient of determination (R^2 = 0.788), additional model quality indicators pointed to limited stability of the long-term forecast (Stationary R^2 = -0.231, RMSE = 46.486, MAPE = 99.997 %) (Figure 2).

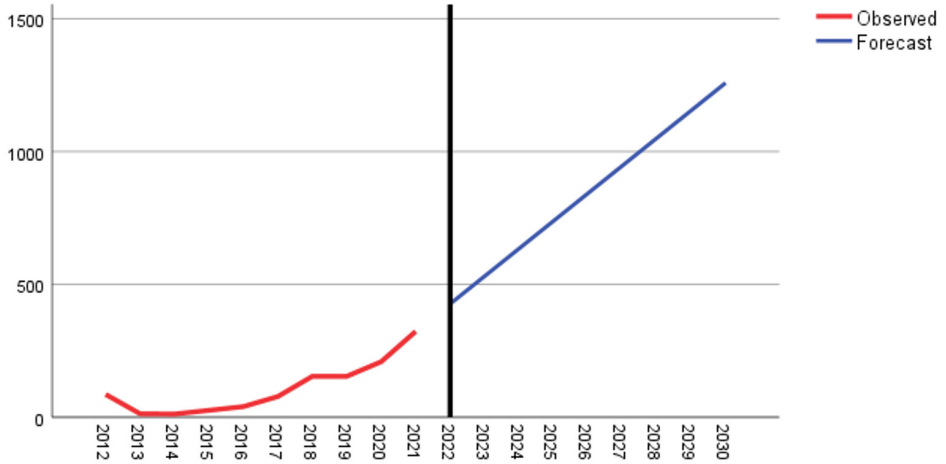

Figure 2. Forecast of the number of elective surgical interventions for hemorrhoids in medical organizations of Almaty through 2030
Source: compiled by the authors

Discussion

The findings of this study indicate that surgical treatment for hemorrhoids in medical organizations of Almaty showed an uneven but overall upward trend between 2012 and 2021. The most important result is the statistically significant increase in the total number of operations, particularly elective procedures. At the same time, the absence of a significant linear trend in emergency operations suggests that the observed rise in surgical activity was driven not by a steady increase in acute conditions, but rather by an expansion of organized, specialized elective care. From a practical perspective, this points to the growing role of planned specialized surgical management for patients with more advanced or recurrent forms of the disease.

From the standpoint of current clinical guidelines, these changes appear consistent and expected. The latest ASCRS and SIUCP recommendations emphasize that surgical treatment is indicated primarily for more advanced stages of hemorrhoidal disease, prolapse, recurrent disease, complications, or insufficient effectiveness of conservative and minimally invasive approaches [17; 18]. At the same time, the contemporary literature increasingly shows that disease severity is determined not only by anatomical stage, but also by symptom burden and impairment of the patient's quality of life [19; 20]. Therefore, the increase in elective operations observed in the present study may indirectly reflect an accumulation of patients requiring more radical and definitive treatment rather than symptom control alone.

Comparison of the present findings with data from comparative studies of surgical techniques helps to clarify the nature of the identified trends. The network meta-analysis by C. Simillis et al. showed that conventional open and closed hemorrhoidectomy provide more reliable control of recurrence, although they are associated with greater

postoperative morbidity. In contrast, less invasive approaches allow faster recovery but may, in some cases, increase the likelihood of retreatment [21]. A similar balance of advantages and limitations has been reported for transanal hemorrhoidal dearterialization: according to the systematic review by P. Giordano et al., this technique is an acceptable option primarily for grade II-III disease [22], yet later meta-analyses and randomized studies indicate a higher risk of recurrence or residual prolapse compared with conventional excisional surgery [23; 24; 25]. Concerning stapled hemorrhoidopexy, the large eTHoS trial and the meta-analysis by P. Giordano et al. likewise demonstrated that the short-term advantages of this technique are not always maintained in the long term, and that conventional excisional surgery is often more favorable with respect to quality of life and the risk of reintervention [26; 27]. Against this background, the increase in elective operations in Almaty may reflect a shift in practice toward more definitive treatment approaches in patients with clinically significant symptoms.

Equally important is comparing surgical activity with data on intermediate, less invasive interventions. The HubBLe study showed that in patients with grade II-III hemorrhoids, rubber band ligation remains a widely used method, although it is inferior to hemorrhoidal artery ligation in recurrence control [28]. At the same time, the systematic review by L. Dekker et al. demonstrated that hemorrhoidectomy provides more reliable symptom control, but at the cost of greater pain and a higher rate of complications compared with rubber band ligation [29]. Therefore, the increase in elective operations in the present study may reflect not merely a rise in the number of referrals, but rather an accumulation of cases in which the minimally invasive stage proved insufficient or only a temporary solution. This is especially likely in settings where patients seek specialized care only after a prolonged or progressive course of disease.

Particular attention should also be paid to the technological evolution of hemorrhoid surgery. The meta-analysis by E.K. Tan et al. showed that LigaSure reduces operative time and intraoperative blood loss [30]. The systematic review by M. I. Bhatti et al. demonstrated the advantages of closed hemorrhoidectomy over open hemorrhoidectomy with respect to postoperative pain, bleeding, and wound-healing time [31]. The meta-analysis by C.D. Mushaya et al. confirmed that the harmonic scalpel may reduce postoperative pain and facilitate a faster return to normal activity [32]. In addition, the systematic review by B. Vinson-Bonnet et al. and the network meta-analysis by Z. Balciscueta et al. showed that modern hemorrhoid surgery is generally compatible with a day-surgery model. At that, the choice of technique and perioperative analgesia substantially affects procedure tolerability [33; 34]. Taken together, these findings suggest that the increase in elective surgical activity in Almaty may have been driven not only by patient demand but also by the gradual expansion of the surgical service's organizational and technological capacity.

The changes observed in 2020-2021 should be considered separately. According to P. Campennì et al., quarantine restrictions during the COVID-19 pandemic were associated with worsening symptoms in patients awaiting hemorrhoid surgery and an increased need to revise surgical priorities [35]. The study by R. Pietroletti et al. showed that after the lockdown, specialized tools were required for triage and prioritization of proctologic patients due to increased demand [36]. Therefore, the reduction in the total number of operations in 2020, together with a shift in the structure of interventions toward a higher proportion of elective procedures, followed by renewed growth in 2021, most likely reflects not the natural epidemiological dynamics of the disease itself, but the influence of external organizational factors, including restrictions on elective care, delayed hospitalizations, and the subsequent restoration of surgical activity.

The forecasting component of the study also suggested the persistence of an upward trend in the time series; however, these estimates should be interpreted with caution. Wide forecast intervals, especially for elective procedures, together with the model quality indicators, suggest limited robustness of long-term extrapolation from a relatively short series of aggregated annual data. Therefore, the presented forecast values should not be regarded as precise quantitative predictions of future surgical care volume, but rather as an additional descriptive indication of the possible direction of change. At the same time, contemporary studies of hemorrhoidal disease emphasize that treatment effectiveness should not be assessed solely by the number of operations performed or by the anatomical stage of disease. Symptom severity, quality of life, patient

satisfaction, and the risk of repeat intervention are also of major importance [19; 20]. For this reason, future monitoring of surgical care for hemorrhoids should be supplemented with patient-reported outcome measures, enabling a more comprehensive assessment of both the clinical and organizational aspects of care delivery.

Conclusion

This retrospective analysis showed that, from 2012 to 2021, medical organizations in Almaty demonstrated an overall upward trend in the number of surgical interventions for hemorrhoids, mainly driven by an increase in elective procedures. At the same time, the trend in emergency interventions did not reach statistical significance, suggesting more pronounced changes specifically in the volume of planned specialized care. These results are of practical importance for assessing long-term changes in surgical activity and planning the organization of proctologic care. Forecast estimates indicate a possible continuation of the upward trend; however, they should be interpreted cautiously and not regarded as precise quantitative predictions. The obtained data may be used to plan the volume of specialized proctologic care and to optimize the organization of surgical treatment for patients with hemorrhoidal disease at the city level.

References

1. Johanson J. F., Sonnenberg A. The prevalence of hemorrhoids and chronic constipation. An epidemiologic study // Gastroenterology. – 1990. – Vol. 98(2). – P. 380-386. – DOI: https://doi.org/10.1016/0016-5085(90)90828-O.

2. Riss S., Weiser F. A., Schwameis K., Riss T., Mittlböck M., Steiner G., Stift A. The prevalence of hemorrhoids in adults // International Journal of Colorectal Disease. – 2012. – Vol. 27(2). – P. 215-220. – DOI: https://doi.org/10.1007/s00384-011-1316-3.

3. Sandler R. S., Peery A. F. Rethinking What We Know About Hemorrhoids // Clinical Gastroenterology and Hepatology. – 2019. – Vol. 17(1). – P. 8-15. – DOI: https://doi.org/10.1016/j.cgh.2018.03.020.

4. Lohsiriwat V. Hemorrhoids: from basic pathophysiology to clinical management // World Journal of Gastroenterology. – 2012. – Vol. 18(17). – P. 2009-2017. – DOI: https://doi.org/10.3748/wjg.v18.i17.2009.

5. Sun Z., Migaly J. Review of Hemorrhoid Disease: Presentation and Management // Clinics in Colon and Rectal Surgery. – 2016. – Vol. 29(1). – P. 22-29. – DOI: https://doi.org/10.1055/s-0035-1568144.

6. Brown S. R. Haemorrhoids: an update on management // Therapeutic Advances in Chronic Disease. – 2017. – Vol. 8(10). – P. 141-147. – DOI: https://doi.org/10.1177/2040622317713957.

7. Peery A.F., Sandler R.S., Galanko J.A., Bresalier R.S., Figueiredo J.C., Ahnen D.J., Barry E.L., Baron J.A. Risk Factors for Hemorrhoids on Screening Colonoscopy // PLoS One. – 2015. – Vol. 10(9). – Article No. e0139100. – DOI: https://doi.org/10.1371/journal.pone.0139100.

8. Alonso-Coello P., Mills E., Heels-Ansdell D., López-Yarto M., Zhou Q., Johanson J.F., Guyatt G. Fiber for the treatment of hemorrhoid complications: a systematic review and meta-analysis // American Journal of Gastroenterology. – 2006. – Vol. 101(1). – P. 181-188. – DOI: https://doi.org/10.1111/j.1572-0241.2005.00359.x.

9. Davis B. R., Lee-Kong S. A., Migaly J., Feingold D. L., Steele S. R. The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for the Management of Hemorrhoids // Diseases of the Colon and Rectum. – 2018. – Vol. 61(3). – P. 284-292. – DOI: https://doi.org/10.1097/DCR.0000000000001030.

10. Mott T., Latimer K., Edwards C. Hemorrhoids: Diagnosis and Treatment Options // American Family Physician. – 2018. – Vol. 97(3). – P. 172-179. – URL: https://pubmed.ncbi.nlm.nih.gov/29431977/ (accessed: 25.11.2025)

11. Nisar P. J., Acheson A. G., Neal K. R., Scholefield J. H. Stapled hemorrhoidopexy compared with conventional hemorrhoidectomy: systematic review of randomized, controlled trials // Diseases of the Colon and Rectum. – 2004. – Vol. 47(11). – P. 1837-1845. – DOI: https://doi.org/10.1007/s10350-004-0679-8.

12. Shao W.-J., Li G.-C. H., Zhang Z. H.-K., Yang B.-L., Sun G.-D., Chen Y.-Q. Systematic review and meta-analysis of randomized controlled trials comparing stapled haemorrhoidopexy with conventional haemorrhoidectomy // British Journal of Surgery. – 2008. – Vol. 95(2). – P. 147-160. – DOI: https://doi.org/10.1002/bjs.6078.

13. Nienhuijs S. W., de Hingh I. H. J. T. Pain after conventional versus Ligasure haemorrhoidectomy. A meta-analysis // International Journal of Surgery. – 2010. – Vol. 8(4). – P. 269-273. – DOI: https://doi.

org/10.1016/j.ijsu.2010.04.001.
14. Milito G., Cadeddu F., Muzi M. G., Nigro C., Farinon A. M. Haemorrhoidectomy with Ligasure vs conventional excisional techniques: meta-analysis of randomized controlled trials // Colorectal Disease. – 2010. – Vol. 12(2). – P. 85-93. – DOI: https://doi.org/10.1111/j.1463-1318.2009.01807.x.
15. Yang J. Y., Peery A. F., Lund J. L., Pate V., Sandler R. S. Burden and Cost of Outpatient Hemorrhoids in the United States Employer-Insured Population, 2014 // American Journal of Gastroenterology. – 2019. – Vol. 114(5). – P. 798-803. – DOI: https://doi.org/10.14309/ajg.0000000000000143.
16. Gallo G., Martellucci J., Sturiale A., Clerico G., Milito G., Marino F., Cocorullo G., Giordano P., Mistrangelo M., Trompetto M. Consensus statement of the Italian society of colorectal surgery (SICCR): management and treatment of hemorrhoidal disease // Techniques in Coloproctology. – 2020. – Vol. 24(2). – P. 145-164. – DOI: https://doi.org/10.1007/s10151-020-02149-1.
17. Hawkins A. T., Davis B. R., Bhama A. R., Fang S. H., Dawes A. J., Feingold D. L., Lightner A. L., Paquette I. M. The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for the Management of Hemorrhoids // Diseases of the Colon and Rectum. – 2024. – Vol. 67(5). – P. 614-623. – DOI: https://doi.org/10.1097/DCR.0000000000003276.
18. Brillantino A., Renzi A., Talento P., Brusciano L. et al. The Italian Unitary Society of Colon-Proctology guidelines for the management of acute and chronic hemorrhoidal disease // Annals of Coloproctology. – 2024. – Vol. 40(4). – P. 287-320. – DOI: https://doi.org/10.3393/ac.2023.00871.0124.
19. Rørvik H. D., Davidsen M., Gierløff M. C., Brandstrup B., Olaison G. Quality of life in patients with hemorrhoidal disease // Surgery Open Science. – 2023. – Vol. 12. – P. 22-28. – DOI: https://doi.org/10.1016/j.sopen.2023.02.004.
20. Rørvik H. D., Styr K., Ilum L., McKinstry G. L., Dragesund T., Campos A. H., Brandstrup B., Olaison G. Hemorrhoidal Disease Symptom Score and Short Health Scale-HD: New Tools to Evaluate Symptoms and Health-Related Quality of Life in Hemorrhoidal Disease // Diseases of the Colon and Rectum. – 2019. – Vol. 62(3). – P. 333-342. – DOI: https://doi.org/10.1097/DCR.0000000000001234.
21. Simillis C., Thoukididou S. N., Slesser A. A. P., Rasheed S., Tan E., Tekkis P. P. Systematic review and network meta-analysis comparing clinical outcomes and effectiveness of surgical treatments for haemorrhoids // British Journal of Surgery. – 2015. – Vol. 102(13). – P. 1603-1618. – DOI: https://doi.org/10.1002/bjs.9913.
22. Giordano P., Overton J., Madeddu F., Zaman S., Gravante G. Transanal hemorrhoidal dearterialization: a systematic review // Diseases of the Colon and Rectum. – 2009. – Vol. 52(9). – P. 1665-1671. – DOI: https://doi.org/10.1007/DCR.0b013e3181af50f4.
23. Emile S. H., Elfeki H., Sakr A., Shalaby M. Transanal hemorrhoidal dearterialization (THD) versus stapled hemorrhoidopexy (SH) in treatment of internal hemorrhoids // International Journal of Colorectal Disease. – 2019. – Vol. 34(1). – P. 1-11. – DOI: https://doi.org/10.1007/s00384-018-3187-3.
24. Jee J., O'Connell L. V., Kaur I., Sahebally S. M. Conventional Excisional Haemorrhoidectomy versus Transanal Haemorrhoidal Dearterialization for Haemorrhoids // Digestive Surgery. – 2024. – Vol. 41(4). – P. 204-212. – DOI: https://doi.org/10.1159/000540256.
25. Rørvik H. D., Campos A. H., Styr K., Ilum L., McKinstry G. L., Brandstrup B., Olaison G. Minimal Open Hemorrhoidectomy Versus Transanal Hemorrhoidal Dearterialization // Diseases of the Colon and Rectum. – 2020. – Vol. 63(5). – P. 655-667. – DOI: https://doi.org/10.1097/DCR.0000000000001588.
26. Watson A. J. M., Hudson J., Wood J., Kilonzo M., Brown S. R., McDonald A., Norrie J., Bruhn H., Cook J. A. Comparison of stapled haemorrhoidopexy with traditional excisional surgery for haemorrhoidal disease (eTHoS) // Lancet. – 2016. – Vol. 388(10058). – P. 2375-2385. – DOI: https://doi.org/10.1016/S0140-6736(16)31803-7.
27. Giordano P., Gravante G., Sorge R., Ovens L., Nastro P. Long-term outcomes of stapled hemorrhoidopexy vs conventional hemorrhoidectomy // Archives of Surgery. – 2009. – Vol. 144(3). – P. 266-272. – DOI: https://doi.org/10.1001/archsurg.2008.591.
28. Brown S. R., Tiernan J. P., Watson A. J. M., Biggs K., Shephard N., Wailoo A. J., Bradburn M., Alshreef A., Hind D. Haemorrhoidal artery ligation versus rubber band ligation // Lancet. – 2016. – Vol. 388(10042). – P. 356-364. – DOI: https://doi.org/10.1016/S0140-6736(16)30584-0.

29. Dekker L., Han-Geurts I. J. M., Rørvik H. D., van Dieren S., Bemelman W. A. Rubber band ligation versus haemorrhoidectomy // Techniques in Coloproctology. – 2021. – Vol. 25(6). – P. 663-674. – DOI: https://doi.org/10.1007/s10151-021-02430-x.
30. Tan E. K., Cornish J., Darzi A. W., Papagrigoriadis S., Tekkis P. P. Meta-analysis of short-term outcomes of randomized controlled trials of LigaSure vs conventional hemorrhoidectomy // Archives of Surgery. – 2007. – Vol. 142(12). – P. 1209-1218. – DOI: https://doi.org/10.1001/archsurg.142.12.1209.
31. Bhatti M. I., Sajid M. S., Baig M. K., Milligan-Morgan (Open) Versus Ferguson Haemorrhoidectomy (Closed) // World Journal of Surgery. – 2016. – Vol. 40(6). – P. 1509-1519. – DOI: https://doi.org/10.1007/s00268-016-3419-z.
32. Mushaya C. D., Caleo P. J., Bartlett L., Buettner P. G., Ho Y. H. Harmonic scalpel compared with conventional excisional haemorrhoidectomy // Techniques in Coloproctology. – 2014. – Vol. 18(11). – P. 1009-1016. – DOI: https://doi.org/10.1007/s10151-014-1169-1.
33. Vinson-Bonnet B., Higuero T., Faucheron J. L., Senejoux A., Pigot F., Siproudhis L. Ambulatory haemorrhoidal surgery // International Journal of Colorectal Disease. – 2015. – Vol. 30(4). – P. 437-445. – DOI: https://doi.org/10.1007/s00384-014-2073-x.
34. Balciscueta Z., Balciscueta I., Uribe N. Post-hemorrhoidectomy pain: can surgeons reduce it? // International Journal of Colorectal Disease. – 2021. – Vol. 36(12). – P. 2553-2566. – DOI: https://doi.org/10.1007/s00384-021-04013-6.
35. Campennì P., Marra A. A., Ferri L., Orefice R., Parello A., Litta F., De Simone V., Goglia M., Ratto C. Impact of COVID-19 Quarantine on Advanced Hemorrhoidal Disease and the Role of Telemedicine in Patient Management // Journal of Clinical Medicine. – 2020. – Vol. 9(11). – Article No. 3416. – DOI: https://doi.org/10.3390/jcm9113416.
36. Pietroletti R., Gallo G., Muselli M., Martinisi G., Cofini V. Proctologic Surgery Prioritization After the Lockdown: Development of a Scoring System // Frontiers in Surgery. – 2022. – Vol. 8. – Article No. 798405. – DOI: https://doi.org/10.3389/fsurg.2021.798405.

References

1. Johanson, J. F., & Sonnenberg, A. (1990). The prevalence of hemorrhoids and chronic constipation: An epidemiologic study. Gastroenterology, 98(2), 380-386. https://doi.org/10.1016/0016-5085(90)90828-O.
2. Riss, S., Weiser, F. A., Schwameis, K., Riss, T., Mittlböck, M., Steiner, G., & Stift, A. (2012). The prevalence of hemorrhoids in adults. International Journal of Colorectal Disease, 27(2), 215-220. https://doi.org/10.1007/s00384-011-1316-3.
3. Sandler, R. S., & Peery, A. F. (2019). Rethinking what we know about hemorrhoids. Clinical Gastroenterology and Hepatology, 17(1), 8-15. https://doi.org/10.1016/j.cgh.2018.03.020.
4. Lohsiriwat, V. (2012). Hemorrhoids: From basic pathophysiology to clinical management. World Journal of Gastroenterology, 18(17), 2009-2017. https://doi.org/10.3748/wjg.v18.i17.2009.
5. Sun, Z., & Migaly, J. (2016). Review of hemorrhoid disease: Presentation and management. Clinics in Colon and Rectal Surgery, 29(1), 22-29. https://doi.org/10.1055/s-0035-1568144.
6. Brown, S. R. (2017). Haemorrhoids: An update on management. Therapeutic Advances in Chronic Disease, 8(10), 141-147. https://doi.org/10.1177/2040622317713957.
7. Peery, A. F., Sandler, R. S., Galanko, J. A., Bresalier, R. S., Figueiredo, J. C., Ahnen, D. J., Barry, E. L., & Baron, J. A. (2015). Risk factors for hemorrhoids on screening colonoscopy. PLoS ONE, 10(9), e0139100. https://doi.org/10.1371/journal.pone.0139100.
8. Alonso-Coello, P., Mills, E., Heels-Ansdell, D., López-Yarto, M., Zhou, Q., Johanson, J. F., & Guyatt, G. (2006). Fiber for the treatment of hemorrhoid complications: A systematic review and meta-analysis. American Journal of Gastroenterology, 101(1), 181-188. https://doi.org/10.1111/j.1572-0241.2005.00359.x.
9. Davis, B. R., Lee-Kong, S. A., Migaly, J., Feingold, D. L., & Steele, S. R. (2018). The American Society of Colon and Rectal Surgeons clinical practice guidelines for the management of hemorrhoids. Diseases of the Colon and Rectum, 61(3), 284-292. https://doi.org/10.1097/DCR.0000000000001030.
10. Mott, T., Latimer, K., & Edwards, C. (2018). Hemorrhoids: Diagnosis and treatment options. American Family Physician, 97(3), 172-179. Retrieved November 25, 2025, from https://

pubmed.ncbi.nlm.nih.gov/29431977/.
11. Nisar, P. J., Acheson, A. G., Neal, K. R., & Scholefield, J. H. (2004). Stapled hemorrhoidopexy compared with conventional hemorrhoidectomy: Systematic review of randomized, controlled trials. Diseases of the Colon and Rectum, 47(11), 1837-1845. https://doi.org/10.1007/s10350-004-0679-8.
12. Shao, W.-J., Li, G.-C. H., Zhang, Z. H.-K., Yang, B.-L., Sun, G.-D., & Chen, Y.-Q. (2008). Systematic review and meta-analysis of randomized controlled trials comparing stapled haemorrhoidopexy with conventional haemorrhoidectomy. British Journal of Surgery, 95(2), 147-160. https://doi.org/10.1002/bjs.6078.
13. Nienhuijs, S. W., & de Hingh, I. H. J. T. (2010). Pain after conventional versus Ligasure haemorrhoidectomy: A meta-analysis. International Journal of Surgery, 8(4), 269-273. https://doi.org/10.1016/j.ijsu.2010.04.001.
14. Milito, G., Cadeddu, F., Muzi, M. G., Nigro, C., & Farinon, A. M. (2010). Haemorrhoidectomy with Ligasure vs conventional excisional techniques: Meta-analysis of randomized controlled trials. Colorectal Disease, 12(2), 85-93. https://doi.org/10.1111/j.1463-1318.2009.01807.x.
15. Yang, J. Y., Peery, A. F., Lund, J. L., Pate, V., & Sandler, R. S. (2019). Burden and cost of outpatient hemorrhoids in the United States employer-insured population, 2014. American Journal of Gastroenterology, 114(5), 798-803. https://doi.org/10.14309/ajg.0000000000000143.
16. Gallo, G., Martellucci, J., Sturiale, A., Clerico, G., Milito, G., Marino, F., Cocorullo, G., Giordano, P., Mistrangelo, M., & Trompetto, M. (2020). Consensus statement of the Italian Society of Colorectal Surgery (SICCR): Management and treatment of hemorrhoidal disease. Techniques in Coloproctology, 24(2), 145-164. https://doi.org/10.1007/s10151-020-02149-1.
17. Hawkins, A. T., Davis, B. R., Bhama, A. R., Fang, S. H., Dawes, A. J., Feingold, D. L., Lightner, A. L., & Paquette, I. M. (2024). The American Society of Colon and Rectal Surgeons clinical practice guidelines for the management of hemorrhoids. Diseases of the Colon and Rectum, 67(5), 614-623. https://doi.org/10.1097/DCR.0000000000003276.
18. Brillantino, A., Renzi, A., Talento, P., Brusciano, L., et al. (2024). The Italian Unitary Society of Colon-Proctology guidelines for the management of acute and chronic hemorrhoidal disease. Annals of Coloproctology, 40(4), 287-320. https://doi.org/10.3393/ac.2023.00871.0124.
19. Rørvik, H. D., Davidsen, M., Gierløff, M. C., Brandstrup, B., & Olaison, G. (2023). Quality of life in patients with hemorrhoidal disease. Surgery Open Science, 12, 22-28. https://doi.org/10.1016/j.sopen.2023.02.004.
20. Rørvik, H. D., Styr, K., Ilum, L., McKinstry, G. L., Dragesund, T., Campos, A. H., Brandstrup, B., & Olaison, G. (2019). Hemorrhoidal disease symptom score and short health scale-HD: New tools to evaluate symptoms and health-related quality of life in hemorrhoidal disease. Diseases of the Colon and Rectum, 62(3), 333-342. https://doi.org/10.1097/DCR.0000000000001234.
21. Simillis, C., Thoukididou, S. N., Slesser, A. A. P., Rasheed, S., Tan, E., & Tekkis, P. P. (2015). Systematic review and network meta-analysis comparing clinical outcomes and effectiveness of surgical treatments for haemorrhoids. British Journal of Surgery, 102(13), 1603-1618. https://doi.org/10.1002/bjs.9913.
22. Giordano, P., Overton, J., Madeddu, F., Zaman, S., & Gravante, G. (2009). Transanal hemorrhoidal dearterialization: A systematic review. Diseases of the Colon and Rectum, 52(9), 1665-1671. https://doi.org/10.1007/DCR.0b013e3181af50f4.
23. Emile, S. H., Elfeki, H., Sakr, A., & Shalaby, M. (2019). Transanal hemorrhoidal dearterialization (THD) versus stapled hemorrhoidopexy (SH) in the treatment of internal hemorrhoids. International Journal of Colorectal Disease, 34(1), 1-11. https://doi.org/10.1007/s00384-018-3187-3.
24. Jee, J., O'Connell, L. V., Kaur, I., & Sahebally, S. M. (2024). Conventional excisional haemorrhoidectomy versus transanal haemorrhoidal dearterialization for haemorrhoids. Digestive Surgery, 41(4), 204-212. https://doi.org/10.1159/000540256.
25. Rørvik, H. D., Campos, A. H., Styr, K., Ilum, L., McKinstry, G. L., Brandstrup, B., & Olaison, G. (2020). Minimal open hemorrhoidectomy versus transanal hemorrhoidal dearterialization. Diseases of the Colon and Rectum, 63(5), 655-667. https://doi.org/10.1097/DCR.0000000000001588.
26. Watson, A. J. M., Hudson, J., Wood, J., Kilonzo, M., Brown, S. R., McDonald, A., Norrie, J., Bruhn, H., & Cook, J. A. (2016). Comparison of stapled haemorrhoidopexy with traditional excisional surgery for haemorrhoidal disease (eTHoS). The Lancet, 388(10058), 2375-2385. https://doi.

org/10.1016/S0140-6736(16)31803-7.
27. Giordano, P., Gravante, G., Sorge, R., Ovens, L., & Nastro, P. (2009). Long-term outcomes of stapled hemorrhoidopexy vs conventional hemorrhoidectomy. Archives of Surgery, 144(3), 266-272. https://doi.org/10.1001/archsurg.2008.591.
28. Brown, S. R., Tiernan, J. P., Watson, A. J. M., Biggs, K., Shephard, N., Wailoo, A. J., Bradburn, M., Alshreef, A., & Hind, D. (2016). Haemorrhoidal artery ligation versus rubber band ligation. The Lancet, 388(10042), 356-364. https://doi.org/10.1016/S0140-6736(16)30584-0.
29. Dekker, L., Han-Geurts, I. J. M., Rørvik, H. D., van Dieren, S., & Bemelman, W. A. (2021). Rubber band ligation versus haemorrhoidectomy. Techniques in Coloproctology, 25(6), 663-674. https://doi.org/10.1007/s10151-021-02430-x.
30. Tan, E. K., Cornish, J., Darzi, A. W., Papagrigoriadis, S., & Tekkis, P. P. (2007). Meta-analysis of short-term outcomes of randomized controlled trials of LigaSure vs conventional hemorrhoidectomy. Archives of Surgery, 142(12), 1209–1218. https://doi.org/10.1001/archsurg.142.12.1209.
31. Bhatti, M. I., Sajid, M. S., & Baig, M. K. (2016). Milligan-Morgan (open) versus Ferguson haemorrhoidectomy (closed). World Journal of Surgery, 40(6), 1509-1519. https://doi.org/10.1007/s00268-016-3419-z.
32. Mushaya, C. D., Caleo, P. J., Bartlett, L., Buettner, P. G., & Ho, Y. H. (2014). Harmonic scalpel compared with conventional excisional haemorrhoidectomy. Techniques in Coloproctology, 18(11), 1009-1016. https://doi.org/10.1007/s10151-014-1169-1.
33. Vinson-Bonnet, B., Higuero, T., Faucheron, J. L., Senejoux, A., Pigot, F., & Siproudhis, L. (2015). Ambulatory haemorrhoidal surgery. International Journal of Colorectal Disease, 30(4), 437-445. https://doi.org/10.1007/s00384-014-2073-x.
34. Balciscueta, Z., Balciscueta, I., & Uribe, N. (2021). Post-hemorrhoidectomy pain: Can surgeons reduce it? International Journal of Colorectal Disease, 36(12), 2553-2566. https://doi.org/10.1007/s00384-021-04013-6.
35. Campennì, P., Marra, A. A., Ferri, L., Orefice, R., Parello, A., Litta, F., De Simone, V., Goglia, M., & Ratto, C. (2020). Impact of COVID-19 quarantine on advanced hemorrhoidal disease and the role of telemedicine in patient management. Journal of Clinical Medicine, 9(11), 3416. https://doi.org/10.3390/jcm9113416.
36. Pietroletti, R., Gallo, G., Muselli, M., Martinisi, G., & Cofini, V. (2022). Proctologic surgery prioritization after the lockdown: Development of a scoring system. Frontiers in Surgery, 8, 798405. https://doi.org/10.3389/fsurg.2021.798405.

2012-2021ЖЫЛДАРЫ АЛМАТЫ ҚАЛАСЫНЫҢ МЕДИЦИНАЛЫҚ ҰЙЫМДАРЫНДА ГЕМОРРОЙДЫ ХИРУРГИЯЛЫҚ ЕМДЕУ ДИНАМИКАСЫН ТАЛДАУ

Б. С. Байманов[1*], М. К. Кульжанов[2], А. Т. Джумабеков[1], А. К. Байманова[3], М. З. Сарсенбаева[1]

[1]«ҚДСЖМ» Қазақстандық Медицина Университеті, Қазақстан, Алматы
[2]«С. Д. Асфендияров атындағы Қазақ Ұлттық Медицина Университеті» КеАҚ, Қазақстан, Алматы
[3]«Әл-Фараби атындағы Қазақ Ұлттық Университеті», КЕАҚ, Қазақстан, Алматы
**Кореспондент автор*

Аңдатпа

Өзектілігі. Геморрой аноректальды аймақтың ең жиі кездесетін ауруларының бірі болып табылады және қазіргі колопроктологиядағы маңызды клиникалық әрі ұйымдастырушылық мәселе болып қала береді. Соған қарамастан, жекелеген қалалар деңгейіндегі хирургиялық емнің ұзақмерзімді үрдістері жеткілікті зерттелмеген.

Материалдар мен әдістер. 2012-2021 жылдары Алматы қаласының медициналық ұйымдарында геморрой бойынша жасалған хирургиялық араласуларға ретроспективті сипаттамалық-аналитикалық зерттеу жүргізілді. Дереккөз ретінде Қазақстан Республикасы Денсаулық сақтауды дамыту республикалық орталығы ұсынған ресми агрегатталған статистикалық мәліметтер пайдаланылды. Операциялардың жалпы саны, жоспарлы және шұғыл араласулар саны, сондай-ақ жоспарлы операциялардың үлесі талданды. Сипаттамалық статистика, сызықтық регрессия және уақыттық қатарларды болжау әдістері IBM SPSS Statistics 26.0 бағдарламасында қолданылды.

Нәтижелер. 2012-2021 жылдары операциялардың жалпы саны жылына 43-тен 619-ға дейін ауытқып, орташа 269,9±191,4 құрады. Жоспарлы араласулардың орташа саны 109,5±100,9, шұғыл араласулар – 160,4±136,7 болды. Жалпы операциялар санының статистикалық мәнді өсуі анықталды (β = 46,418; 95 % СИ 11,446-81,391; p = 0,016; R^2 = 0,539), сондай-ақ жоспарлы операциялар санының да өсуі байқалды (β = 28,103; 95 % СИ 13,504-42,702; p = 0,002; R^2 = 0,711). Шұғыл операциялар бойынша мәнді тренд анықталған жоқ (p = 0,245). Жоспарлы араласулар үлесінің арту үрдісі байқалғанымен, ол статистикалық мәнділікке жеткен жоқ (p = 0,058). Болжамдық бағалаулар жалпы және жоспарлы операциялар санының одан әрі өсуі мүмкін екенін көрсетті, алайда кең сенімділік интервалдарына байланысты оларды абайлап түсіндіру қажет.

Қорытынды. 2012-2021 жылдары Алматы қаласының медициналық ұйымдарында геморрой бойынша хирургиялық белсенділіктің жалпы өсуі байқалды, бұл негізінен жоспарлы араласулар санының артуымен байланысты болды. Алынған нәтижелер хирургиялық қызметке түсетін жүктемені бағалау және проктологиялық көмекті жоспарлау үшін пайдалы болуы мүмкін.

Түйін сөздер: *геморрой, хирургиялық емдеу, динамика, болжам, эпидемиология.*

АНАЛИЗ ДИНАМИКИ ХИРУРГИЧЕСКОГО ЛЕЧЕНИЯ ГЕМОРРОЯ В МЕДИЦИНСКИХ ОРГАНИЗАЦИЯХ Г. АЛМАТЫ В 2012-2021 ГГ

Б. С. Байманов [1*], М. К. Кульжанов [2], А. Т. Джумабеков[1], А. К. Байманова [3], М. З. Сарсенбаева[1]

[1]Казахстанский Медицинский Университет «ВШОЗ», Казахстан, Алматы

[2] НАО «Казахский Национальный Медицинский Университет имени С. Д. Асфендиярова», Казахстан, Алматы

[3] НАО «Казахский Национальный Университет имени Аль-Фараби», Казахстан, Алматы

**Корреспондирующий автор*

Аннотация

Актуальность. Геморрой относится к наиболее распространённым заболеваниям аноректальной области и остаётся значимой клинической и организационной проблемой. Несмотря на широкую распространённость, долгосрочные тенденции хирургического лечения на уровне отдельных городов изучены недостаточно.

Материалы и методы. Проведено ретроспективное описательно-аналитическое исследование хирургических вмешательств по поводу геморроя в медицинских организациях г. Алматы за 2012-2021 гг. Использованы официальные агрегированные статистические данные Республиканского центра развития здравоохранения Республики Казахстан. Анализировали общее число операций, количество плановых и экстренных вмешательств, а также долю плановых операций. Применены методы описательной статистики, линейной регрессии и прогнозирования временных рядов в IBM SPSS Statistics 26.0.

Результаты. За 2012-2021 гг. общее число операций варьировало от 43 до 619 в год и в среднем составило 269,9±191,4. Количество плановых вмешательств составило в среднем 109,5±100,9, экстренных – 160,4±136,7. Установлен статистически значимый рост общего числа операций (β = 46,418; 95 % ДИ 11,446-81,391; p = 0,016; R^2 = 0,539) и плановых вмешательств (β = 28,103; 95 % ДИ 13,504-42,702; p = 0,002; R^2 = 0,711). Для экстренных операций значимый тренд не выявлен (p = 0,245). Доля плановых вмешательств имела тенденцию к увеличению, однако без статистической значимости (p = 0,058). Прогнозные оценки указывают на возможное дальнейшее увеличение общего числа и плановых операций, но требуют осторожной интерпретации из-за широких доверительных интервалов.

Вывод. В медицинских организациях г. Алматы в 2012-2021 гг. отмечался общий рост хирургической активности при геморрое, преимущественно за счёт увеличения плановых вмешательств. Полученные данные могут быть использованы при оценке нагрузки на хирургическую службу и планировании проктологической помощи.

Ключевые слова*: геморрой, хирургическое лечение, динамика, прогноз, эпидемиология.*

АВТОРЛАР ТУРАЛЫ

Байманов Беимбет Серикович – медицина ғылымдарының магистрі, «Қоғамдық денсаулық сақтау» мамандығы бойынша докторант, «Қоғамдық Денсаулық Сақтау Жоғары Мектебі» Қазақстандық Медицина Университеті, Қазақстан, Алматы; e-mail: Beimbetbaymanov@gmail.com; телефон: +77021522253; ORCID: https://orcid.org/0000-0001-6213-9508.

Кульжанов Максут Каримович – медицина ғылымдарының докторы, профессор, С. Д. Асфендияров атындағы Қазақ Ұлттық Медицина Университетінің саясат және менеджмент кафедрасының профессоры, Қазақстан, Алматы; e-mail: mkkutzhan@gmail.com; телефон: +77772277682; ORCID: https://orcid.org/0000-0002-9701-4016.

Джумабеков Ауесхан Тулегенович – медицина ғылымдарының докторы,профессор, «Қоғамдық Денсаулық Сақтау Жоғары Мектебі» Қазақстандық Медицина Университетінің клиникалық жұмыс жөніндегі проректоры, Қазақстан, Алматы; e-mail: jumabekov@mail.kz; телефон: +77017414437; ORCID: https://orcid.org/0000-0002-3502-4411.

Байманова Асель Келдибековна – Әл-Фараби атындағы Қазақ Ұлттық Университеті клиникалық пәндер кафедрасының аға оқытушысы, Қазақстан, Алматы; e-mail: Aselbaimanova123@gmail.com; телефон: +77770128157; ORCID: https://orcid.org/0009-0007-4674-5293.

Сарсенбаева Майра Заманбековна – медицина ғылымдарының кандидаты, «Қоғамдық денсаулық сақтау және әлеуметтік пәндер» кафедрасының аға оқытушысы, «Қоғамдық Денсаулық Сақтау Жоғары Мектебі» Қазақстандық Медицина Университетінің, Қазақстан, Алматы; e-mail: maira.sarsenbaeva@mail.ru; телефон: +7 747 8151075; ORCID: https://orcid.org/0000-0002-0921-2224.

ОБ АВТОРАХ

Байманов Беимбет Серикович – магистр медицинских наук, докторант по специальности «Общественное здравоохранение», Казахстанский медицинский университет «Высшая школа общественного здравоохранения», Казахстан, Алматы; e-mail: Beimbetbaymanov@gmail.com; телефон: +77021522253; ORCID: https://orcid.org/0000-0001-6213-9508.

Кульжанов Максут Каримович – доктор медицинских наук, профессор, профессор кафедры политики и менеджмента Казахского Национального медицинского университета имени С. Д. Асфендиярова, Казахстан, Алматы; e-mail: mkkutzhan@gmail.com; телефон: +77772277682; ORCID: https://orcid.org/0000-0002-9701-4016.

Джумабеков Ауесхан Тулегенович – доктор медицинских наук, профессор, проректор по клинической работе Казахстанского медицинского университета «Высшая школа общественного здравоохранения», Казахстан, Алматы; e-mail: jumabekov@mail.kz; телефон: +77017414437; ORCID: https://orcid.org/0000-0002-3502-4411.

Байманова Асель Келдибековна – старший преподаватель кафедры клинических дисциплин Казахского национального университета имени Аль-Фараби, Казахстан, Алматы; e-mail: Aselbaimanova123@gmail.com; телефон: +77770128157; ORCID: https://orcid.org/0009-0007-4674-5293.

Сарсенбаева Майра Заманбековна – кандидат медицинских наук, старший преподаватель кафедры «Общественное здравоохранение и социальные дисциплины», Казахстанский медицинский университет «Высшая школа общественного здравоохранения», Казахстан, Алматы; e-mail: maira.sarsenbaeva@mail.ru; телефон: +7 747 8151075; ORCID: https://orcid.org/0000-0002-0921-2224.

ABOUT AUTHORS

Baimanov Beimbet Serikovich – Master of Medical Sciences, PhD in Public Health, Kazakhstan Medical University Higher School of Public Health, Almaty, Kazakhstan; e-mail: Beimbetbaymanov@gmail.com; phone: +77021522253; ORCID: https://orcid.org/0000-0001-6213-9508.

Kulzhanov Maksut Karimovich – Doctor of Medical Sciences, Professor, Professor of the Department of Politics and Management of the Kazakh National Medical University named after S. D. Asfendiyarov, Kazakhstan, Almaty; e-mail: mkkutzhan@gmail.com; phone: +77772277682; ORCID: https://orcid.org/0000-0002-9701-4016.
Dzhumabekov Auyeskhan Tulegenovich – Doctor of Medical Sciences, Professor, Vice-rector for Clinical Work, Kazakhstan Medical University «Higher School of Public Health», Kazakhstan, Almaty; e-mail: jumabekov@mail.kz; phone: +77017414437; ORCID: https://orcid.org/0000-0002-3502-4411.
Baimanova Assel Keldibekovna – Senior Lecturer at the Department of Clinical Disciplines, Al-Farabi Kazakh National University, Kazakhstan, Almaty; e-mail: Aselbaimanova123@gmail.com; phone: +77770128157; ORCID: https://orcid.org/0009-0007-4674-5293.
Sarsenbayeva Maira Zamanbekovna – Candidate of Medical Sciences, Senior Lecturer at the Department of Public Health and Social Sciences, Kazakhstan Medical University Higher School of Public Health, Kazakhstan, Almaty; e-mail: maira.sarsenbaeva@mail.ru; phone: +7 747 8151075; ORCID: https://orcid.org/0000-0002-0921-2224.

Authors' contribution. *Conceptualization: Kulzhanov M.K.; methodology: Dzhumabekov A.T.; formal analysis: Baimanova A.K.; data processing: Baimanov B.S.; preparation of the original project: Sarsenbaeva M.Z.; review and editing: Sarsenbaeva M.Z.*

Conflict of interest. *The authors declare no conflict of interest.*

Funding. *This research received no external funding.*

All authors have approved the final version of the article and are responsible for its content.

Article received: 31.12.2025year.
Accepted for publication:20.02.2026 year.