№ 2 (131) 2022

ISSN 2311-6951; eISSN 1996-353X

UDC: 378.6:61:001.891](477.411)(050)

Міністерство охорони здоров'я України
Національний медичний університет
імені О. О. Богомольця

НАУКОВО-ПРАКТИЧНЕ ВИДАННЯ

УКРАЇНСЬКИЙ НАУКОВО-МЕДИЧНИЙ МОЛОДІЖНИЙ ЖУРНАЛ

Видання індексується
в Google Scholar,
Index Copernicus, WorldCat OCLC

ISSN 2311-6951; eISSN 1996-353X

UDC: 378.6:61:001.891](477.411)(050)

Ministry of Health of Ukraine
Bogomolets National Medical University

THEORETICAL AND PRACTICAL EDITION

UKRAINIAN SCIENTIFIC MEDICAL YOUTH JOURNAL

Journal's indexing:
Google Scholar, Index Copernicus,
WorldCat OCLC

Засновник – Національний медичний університет імені О.О.Богомольця МОЗ України
Періодичність виходу 4 рази на рік.
Журнал внесено до переліку фахових видань.
Галузі наук: медичні, фармацевтичні.
(наказ МОН України 09.03.2016 №241)
Реєстраційне свідоцтво КВ № 17028-5798ПР.
Рекомендовано Вченою Радою НМУ імені О.О.Богомольця (протокол № 2 від 11.06.2022 р.)

Founder – Bogomolets National Medical University
Ministry of Health of Ukraine
Publication frequency – 4 times a year.
The Journal is included in the list of professional publications in Medical and pharmaceutical Sciences (order MES Ukraine 09.03.2016 № 241)
Registration Certificate КВ № 17028-5798ПР.
Recommended by the Academic Council of the Bogomolets National Medical University, Kyiv (protocol №2 of 11.06.2022)

Ukrainian Scientific Medical Youth Journal
Issue 2 (131), 2022
ISSN 1996-353X
ISSN 2311-6951

UDC: 616.147.17-007.64-089.168-06:616.352-007.271-003.92
https://doi.org/10.32345/USMYJ.2(131).2022.44-49

Received: February 15, 2022
Accepted: May 12, 2022

Postoperative scar deformities of the perianal region: current state of the problem. (literature review)

Aksan Mykhailo
Department of Surgery No. 1, O.O. Bogomolets National Medical University, Kyiv, Ukraine

Address for correspondence:
Aksan Mykhailo
E-mail: aksanmv@gmail.com

Abstract: *Nowadays, many surgical interventions are performed in the perianal area and on the anal canal. Each one affects the quality of the patient's future life in its own way. That is why the presented literature review is devoted to the study of the problem of postoperative scar deformities of the perianal region, because this pathology is a complication of many surgical interventions in this area. The main objective of the study is to analyze the currently available data in the following areas: the cause of postoperative scar deformities, their classification and modern treatment methods. The research method was based on the study of scientific articles published in the period from 1982 to 2022, indexed in Ukraine and international databases. This approach made it possible to identify key points in each of the areas of analysis and to systematize the obtained data. When studying the causes of postoperative anal stenosis, it can be noted that most often they represent the consequences of hemorrhoidectomies, performed in various techniques. Most scientists emphasize the importance of preventing the occurrence of anal stenosis, which implies choosing the optimal treatment method. Having systematized the literature data, I would like to note the lack of a unified approach to managing patients with this problem, as well as the lack of well-defined indications for surgical treatment. The vast majority of researchers emphasize the need to treat these patients using conservative methods, namely dietary adjustments. Regarding the methods of surgical treatment, it is necessary to note the vast quantity of available surgical techniques. At the same time, the lack of controlled prospective studies makes it difficult to evaluate and verify their results. However, it is indisputable that all of them lead to an improvement in the lives of patients and a reduction in the symptoms of stenosis. After analyzing a sufficient amount of available data, it is safe to say that the issue of postoperative scar deformities of the perianal region remains insufficiently studied and very relevant.*

Keywords. anus diseases, hemorrhoids, postoperative complications, surgical flaps, treatment outcome.

Introduction

Operations on the anal canal and perineum represent a fairly large share of all surgical interventions performed both in elective and urgent settings. Their consequences play an important role in the lives of patients that underwent these surgeries. One such consequence is postoperative scar deformity, namely anal stenosis. Although this pathology occurs in a small number of patients, it can lead to disability of people of working age. (Khubchandani I.T.,1994; Liberman H, Thorson A.G.,2000). Postoperative scar deformity of the perianal region, namely postoperative anal stenosis, is a fairly serious condition that

ISSN 1996-353X
ISSN 2311-6951

occurs as a result of narrowing of the anal canal due to the replacement of the anoderm with connective tissue. (Rosen L.,1988)

Despite significant advances in the surgical techniques, diagnosis and treatment of people with postoperative scar deformities of the perianal region, their incidence among operated patients remains unchanged.(Blumetti J.,2017; Khubchandani I.T.,1994; Liberman H, Thorson A.G.,2000; Rosen L.,1988; Acar T, Acar N, Tosun F, Ayaroğlu Ç, Haciyanli M. ,2020)

Aims

To study and systematize available data on the causes, methods of diagnosis and treatment of postoperative scar deformities of the perianal region.

Methods

An analytical review of foreign literature sources devoted to the study of postoperative scar deformities of the perianal region, namely anal stenosis, is carried out. The following methods were applied: information search techniques, bibliographic, and comparative analysis. PUBMED, MEDLINE, and Cochrane databases were used during this work.

Results and discussion

There are not too many publications in the scientific medical literature, devoted to postoperative scar deformities. Most literature includes synonyms such as postoperative anal stenosis (Khubchandani I.T., 1994; Liberman H, Thorson A.G.,2000), postoperative anal stricture(Angelchik, P. D., Harms, B. A., & Starling, J. R., 1993). In this article, we analyzed the current state of the problem of anal stenosis in the following areas: causes, classification, modern methods of treatment (conservative and surgical).

Causes of development

A significant number of operations on the perianal area and anal canal can lead to the formation of anal stenosis. The greatest frequency of its development is observed after hemorrhoidectomy and ranges from 5 to 10% according to different sources (Blumetti J.,2017; Boccasanta, P . et al., 2001; Sutherland L. M . et al., 2002; Wilson M.S. et al., 2002) . The most probable pathomorphological basis for the development of scar deformity is the replacement of the anoderm and distal part of the rectal mucosa with connective tissue. The next important factor is possible damage to the anal sphincter during hemorrhoidectomy, which leads to progressive stenosis (Blumetti J.,2017). It should be noted that many techniques of hemorrhoidectomy are currently in use: Milligan-Morgan, Longo, Whitehead and their modifications. (Brisinda G., 2000; Wolff, B. G., & Culp, C. E., 1988) Accordingly, the frequency of anal stenosis will be different when comparing them. Thus, when performing a Whitehead hemorrhoidectomy, the number of postoperative scar deformities (according to the available data) is much higher, because this technique is based on circular sewing of the rectal mucosa to the anocutaneous line. (Ravo B. et al., 2002; Wolff B.G., Culp C.E.,1988). Meanwhile, according to available data on the Milligan-Morgan hemorrhoidectomy, after this procedure stenoses do not occur as often. This is supported by the results of a study, performed by a group of authors, in which the incidence of stenosis for this technique was 0.8% (Ravo B. et al., 2002). Stapler hemorrhoidectomy is also quite widespread and demonstrates the incidence of postoperative anal stenosis of 3.1%. (Petersen, S., Hellmich, G., Schumann, D. et al.,2004).

When analyzing data from the literature over the past 5 years, it can be noted that the number of postoperative scar deformations has increased after using LigaSure®, ultrasonic dissector, laser in operations on the perineum. (Leventoglu S. Mentes B, Balci B, Kebiz HC, 2022)

Classification and treatment methods

Analyzing the literature sources, no unified classification of postoperative scar deformities of the perianal region was found. It is worth noting that the criteria for choosing the management tactics of such patients, indications and contraindications for surgical interventions are also ambiguous. At the same time, scientists recommend choosing the method of anal stenosis treatment depending on the severity, cause and location of this pathology. (Milsom J.W., Mazier W.P.,1986 Table 1 shows one of the possible classifications of anal stenosis depending on the level and severity of stenosis (Kunitake H, Poylin V.,2016).

Most scientists emphasize the need to take into account the functional, not just anatomical, properties of the anal sphincter when determining

ISSN 1996-353X
ISSN 2311-6951

Severity of stenosis	
Mild	The anal canal can be examined with a well-lubricated index finger or a middle-sized Hill-Ferguson retractor
Moderate	More effort is required to insert the index finger or a middle-sized Hill-Ferguson retractor
Severe	Neither little finger nor small Hill-Ferguson retractor can be inserted
Level of stenosis	
Low	At a distance of more than 0.5 cm below the dentate line
Middle	0.5 cm proximal or distal to the dentate line
High	At a distance of more than 0.5 cm above the dentate line

Tab.1 Classification of anal stenosis.

indications and treatment methods (Brisinda G.et al. , 2009; Casadesus, D. et al. , 2007).

The analysis also shows that one of the key points is the prevention of anal canal stricture development, and this is primarily possible through the correct choice of an adequate method and the volume of surgical intervention.(Brisinda G., 2000; Khubchandani I.T.,1994)

Perhaps the most important issue is the choice of the optimal treatment method. It should always be remembered that if the stenosis is asymptomatic, it is better to refrain from any of the treatment methods.(Khubchandani I.T.,1994)

Most authors consider it necessary to start treatment with conservative therapy. The latter includes a diet with an increased amount of fiber and plenty of water, laxatives, enemas. Conservative therapy is used for mild to moderate stenosis, when the function of the anal sphincter is usually preserved.(Khubchandani I.T.,1994) If it is not effective enough, mechanical dilation with dilators is used. However, when using dilators, there is a high risk of iatrogenic injury, which will require a more extensive surgical intervention.(Garcea G., et al., 2003; Khubchandani I.T.,1994)

Surgical treatment is indicated for moderate and severe anal stenosis, impaired anal sphincter function, and the ineffectiveness of conservative treatment. Currently, the literature describes the following methods of surgical interventions for anal stenosis: partial lateral sphincterotomy, mucosal side flap anoplasty (Martin's modification of anoplasty), Y-V anoplasty, V-Y anoplasty, Diamond-shaped flap, House flap, U-shaped flap plastic, C-shaped flap plastic, rotary s-flap plastic. (Acar T et al., 2020; Alver O.et al., 2008; Angelchik P. D., Harms, B. A., Starling, J. R., 1993; Brisinda G. et al., 2009; Casadesus D. et al.,2007; Farid, M. et al.,2010; Leventoglu S. et al., 2022; Mehdi Tahamtan et al.,2017; Oh, C., & Zinberg, J.,1982; Rakhmanine, M., Rosen, L., Khubchandani, I., Stasik, J., & Riether, R. D. ,2002).

To date, unfortunately, there are no randomized controlled prospective studies for conducting a comparative analysis of the above methods. The main part of analysis was based on small studies, describing various patient management tactics and methods of surgical intervention.

It should be noted that recently the most common plastics are Y-V flap, house-type flap from the point of view of functional and surgical results. (Leventoglu S. et al., 2022; Acar T et al., 2020)

In a study by Milsom and Mazier with 212 participating patients, 186 (87.7%) underwent hemorrhoidectomy, and 26(12.3%) patients - other surgeries. For severe low stenosis, researchers used V-Y anoplasty, which demonstrated a good outcome in 90% of cases. For middle and high stenosis, only sphincterotomy was used, which was sufficiently effective in 83%.(Milsom, J. W., & Mazier, W. P.,1986)

Comparison of house flap, diamond flap, and V-Y anoplasty methods was performed by Farid et al. The study involved 63 patients with anal stenosis. The results were evaluated based on the clinical improvement after one year, and it was observed that the House flap method produced an improvement in 90% of cases, while producing the least number of complications (in 3 patients). Meanwhile, Diamond flap and V-Y anoplasty techniques produced a clinical improvement in 60% and 30% of patients, respectively.(Farid M. et al., 1986)

ISSN 1996-353X
ISSN 2311-6951

Comparison of the Y-V anoplasty technique with partial lateral sphincterotomy (11 patients) and the same technique without sphincterotomy (14 patients) in patients with circular stenosis (25 patients) showed that the healing rate was 93% and 91% in the corresponding groups. There were no significant differences in the postoperative course.(Mehdi Tahamtan et al.,2017)

C-Flap anoplasty was used by Oh and Zinberg in their study and resulted in satisfactory results in 11 out of 12 patients with an overall healing rate of 91%.(Oh, C., & Zinberg, J.,1982)

A 94% healing rate was observed in two studies, one using lateral mucosal flap and the other using Y - V anoplasty. (Angelchik P. D. Et al.,1993; Khubchandani I.T.,1994).

The use of lateral mucosal flap in anal strictures is also described in a study by Rakhmanin and colleagues. The latter involved 95 patients, of which only 63% had previous surgeries. Efficacy was evaluated based on the incidence of complications, which was 3%. (Rakhmanine M. et al. ,2002)

When analyzing the literature, it should be noted that new methods or combinations of known methods are constantly being developed and introduced in recent years. (Asfar S., 2018; Acar T et al., 2020; Sofii I, Irianiwati, Gunadi, Handaya AY, Fauzi AR.,2021; Sloane JA, Zahid A, Young CJ. ,2017)

So, we can note the lack of a clear unanimous position on surgical intervention. In turn, the coexistence of various combinations of pathological conditions in postoperative scar deformities of the perianal region necessitates the search for new approaches to the treatment of this pathology.

Conclusions

The issue of treatment of postoperative perianal region scar deformities has not lost its relevance for many years.

Analyzing the causes of the formation of postoperative perianal region scar deformities, we can note an increase in their frequency when using LigaSure®, ultrasonic dissector, laser for perineal operations

The fact of constant introduction of new methods and improvement of known ones indicates the relevance of the issue of treatment of of postoperative perianal region scar deformities. That is why it is necessary to conduct controlled prospective studies in order to assess the effectiveness of their use.

Financing

This study did not receive funding.

Conflict of interests

None of the authors received research grants, speaker's fees from any companies and is not a member of commissions.

Consent to publication

All authors have read and approved the final version of the manuscript. All authors have agreed to publish this manuscript.

ORCID ID and AUTHORS CONTRIBUTION

0000-0001-6420-3382 (A,B,C,D E,F) Aksan Mykhailo

A – Research concept and design, B – Collection and/or assembly of data, C – Data analysis and interpretation, D – Writing the article, E – Critical revision of the article, F – Final approval of article

REFERENCES

Acar T, Acar N, Tosun F, Ayaroğlu Ç, Haciyanli M. (2020). House advancement flap anoplasty for severe post-hemorrhoidectomy anal stenosis. Tech Coloproctol, 24(3):261-262. https://doi.org/10.1007/s10151-019-02139-y

Alver, O., Ersoy, Y. E., Aydemir, I., Erguney, S., Teksoz, S., Apaydin, B., & Ertem, M. (2008). Use of «house» advancement flap in anorectal diseases. *World journal of surgery*, *32*(10), 2281–2286. https://doi.org/10.1007/s00268-008-9699-1

Angelchik, P. D., Harms, B. A., & Starling, J. R. (1993). Repair of anal stricture and mucosal ectropion with Y-V or pedicle flap anoplasty. *American journal of surgery*, *166*(1), 55–59. https://doi.org/10.1016/s0002-9610(05)80583-5

Asfar S. (2018) Anoplasty for Post-hemorrhoidectomy Low Anal Stenosis: A New Technique. World J Surg. ,42(9):3015-3020. https://doi.org/10.1007/s00268-018-4561-6

Blumetti J. Anal stenosis. In: Abcarian H, Cintron JR, Nelson RL, editors. Complication of anorectal surgery: prevention and management. Cham (Switzerland): Springer International Publishing; 2017. pp. 235–46, https://doi.org/10.1007/978-3-319-48406-8

Boccasanta, P., Capretti, P. G., Venturi, M., Cioffi, U., De Simone, M., Salamina, G., Contessini-Avesani, E., & Peracchia, A. (2001). Randomised controlled trial between stapled circumferential mucosectomy and conventional cir-

ISSN 1996-353X
ISSN 2311-6951

cular hemorrhoidectomy in advanced hemorrhoids with external mucosal prolapse. *American journal of surgery*, *182*(1), 64–68. https://doi.org/10.1016/s0002-9610(01)00654-7

Brisinda G. (2000). How to treat haemorrhoids. Prevention is best; haemorrhoidectomy needs skilled operators. *BMJ (Clinical research ed.)*, *321*(7261), 582–583. https://doi.org/10.1136/bmj.321.7261.582

Brisinda, G., Vanella, S., Cadeddu, F., Marniga, G., Mazzeo, P., Brandara, F., & Maria, G. (2009). Surgical treatment of anal stenosis. *World journal of gastroenterology*, *15*(16), 1921–1928. https://doi.org/10.3748/wjg.15.1921

Casadesus, D., Villasana, L. E., Diaz, H., Chavez, M., Sanchez, I. M., Martinez, P. P., & Diaz, A. (2007). Treatment of anal stenosis: a 5-year review. *ANZ journal of surgery*, *77*(7), 557–559. https://doi.org/10.1111/j.1445-2197.2007.04151.x

Farid, M., Youssef, M., El Nakeeb, A., Fikry, A., El Awady, S., & Morshed, M. (2010). Comparative study of the house advancement flap, rhomboid flap, and y-v anoplasty in treatment of anal stenosis: a prospective randomized study. *Diseases of the colon and rectum*, *53*(5), 790–797. https://doi.org/10.1007/DCR.0b013e3181d3205a

Garcea, G., Sutton, C. D., Lloyd, T. D., Jameson, J., Scott, A., & Kelly, M. J. (2003). Management of benign rectal strictures: a review of present therapeutic procedures. *Diseases of the colon and rectum*, *46*(11), 1451–1460. https://doi.org/10.1007/s10350-004-6792-x

Brisinda, G., Vanella, S., Cadeddu, F., Marniga, G., Mazzeo, P., Brandara, F., & Maria, G. (2009). Surgical treatment of anal stenosis. *World journal of gastroenterology*, *15*(16), 1921–1928. https://doi.org/10.3748/wjg.15.1921

Khubchandani I. T. (1994). Anal stenosis. *The Surgical clinics of North America*, *74*(6), 1353–1360. https://doi.org/10.1016/s0039-6109(16)46486-8

Kunitake, H., & Poylin, V. (2016). Complications Following Anorectal Surgery. *Clinics in colon and rectal surgery*, *29*(1), 14–21. https://doi.org/10.1055/s-0035-1568145

Leventoglu S, Mentes B, Balci B, Kebiz HC.(2022) New Techniques in Hemorrhoidal Disease but the Same Old Problem: Anal Stenosis. Medicina (Kaunas), 58(3):362. https://doi.org/10.3390/medicina58030362

Liberman, H., & Thorson, A. G. (2000). How I do it. Anal stenosis. *American journal of surgery*, *179*(4), 325–329. https://doi.org/10.1016/s0002-9610(00)00344-5

Mehdi Tahamtan, Leila Ghahramani, Hajar Khazraei, Yaser Tolouei Tabar, Alimohammad Bananzadeh, Seyed Vahid Hosseini, Ahmad Izadpanah, Fahime Hajihosseini, Surgical management of anal stenosis: anoplasty with or without sphincterotomy, Journal of Coloproctology, Volume 37, Issue 1,2017,Pages 13-17, ISSN 2237-9363, https://doi.org/10.1016/j.jcol.2016.06.002

Milsom, J. W., & Mazier, W. P. (1986). Classification and management of postsurgical anal stenosis. *Surgery, gynecology & obstetrics*, *163*(1), 60–64.

Oh, C., & Zinberg, J. (1982). Anoplasty for anal stricture. *Diseases of the colon and rectum*, *25*(8), 809–810. https://doi.org/10.1007/BF02553321

Petersen, S., Hellmich, G., Schumann, D., Schuster, A., & Ludwig, K. (2004). Early rectal stenosis following stapled rectal mucosectomy for hemorrhoids. *BMC surgery*, *4*, 6. https://doi.org/10.1186/1471-2482-4-6

Rakhmanine, M., Rosen, L., Khubchandani, I., Stasik, J., & Riether, R. D. (2002). Lateral mucosal advancement anoplasty for anal stricture. *The British journal of surgery*, *89*(11), 1423–1424. https://doi.org/10.1046/j.1365-2168.2002.02230.x

Ravo, B., Amato, A., Bianco, V., Boccasanta, P., Bottini, C., Carriero, A., Milito, G., Dodi, G., Mascagni, D., Orsini, S., Pietroletti, R., Ripetti, V., & Tagariello, G. B. (2002). Complications after stapled hemorrhoidectomy: can they be prevented?. *Techniques in coloproctology*, *6*(2), 83–88. https://doi.org/10.1007/s101510200018

Rosen L. (1988). Anoplasty. *The Surgical clinics of North America*, *68*(6), 1441–1446. https://doi.org/10.1016/s0039-6109(16)44699-2

Sloane JA, Zahid A, Young CJ. (2017) Rhomboid-shaped advancement flap anoplasty to treat anal stenosis. Tech Coloproctol.,21(2):159-161. https://doi.org/10.1007/s10151-016-1560-1

Sofii I, Irianiwati, Gunadi, Handaya AY, Fauzi AR. (2021) Combination of simple advancement flap and fistulectomy to treat complex anal fistula as a complication of hemorrhoidectomy: Case report. Ann Med Surg (Lond)., 73:103203. https://doi.org/10.1016/j.amsu.2021.103203

Sutherland, L. M., Burchard, A. K., Matsuda, K., Sweeney, J. L., Bokey, E. L., Childs, P. A., Roberts, A. K., Waxman, B. P., & Maddern, G. J. (2002). A systematic review of stapled hemorrhoidectomy. *Archives of surgery (Chicago, Ill. : 1960)*, *137*(12), 1395–1407. https://doi.org/10.1001/archsurg.137.12.1395

Wilson, M. S., Pope, V., Doran, H. E., Fearn, S. J., & Brough, W. A. (2002). Objective comparison of stapled anopexy and open hemorrhoidectomy: a randomized, controlled trial. *Diseases of the colon and rectum*, *45*(11), 1437–1444. https://doi.org/10.1007/s10350-004-6446-z

Wolff, B. G., & Culp, C. E. (1988). The Whitehead hemorrhoidectomy. An unjustly maligned procedure. *Diseases of the colon and rectum*, *31*(8), 587–590. https://doi.org/10.1007/

Ukrainian Scientific Medical Youth Journal
Issue 2 (131), 2022
Creative Commons «Attribution» 4.0

ISSN 1996-353X
ISSN 2311-6951

Післяопераційні рубцеві деформації перианальної області : сучасний стан проблеми.(огляд літератури)

Аксан Михайло

Кафедра хірургії №1 Національного медичного університету ім. О.О. Богомольця, Київ, Україна

Address for correspondence:

Aksan Mykhailo

E-mail: aksanmv@gmail.com

Анотація: У наш час виконується безліч різноманітних оперативних втручань в перианальній ділянці та анальному каналу. Кожне із них по своєму впливає на якість подальшого життя пацієнта. Саме тому, представлений огляд літератури присвячений дослідженню проблеми післяопераційних рубцевих деформацій перианальної області, адже дана патологія є ускладненням багатьох оперативних втручань в даній області. Основною метою дослідження є проведення аналізу літературних даних в наступних напрямках: причина виникнення післяопераційних рубцевих деформацій, їх класифікація та сучасні методи лікування. Метод дослідження ґрунтувався на вивченні наукових статей, опублікованих в період з 1982 по 2017 рр. індексованих в Україні та міжнародних базах даних. Це дозволило виділити ключові моменти у кожному з напрямків аналізу та систематизувати отримані дані. При вивченні причин виникнення післяопераційних анальних стенозів можна зазначити, що найчастіше вони є наслідками виконання гемороїдектомії у різноманітних техніках. Більшість науковців наголошують на важливості профілактики виникнення анальних стенозів, яка полягає у виборі оптимального методу лікування. Систематизувавши дані літератури хочеться відзначити відсутність уніфікованого підходу щодо ведення пацієнтів з даною проблемою, а також відсутність критеріїв необхідності оперативного лікування. Переважна більшість дослідників відзначає необхідність ведення даних пацієнтів за допомогою консервативних методів, а саме коригування харчування. Щодо методів оперативного лікування необхідно зазначити наявність різноманітних методик виконання . В той же час відсутність проведених контрольованих проспективних досліджень ускладнює оцінку та повіряння їх результатів. Проте беззаперечним залишається те, що всі вони ведуть до покращення життя пацієнтів та зменшення симптомів стенозу. Провівши аналіз достатньої кількості літературних даних, можна з впевненістю стверджувати, що питання післяопераційних рубцевих деформацій перианальної області, залишається недостатньо вивченим та досить актуальним в наш час.

Ключові слова: Захворювання анального каналу, геморой, післяопераційні ускладнення, хірургічні шкірні лоскути, результати лікування.