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OPTIMIZATION OF PREDICTIVE, PREVENTIVE, PROPHYLACTIC AND TREATMENT TACTICS IN CHOLELITHIASIS IN PERSONS OF THE GERONTOLOGICAL GROUP

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Abstract:

The article presents modern, foreign and domestic data on the problem of epidemiology, prevention and treatment of cholelithiasis (gallstone disease). The analysis of population studies and preventive programs for cholelithiasis in the population of the gerontological and geriatric group is carried out. The article discusses modern recommendations for the use of screening, various types of preventive studies, conservative and surgical methods of treatment of cholelithiasis.

Keywords: cholelithiasis, epidemiology, prevention, pharmaco-epidemiology, risk factors, geriatric features of early detection and treatment of cholelithiasis.

It should be especially emphasized that, along with the development and optimization of predictive, preventive, prophylactic and therapeutic tactics for cholelithiasis in individuals of the gerontological group, according to the evidence-based assertion of modern researchers, surgical methods of treatment, especially, for example, cholecystectomy, should undoubtedly remain in the arsenal of surgeons involved in the treatment of complicated cholecystitis/cholelithiasis [3, p. 45; 21, p. 12].

Its use is justified in those rare cases when there are no conditions for radical surgery or the surgeon does not have sufficient qualifications to perform radical surgery [7; 21].

M.I. Lytkin et al. analyzed the results of cholecystostomy in 1960–1976 in 363 patients with acute cholecystitis. In 363 patients with acute cholecystitis, 22.6% of patients had jaundice and 94% had destructive cholecystitis. All patients were of gerontological age with severe comorbid pathologies. During this period, the proportion of cholecystitis in the total number of operations on the bile ducts for acute cholecystitis ranged from 11.4 to 33.3%. 21.2% of patients died after surgery. Drainage of the bile ducts through turned out to be an unreliable method of sanitation of the bile ducts, especially in acute cholecystitis complicated by mechanical jaundice and cholangitis.

In general, cholecystostomy as a "life-saving" operation, according to M.I. Litkin et al., did not justify itself for this category of patients, which allowed these authors to reconsider the tactics for the period from 1976 to 1982. Cholecystostomy was performed only in patients of gerontological age, in whom the severity of the condition was caused not only by acute cholecystitis, but also by cardiovascular and respiratory failure [7; 30, p. 98].

A.S. Geryadko et al. (2023) presented a program for treating patients with cholelithiasis in the region in accordance with modern requirements for the quality of medical care in a real three-level system of surgical care. The results of cholecystectomy (CE) in all hospitals of the Leningrad Region of the Russian Federation for the period 2020 - 2022 were analyzed. Surgical interventions were performed in 21 hospitals, of which 20 medical institutions were level I and II hospitals, and 1 was a level III hospital.

A program approach has been developed to provide assistance to patients with gallstone disease in the conditions of regional healthcare at different levels of surgical care. The implementation of this program, as the authors claim, ensures the minimization of postoperative complications and mortality at levels II and III of surgical care. It has been determined that a rational approach to reducing the number of bile duct injuries is their prevention by impeccable adherence to the technique of surgical intervention on the organs of the upper floor of the abdominal cavity, and to reduce the number of negative consequences - adherence to the proposed algorithm of diagnosis and treatment [11, pp. 109 - 116].

The works of Sh. Yu. Abasov et al. [1, pp. 14-15], P. N. Romashenko et al. [12, pp. 71-80], N. S. Alexander H. C. et al. [16, pp. 786-790], FeKKouras E. et al. [19, p. 104-235], Hariharan D. et al. [24, pp. 740-742], A. K. Sahijpal et al. [28, pp. 757-760] and Strasberg et al [29, pp. 132-137] present evidence-based literature data and our own results that cholecystectomy is the most common surgical intervention performed in the world.

According to N.A. Maistrenko et al. (2015; 2016) and R.K. Aliyev et al. (2021), the number of

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cholecystectomies, including laparoscopic ones, performed in the Russian Federation, against the background of the large-scale introduction of endovideosurgical technologies, is about 200 thousand per year [8, pp. 22–30; 9, pp. 124–128; 2, pp. 55–58].

According to the results of researchers from foreign countries, more than 750 thousand operations are performed in the USA per year, most of them laparoscopic [20, 24, 29].

According to modern researchers, the quality criteria for performing cholecystectomy, both in traditional and laparoscopic performance, are the rate of postoperative mortality, complications, frequency of residual choledocholithiasis, and damage to the bile ducts [13, 28, 10, 13].

Summarizing the surgical aspects of managing patients with cholelithiasis of gerontological age, we can agree with the opinions of modern researchers that the provision of care (preventive, conservative, surgical) to gerontological patients with cholelithiasis in medical institutions should be based on the principles of safe surgery, regardless of the level of the institution.

In addition, regional routing of patients with cholelithiasis should be accessible and ensure high quality medical care [11, p. 116].

A.E. Tseimakh et al. (2023) showed that minimally invasive technologies of lithotripsy and antegrade hydraulic lithoextraction are safe alternatives to traditional lithoextraction methods and can be recommended for use in patients for whom videolaparoscopic and retrograde endoscopic lithoextraction are ineffective [14, pp. 5-11].

Recent studies have shown that cholelithiasis is one of the most common diseases in the world [15, p. 15; 34, p. 22–25; 33, p. 062–158].

According to the data provided by Tanajas et al. (2022), Mc – Nicoll C. I. et al. (2022), Tringali A. et al. (2021) and Manes G et al. (2019), choledocholithiasis is one of the most common complications of cholelithiasis, the incidence in different countries varies from 5 to 30%, while the proportion of choledocholithiasis not complicated by mechanical jaundice and detected during cholecystectomy does not exceed 5% [31, 32, pp. 7597–7610; 25, pp. 472–490; 26].

It should be noted that the gold standard for the treatment of choledocholithiasis, according to the unanimous opinion of almost all researchers, at the present stage is minimally invasive retrograde endoscopic treatment methods.

According to the data of the above-mentioned researchers, the proportion of cases of so-called difficult choledocholithiasis still occurs (from 10 to 15%) when these methods cannot be applied technically or when they are ineffective.

Furthermore, it should also be mentioned that according to the works of modern researchers, the incidence of multiple choledocholithiasis with stones larger than the normal diameter of the common bile duct reaches 50% and accounts for 7.8% of all cases of choledolithiasis [25, 32]. All researchers express almost unanimous opinion that the method of choice in this case, despite the development of technologies for the minimally invasive treatment of choledocholithiasis, mainly remains open laparotomy interventions, accompanied by a statistically significant frequency of early and late postoperative complications against the background of an increase in the number of gerontological patients with comorbidity. However, a review of the literature confirms that due to the relevance of the problem of cholelithiasis/choledocholithiasis in the gerontological population, the search for effective methods of minimally invasive treatment of cholelithiasis continues [14, 31, 26].

Its prevalence according to ultrasound examination is 6.7% in men, 14.6% in women under 65 years of age [5, pp. 55–64; 16, pp. 913–916] and 30% in people over 70 years of age [30, pp. 329–334].

Распространенность её по ультразвукового исследования сотавляет 6,7% у мужчин, 14,6% у женўин в возрасте до 65 лет [5, С. 55–64; 16, С. 913-916] и 30% у лиц старше 70 лет [30, С. 329-334].

In general, the development and improvement of endoscopic and laparoscopic technologies have made it possible to perform separate minimally invasive interventions on the biliary ducts and biliary bladder. The first stage is endoscopic retrograde cholangiopreatography (ERCP) and endoscopic papillosphincterotomy (EPST) with lithoextraction from the bile ducts and replacement of LCE [14, pp. 33-40].

However, these interventions cause life-threatening complications for the patient, especially for those of gerontological age, such as acute pancreatitis, acute cholangitis, bleeding, perforation of the ducts and duodenum in 0.8–11.1% of cases [6, 31, 17, 27, 32, 33, 23], and the mortality rate is 0.1–3.3%. The risk of complications is higher in the gerontological population [17, 33].

And so the problem of surgical treatment of cholelithiasis is becoming an increasingly tangible social task. Surgical intervention in persons of gerontological groups with cholelithiasis is a difficult task both in terms of emergency and planned treatment, as well as in terms of diagnostics.

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Therefore, to achieve maximum results, risk management and issues of primary and secondary prevention of cholelithiasis in gerontologically aged individuals should become a priority in modern surgical science and practice.

CONCLUSION

However, there are still few works devoted to the study of the epidemiology and prevention of cholelithiasis. In this regard, optimization of early diagnostics, prevention and treatment of cholelithiasis in persons of the gerontological group remains an important topic of modern scientific research, new ways to preventive and personalized medicine in surgery. To determine the most effective and safe treatment and prevention in the elderly and gerontine population, well-designed population studies are needed to reveal the mechanisms underlying the formation, course, treatment and prevention of cholelithiasis and its risk factors in various regions of Uzbekistan.

LIST OF USED LITERATURE

1. Абасов Ш.Ю., Алиев Р.К., Алиев А.К., Рамащенко П.Н. Предикторы "трудной" лапарсокической холецистэктомии в прогнозировании и профилактики поверждений желчных протоков. Известия Российской военно – медицинской академии. 2022; 41 (52): 14 – 15.
2. Алиев Р.К., Рамащенко П.Н., Майстренко М.А., Прядко А.С., Алиев А.К. Непреднамеренные травмы желчевыводящих протоков: пути профилактики и лечения Вестник Российской Военно – медицинской академии. 2021: 23 (3): 55 – 58.
3. Бебуришвими А.Г., Панин С.Н., Зюбина Е.Н., Нестеров С.С., Пузикова А.В. Холецистомия при острой холецистите//Хирургия. Журнал имени Н.И. Пирогова. – 2020; №6 – С. – 45.
4. Ботыров Д.А. Геронтологические особенности холецистита в условиях Ферганской долины//Хирургия. 2024.
5. Бурдюков М.С., Нечипай А.М. Холедохолитиаз: обзор литературы. Доказательная гастроэнтерология. 2020; 9 (4): 55 – 64.
6. Балалыкин А.С. Эндоскопическая папиллосфинктерапия. Руководства по химической эндоскопии М. 1985; 290 – 314.
7. Лыткин М.И., Тетдаев А.М., Стойко Ю.М. Нужно ли защищать холецистостомию при остром холецистите?//Хирургия. – 1978; 7: 10 – 12.
8. Майстренко Н.А., Рамащенко П.Н., Прядко А.С., Алиев А.К. Обоснование хирургической тактики при ятрогенных повреждениях желчевыводящих протоков. Вестник хирургии им И.И. Грекова 2015: 174 (5): 22 – 30.
9. Майстренко Н.А., Ромащенко П.Н., Алиев А.К., Сибиров С.А. Острое повреждение желчевыводящих протоков. Вестник Российской Военно – Медицинской академии. 2016: 1 (53): 124 – 128.
10. Нургазинова А.К. Происхождение, развитие и современная трактовка понятий "коморбидность и колиморбидность"//Казанский Медицинский журнал. 2014; 2: 95: 292 – 294.
11. Прядко А.С., Ромащенко П.Н., Майстренко М.А., Алиев А.К. и др. Реализация программы "безопасная холецистэктомия" в Ленинградской области//Хирургия. Журнал ишни Н.И. Пирогова. – 2023. - №10. – С. 109 – 116.
12. Ромащенко П.Н., Майстренко Н.А., Преядко А.С., Алиев А.К. Травмы желчевыводящих протоков и системный подход к их устранению//Анналы хирургической гепатологии. 2019; 24 (1): 71 – 80.
13. Ромащенко П.Н., Майсаренко Н.А., Прядко А.С., Алиев А.К., Алиев Р.К., Жеребцов Е.С. Профилактика и лечение повреждений желчевыводящих протоков у больных острым холециститам.//Анналы хирургической гепатологии. 2020: 25 (3): 20 – 31.
14. Цеймах А.Е., Куртуков В.А., Мищенко А.Н., Теплухин В.Н., Шойхет Я.Н. и др. Применение мини – инвазивных технологий литотрипсии и антеградной гидравлической литоэкстракции в комплексном лечении больных холедохолитиазам.//Хирургия. Журнал Имени Н.И. Пирогова. – 2023 - №4: С. 5 – 11.
15. ASGE Standards of Practice Committee, Buxbaum JL, Abbas Fehmi SM, Siltan S, Fishman DS, Qumseya BJ, Cortessis VK, Schilperoot H, Kysh L, Matsuoka L, Yachimski P, Agrawal D, Gurudu SR, Jamil LH, Jue TL, Khashab MA, Law JK, Lee SK, Naveed M, Sauhney MS, Thosani N, Yang J, Wani SB, ASGE guideline on the role of endoscopy in the evaluation and management of

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Available Online at: https://www.scholarexpress.net
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ISSN: 2749-3644

choledocholithiasis. Gastrointest Endose. 2019: 89 (6): 1075 – 1105. E 15. https://doi.org/10.1016/j.gie 2018.10.001.
16. Barbara L, Sama C, Morselli Labate AM, Taroni F, Rusticali AG, Festi D, Sapio C, Roda E, Banterle C, Puci A. A population study on the prevalence of gallstone disease: the Sirmione Study. Hepatology. 1987: 7(5):913-916. https://doi.org/10.1002/hep. 1840070520.
17. Bignell M, Dearing M, Hindmarsh A, Rhodes M. ERCP and endoscopic sphincterotomy (ES): a safe and definitine management of gallstone pancreatitis with the gallbladder left in situ. Journal of Gastrointestinal Surgery. 2011: 15(12): 2205 – 2210. https://doi.org/10.1007/S 11605 - 011 - 1729 – X
18. European Association for the Study of the Liver (EASL). EASL Clinical Practice Guidelines on the prevention. Diagnosis and treatment of gallstones. J Hepatol. 2016:65(1):146 – 180. https://doi.org/10.1016/j.jhep.2016.03.005.
19. Felekouras E, Petrou A, Neofytou K, Moris D, Dimitrokallis N, Bramis K, Griniatsos J, Pikoulis E, Diamantis T. Early of Delayed Intervention of Bile Duet Injuries tollowing Laparoscopic Chole cyctectomy? A Dilemma Looking for an Answer. Gastroenterology Research and Practice. 2015:2015:104235. https://doi.org/10.1115/2015/104235.
20. Hariharan D, Psaltis E, Schole Field JH, Lobo DN, Quality of life and Medico – Legal Implications Following latrogenic Bile Dust Injuries. World Journal of Surgery 2017:41 (1):98. https://doi.org/10.1007/S00268 - 016 - 3677 – 9.
21. Lukina Yu V, Kutishenko NP. Martsevich SYu. The problem of adherence to the treatment in modern medicine: possibilities of solution, impact on the effectiveness of therapy and disease out comes. Rational Pharmacotherapy in Cardiology. 2017:13 (4): 519 – 24.
22. L Yu J, Lin Q, Fang Z, et al. Complex impacts of gallstone disease on metabolic syndrome and nonalcoholic fatty liver disease. Front Endocrinol (Lausanne). 2022:13:1032557. doi:10.3389/fen do 2022. 1032557.
23. Lee HM, Min SK, Lee MK. Long – term results of laparoscopic common bile dust exploration by chole dichotomy for choledocholithiasis:15 – year experience from a single center – Ann Surg Treat Res. 2014:86:1 – 4. https://doi.org/10.4174/astr.2014.86.1.1.
24. Maystrenko N, Romashenko P, Aliev A, Sibirev SA. Acute injury of bile duets. Research Journal of Medical Sciences. 2016: 10(1): 740 – 742.
25. Manes G, Paspatis G, Aabakken L, Anderloni A, Arvanitakis M, Ah Soune P, Barthet M, Domogk D, DumonceauJM, Gigot JK, Hritz I, Karamanolis G, Laghi A, Mariani A, Paraskeva K, Pohl J, Ponchon I, Swahn F, Ter Stuge RWF, Tingali A, Verakis A, Willians EJ, van Hooft JE. Endoscopic management of common bile duct stones: Europaen Society of Gastrointestinal Endoscopy (ESGE) guideline. Endoscopy:2019:51(5): 472 – 490. https://doi.org/10.1055/a - 0862 - 0346.
26. Mc. Nicoll CF, Pastorino A, Farooq U, ST Hill CR. Choledocholithiasis. In: Stat Pearls [Internet]. Treasure Island (FL): Stat Pearls Publishing. 2022.PMID:28722990.
27. Masci E, Toti G, Mariani A, Curioni S, Lomarzi A. Dinelli M, Minoli G, Crosa C, Comin U, Fertitta A, Prada A, Passoni GR, Testoni PA. Complications of diagnostic and therapeutic ERCP: a prospective multi center Study American Journal of Gastroenterology. 2001:96 (2): 417 – 423. https://doi.org/10.1111/j.1572-0241-2001-03594-x.
28. Sahajpal AK, Chow SC, Dixon E, Greig PD, Gallinger S, Wei AC. Bile duct injuries associated with laparoscopic cholecystectomy: timing of repair and long – term outcomes. The Archives of Surgery. 2010:145 (8): 757 – 760. https://doi.org/10.1001/arch surg. 2010.153.
29. Strasberg SM, Brunt LM. Rationale and use of the critical view of safety in laparoscopic cholecystectomy. Journal of the American College of Surgeons. 2010:211 (1):132 – 137. https://doi.org/10.1016/j.jam collsurg.2010.02.053.
30. Schirmer BD, Winters KL, Edlich RF. Cholelithaisis and cholecystitis. J long Trem Eff Med Implants. 2005: 15 (3): 329 – 334. https://doi.org/10.1615/j longtremeffmedimplants. V 15:3 – 90.
31. Shojaiefard A, Esmaeilzadeh M, Ghafouri A, Mehrabi A, Various techniques for the surgical treatment of common bile duct stones: a meta review. Gastroenterolody Research and Practice. 2009:2009:840208. https://doi.org/10.1155/2009/840208.
32. Salminen P, Laine S, Gullichsen R. Severe and fatal complications after ERCP: analysis of 2555 procedures in a single experienced center. Surgical Endoscopy. 2008:22(9): 1965 – 1970.

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-44, March 2025
ISSN: 2749-3644

https://doi.org/10.1007/S00464 – 007 - 9711 - 0.

33. Siiki A, Tamminen A, Kuusanmaki P, ERCP procedures in a Finish community hospital: a retrospective analysis of 1207 cases. Scandinavian Journal of Surgery. 2012:101(1):45 – 50. https://doi.org/10.117/145749691210 100109.
34. Wang L, Yu WF. Obstructive jaundice and perioperatice management. Acta Anaes the siologica Taiwanica. 2014:52(1):22 – 25. https://doi.org/10.1016/j.aat.2014.03.002.