·临床研究·

老年肝内外胆管结石多次手术患者临床特征及生活质量分析

徐向红,段艳伟,纪淑青*
(首都医科大学附属北京朝阳医院肝胆胰脾外科,北京 100043)

【摘 要】 **目的** 研究老年肝内外胆管结石多次手术患者临床特征及生活质量。**方法** 将2019年1月至2022年1月首都医科大学附属北京朝阳医院收治的肝内外胆管结石多次手术患者纳为研究对象,根据年龄将其分为老年组(年龄≥60岁;$n=64$)与中年组(年龄45~60岁;$n=66$)。收集并分析两组患者一般人口学资料、既往胆道手术资料及本次手术资料,分析老年组发病患者临床特征。术后随访至2023年10月,采用简明健康状况量表(SF-36)对其术后生活质量进行调查,分析老年肝内外胆管结石多次手术患者术后生活质量现状。采用SPSS 19.0软件进行数据分析。根据数据类型,组间比较分别采用t检验、χ^2检验及秩和检验。**结果** 老年组患者年龄高于中年组,合并2型糖尿病(T2DM)、高血压、呼吸系统疾病及冠心病者占比高于中年组,差异均有统计学意义(均$P<0.05$);两组既往胆道手术次数、首次手术原因及首次手术方式比较,差异均无统计学意义。两组本次手术原因均为结石残留或复发,老年组患者本次手术距上次手术时间长于中年组,临床出现上腹区疼痛及发热症状者占比低于中年组,肝外胆管结石者占比高于中年组,结石直径大于中年组,行联合术式治疗者比例高于中年组,手术时间及住院时间长于中年组,术中出血量及术后并发症发生率高于中年组,差异均有统计学意义($P<0.05$)。两组患者术后6个月生活质量SF-36量表各维度及总得分均较术前上升,差异均有统计学意义(均$P<0.05$);中年组术后6个月躯体功能、躯体角色、一般健康状况及SF-36总得分均高于老年组,差异均有统计学意义(均$P<0.05$)。**结论** 不同年龄段肝内外胆管结石多次手术者本次手术原因均为结石残留或复发,但老年组患者术前临床症状不明显,且老年患者基础性疾病更多,与上次手术之间的间隔时间更长,结石直径更大,手术方案更为复杂,应注重手术风险控制及术后并发症管理工作。

【关键词】 老年人;肝内外胆管结石;多次手术;临床特征;术后生活质量
【中图分类号】 R653;R592 【文献标志码】 A 【DOI】 10.11915/j.issn.1671-5403.2025.02.022

Clinical characteristics and quality of life in elderly patients undergoing multiple surgeries for intrahepatic and extrahepatic bile duct stones

Xu Xianghong, Duan Yanwei, Ji Shuqing*
(Department of Hepatobiliary, Pancreatic Splenic Surgery, Beijing Chaoyang Hospital, Capital Medical University, Beijing 100043, China)

【Abstract】 **Objective** To study the clinical characteristics and quality of life in elderly patients undergoing multiple surgeries for intrahepatic and extrahepatic bile duct stones. **Methods** Patients with multiple surgeries for intrahepatic and extrahepatic bile duct stones in Beijing Chaoyang Hospital of Capital Medical University from January 2019 to January 2022 were included as the study subjects. According to age, they were divided into an elderly group (age ≥60 years; $n=64$) and a middle-aged group (aged 45-60 years; $n=66$). The general demographic data, data of previous biliary tract surgery, and data of the current surgery were collected and analyzed in both groups, and the clinical characteristics of the elderly group were analyzed. The patients were followed up after surgery until October 2023. The postoperative quality of life was investigated in elderly patients undergoing multiple surgeries for intrahepatic and extrahepatic bile duct stones using the 36-item short-form health survey (SF-36). SPSS statistics 19.0 was used for statistical analysis. Data comparison between two groups was perfomed using t test, χ^2 test or rank-sum test depending on data type. **Results** The age in the elderly group was older than in the middle-aged group, the proportions of patients with type 2 diabetes mellitus (T2DM), hypertension, respiratory system diseases and coronary heart disease in the elderly group were higher than those in the middle-aged group, and the differences were statistically significant ($P<0.05$ for all). There were no statistically significant differences in the number of previous biliary tract surgeries, the reason for the first surgery and the method of the first surgery between the two groups. The reasons for the current surgery in the two groups were stone residual or recurrent stones. The interval between the last surgery and the current surgery was longer in the elderly group than in the middle-aged group. The proportions of patients with clinical upper abdominal pain and fever were lower, while the proportion of patients with extrahepatic bile duct stones was higher in the elderly group than in the middle-aged

收稿日期: 2023-12-28; **接受日期**: 2024-03-01
基金项目: 国家自然科学基金(82174239); 北京市科技计划项目(Z171100000417010)
通信作者: 纪淑青, E-mail: jishuqing100@163.com

group. The stone diameter was larger, the proportion of patients with combined surgical treatment was higher, the surgical time and hospital stay were longer, the intraoperative blood loss and the incidence rates of postoperative complications were higher in the elderly group than in the middle-aged group ($P<0.05$). The scores of dimensions and total score of quality of life on SF-36 scale in the two groups at 6 months after surgery increased as compared with those before surgery, and the differences were statistically significant ($P<0.05$ for all). The scores of physical function (PF), role physical (RP) and general health (GH), and SF-36 total score were higher in the middle-aged group compared to the elderly group at 6 months after surgery ($P<0.05$). **Conclusion** The reason for the current surgery in patients of different ages with multiple surgeries for intrahepatic and extrahepatic bile duct stones was stone residual or recurrence. However, the preoperative clinical symptoms were not obvious in the elderly group. In addition, the elderly patients had more underlying diseases, longer interval between last surgery and the current surgery, lareger stone diameters, and more complex surgical regimen, thus it is necessary to pay attention to the surgical risk control and postoperative complication management.

【Key words】 aged; intrahepatic and extrahepatic bile duct stones; multiple surgeries; clinical characteristics; postoperative quality of life

This work was supported by the National Natural Science Foundation of China (82174239) *and Beijing Science and Technology Project* (Z171100000417010).

Corresponding author: *Ji Shuqing*, *E-mail*: *jishuqing100@163.com*

肝内外胆管结石是肝胆外科常见疾病,其致病机制尚处于研究阶段,但有研究表示结石长期阻塞,可能诱导肝脓肿、胆道出血、化脓性胆囊炎甚至癌变[1,2],故肝内外胆管结石应尽早治疗。但在临床中,由于结石残留及复发问题,多次行胆道手术治疗的肝内外胆管结石患者并不少见[3,4]。随着我国老龄化社会的到来,行多次手术治疗的老年肝内外胆管结石患者逐渐增多,而老年人群多伴有基础性疾病,机体免疫力下降,关注老年肝内外胆管结石患者临床特征、再次手术情况及术后生活质量,在指导老年肝内外胆管结石患者的治疗中具有一定意义。基于此,本研究旨在探讨老年肝内外胆管结石多次手术患者临床特征,并分析其生活质量。

1 对象与方法

1.1 研究对象

将 2019 年 1 月至 2022 年 1 月首都医科大学附属北京朝阳医院收治的肝内外胆管结石多次手术患者纳为研究对象,根据年龄将其分为老年组(年龄≥60 岁,$n=64$)与中年组(年龄 45~60 岁,$n=66$)。纳入标准:影像学检查提示肝内外胆管存在结石;既往有至少 1 次胆道手术史;既往胆道手术资料完整;符合手术适应证,再次行手术治疗,术后病理检查证实为胆石症;病历资料完整。排除标准:首次胆道结石手术;术后病理检查未发现结石;不能耐受手术;未行手术治疗。

1.2 方法

1.2.1 手术方法 肝内外胆管结石多次手术者的治疗应遵循“清除结石,解除梗阻,去除病灶,通畅引流,防止复发”原则,具体手术方式如下。胆管切开取石 T 管引流、胆肠吻合内引流术、肝叶或肝段切除术,根据患者前次术式、术前影像学检查、患者肝功能及全身情况,制定个性化手术方案,将行单一手术方式者纳为单一手术术式组,联合手术治疗者纳为联合组(多种单一手术方式相结合)。所有患者术后均进行抗感染、抑酸、保肝、补液等对症治疗。

1.2.2 资料收集 (1)收集患者一般资料:包括性别、年龄、体质量指数(body mass index, BMI)及基础性疾病;(2)收集患者既往手术资料:包括既往胆道手术次数、首次手术原因、首次手术术式选择;(3)本次手术资料:包括本次手术距上次手术时间、本次手术原因、术前临床症状、术前血生化检查结果、肝功能 Child 分级、结石分布、本次手术方法、结石直径、手术时间、术中出血量、术中输血情况、结石清除率、术后并发症、胆汁培养结果以及术后住院时间。

1.2.3 术后随访及生活质量 调查要求患者术后 6 周回院复诊,行腹部超声检查,对于超声检查提示无结石残留者于术后 3 个月或 6 个月随访 1 次,若存在结石残留,则 1 个月随访 1 次,同时利用电话进行随访,随访至 2023 年 6 月,统计患者预后情况,并在术后 6 个月时,调查患者术后生活质量。采用简明健康状况量表(short-form-36 health survey, SF-36)[5],量表包括躯体角色(role physical, RP)、躯体功能(physical function, PF)、躯体疼痛(bodily pain, BP)、一般健康状况(general health, GH)、精力(vitality, VT)、情绪职能((role emotional, RE)、社会功能(social function, SF)以及精神健康(mental health, MH)共 8 个维度,各维度得分范围 0~100 分,得分越高,患者生活质量越好。

1.3 统计学处理

采用 SPSS 19.0 统计软件进行数据分析。计量资料用均数±标准差($\bar{x}\pm s$)表示,两组间比较采用独立样本 t 检验,治疗前后采用配对 t 检验;计数资料用例数(百分率)表示,采用 χ^2 检验;等级资料采用秩和检验。$P<0.05$ 为差异有统计学意义。

2 结 果

2.1 两组患者一般资料比较

老年组患者年龄高于中年组,合并2型糖尿病(type 2 diabetes mellitus, T2DM)、高血压、呼吸系统疾病及冠心病者占比高于中年组,差异均有统计学意义($P<0.05$);其余指标比较,差异无统计学意义(表1)。

2.2 两组患者既往胆道手术资料比较

老年组与中年组患者既往胆道手术次数、首次手术原因及首次手术方式比较,差异均无统计学意义(表2)。

2.3 两组患者再次手术相关资料比较

老年组患者本次手术距上次手术时间长于中年组,临床出现上腹区疼痛及发热症状者占比低于中年组,肝外胆管结石者占比、行联合术式治疗者占比、术中出血量及术后并发症发生率均高于中年组,结石直径、手术时间及住院时间长于中年组,差异均有统计学意义($P<0.05$;表3)。

表1 两组患者一般资料比较

Table 1 Comparison of general data between two groups

Group	n	Gender[n(%)]		Age (years $\bar{x}\pm s$)	BMI (kg/m^2, $\bar{x}\pm s$)	Underlying diseases[n(%)]					
		Male	Female			T2DM	Hypertension	Hyperlipidemia	Respiratory system disease	Liver cirrhosis	Coronary heart disease
Elderly	64	25(39.06)	39(60.94)	67.48±4.15	23.18±2.74	14(21.88)	10(15.63)	12(18.75)	8(12.50)	2(3.13)	10(15.63)
Middle-aged	66	26(39.39)	40(60.61)	53.14±5.46	22.74±3.12	4(6.06)	2(3.03)	8(12.12)	1(1.52)	1(1.52)	1(1.52)
t/χ^2		0.002		16.821	0.853	6.812	6.152	1.097	6.085	0.374	8.352
P value		0.969		<0.001	0.395	0.009	0.013	0.295	0.014	0.541	0.004

BMI: body mass index; T2DM: type 2 diabetes mellitus.

表2 两组患者既往胆道手术资料比较

Table 2 Comparison of previous biliary tract surgery data between two groups

Group	n	Previous biliary surgery frequency (times, $\bar{x}\pm s$)	Cause of the fist surgery[n(%)]			Method of the first surgery [n(%)]				
			Gallbladder stones	Common bile duct stones	Intrahepatic and extrahepatic bile duct stones	Cholecystectomy	Cholecystectomy combined with choledocholithotomy +T-tube external drainage	ERCP+ EST	Partial hepatectomy +cholecystectomy +bile duct exploration	Cholecystectomy +common bile duct exploration+ choledochoje-junostomy
Elderly	64	1.43±0.27	30(46.88)	28(43.75)	6(9.38)	30(46.88)	18(28.13)	10(15.6)	4(6.25)	2(3.13)
Middle-aged	66	1.51±0.32	31(46.97)	30(45.45)	5(7.58)	31(46.97)	24(36.36)	6(9.09)	4(6.06)	1(1.52)
t/χ^2		1.538		0.146				2.177		
P value		0.126		0.930				0.703		

ERCP: endoscopic retrograde cholangiopancreatography; EST: endoscopic sphincterotomy.

表3 两组患者再次手术相关资料比较

Table 3 Comparison of resurgery-related data between two groups

Item	Elderly group (n=64)	Middle-aged group (n=66)	t/χ^2	P value
Interval between the current surgery and the last surgery(years, $\bar{x}\pm s$)	7.51±1.63	6.76±1.74	2.535	0.013
Preoperative clinical symptoms[n(%)]				
Upper abdominal pain	50(78.13)	62(93.94)	10.286	0.001
Fever	15(23.44)	33(50.00)	9.844	0.002
Jaundice or transient jaundice	28(43.75)	31(46.97)	0.136	0.712
Nausea and vomiting	13(20.31)	15(22.73)	0.112	0.738
Stone distribution[n(%)]				
Intrahepatic bile duct	30(46.88)	34(51.52)	0.280	0.597
Extrahepatic bile duct	9(14.06)	2(3.03)	5.106	0.024
Intrahepatic and extrahepatic bile ducts	25(39.06)	30(45.45)	0.544	0.461
Method of the current surgery[n(%)]			4.731	0.030
Single surgery	20(31.25)	33(50.00)		
Combined surgery	44(68.75)	33(50.00)		
Stone diameter(cm, $\bar{x}\pm s$)	1.79±0.31	1.02±0.27	15.115	<0.001
Surgical time(min, $\bar{x}\pm s$)	263.15±36.25	246.71±33.74	2.678	0.008
Intraoperative blood loss(ml, $\bar{x}\pm s$)	193.45±20.74	172.47±22.31	5.549	<0.001
Postoperative complications[n(%)]	31(48.44)	20(30.30)	4.482	0.034
Hospital stay(d, $\bar{x}\pm s$)	21.15±3.15	19.43±3.42	2.980	0.003

2.4 两组患者术后生活质量评分比较

两组患者术后 6 个月 SF-36 量表各维度及总得分均较其术前上升，差异均有统计学意义（$P<0.05$）；中年组术后 6 个月 PF、RP、GH 及 SF-36 总得分均高于老年组，差异均有统计学意义（$P<0.05$；表 4）。

3 讨 论

肝内外胆管结石占胆石症总数的 5%～15%，有调查数据显示，近年来，我国胆石症发病率有下降趋势[6,7]。但临床上，多次行胆道手术治疗的肝内外胆管结石患者数量却一直在增多，多次手术的肝内外胆管结石患者病情复杂，再次手术术中操作难度大，一直是临床研究的重点[8,9]。肝内外胆管结石再次手术的原因多与结石残留或复发、胆肠吻合方式不当、胆道癌变等因素相关。胆石症在中老年人人群中的发病率较高，女性发病率高于男性，而老年患者机体各项机能衰退，多合并基础性疾病，自身免疫力下降，外科手术风险更高，探讨具有多次胆道手术史的老年肝内外胆管结石患者临床特征，在提高老年肝内外胆管结石患者再次手术安全性中具有一定意义[10]。

本研究以中年肝内外胆管结石多次手术患者为对照，从一般人口学特征、基础性疾病、既往胆道手术情况，以及本次手术情况等方面入手，调查老年肝内外胆管结石多次手术患者临床特征。结果发现，与中年组相比，老年组患者合并 T2DM、高血压、呼吸系统疾病及冠心病的病例占比更高，说明老年组患者各种基础性疾病较多，机体状况更差，与既往研究结果相似[11,12]。对比既往胆道手术资料发现，两年龄段患者既往胆道手术次数、首次手术原因以及首次手术方法并无明显差异。但某些本次手术资料存在差异，具体表现在：（1）老年组患者本次手术距上次手术的间隔时间更长；（2）术前临床症状（包括上腹区疼痛及发热症状）占比低于中年组；（3）肝外胆管结石者占比高于中年组；（4）本次手术多采用联合术式治疗；（5）本次手术结石直径较中年组大；（6）手术时间更长，术中出血量更多，术后住院时间更长。

分析中年组及老年组患者出现上述差异的原因，可能与以下因素相关。（1）肝内外胆管结石的主要症状包括腹部隐痛、食欲下降、恶心呕吐、发热、黄疸等，而老年人腹肌松弛，感觉末梢灵敏度下降，对疼痛的耐受力高，其腹部症状不明显，且易与其他基础性疾病症状相混淆[13,14]，故其再次手术与上次手术时间间隔较中年组长，且术前出现上腹区疼痛症状者占比较中年组偏低。故建议临床注重对无明显临床症状的老年患者进行影像学检查，避免病情进一步发展，延误治疗。同时，由于再次手术时间间隔长，其结石直径也较大。（2）老年组患者肝外胆管结石者占比较多，这与老年胆石症主要与感染、胆囊结石进入胆总管以及胆红素障碍等因素相关，而肝内结石主要与肝内胆管结构异常、胆道内蛔虫、全身代谢因素相关。（3）肝内外胆管结石的手术方法选择较多，但手术术式的选择与 Oddi 括约肌功能、肝功能、是否合并肝纤维化、结石分布情况及患者机体条件等多因素相关[15]。本研究发现，老年组患者再次手术多采用联合术式，这可能与老年组患者结石直径更大、结石散在分布于胆道、肝内胆管及胆总管，病情更为复杂相关。此外，由于老年患者机体免疫力下降，对手术的耐受力更低，加上联合术式手术创伤较大的影响，其手术时间较长，术中出血量更多，术后并发症发生率高于中年组，住院时间也更长。故建议临床加强术前病情评估，为患者制定合适的治疗方案，有效控制手术风险，并增强患者的术后管理。

表 4 两组患者术后生活质量评分比较

Table 4 Comparison of postoperative quality of life scores between two groups (points, $\bar{x}\pm s$)

Group	n	PF	RP	BP	GH	VT	SF	RE	MH	Total
Elderly	64									
Before surgery		47.52±12.34	50.67±11.74	58.25±16.34	46.47±15.07	47.63±16.78	68.74±17.46	71.46±18.37	60.66±14.69	451.41±43.78
6 months after surgery		59.45±13.15$^{*\#}$	54.39±14.38$^{*\#}$	63.58±13.97*	51.35±14.75$^{*\#}$	53.15±19.41*	73.58±20.37*	76.84±19.87*	64.58±15.74$^{*\#}$	496.92±43.69$^{*\#}$
Middle-aged	66									
Before surgery		50.57±16.83	53.34±19.82	60.73±16.32	48.66±15.84	48.62±16.33	71.73±17.74	73.54±20.51	61.47±16.41	468.66±46.25
6 months after surgery		68.15±17.69*	62.15±18.66*	69.34±19.37*	58.43±16.37*	58.37±20.36*	77.15±21.17*	81.98±23.68*	69.96±17.85*	545.53±46.58*

Compared with the same group before surgery, $^{*}P<0.05$. Compared with middle-aged group at 6 months after surgery, $^{\#}P<0.05$.

生活质量是目前评估手术疗效、患者术后康复效果的重要指标,本研究发现,老年组患者术后6个月生活质量SF-36量表PF、RP、GH维度及总得分均低于中年组,提示老年组患者术后生活质量普遍更差,提示临床应关注老年肝内外胆管结石多次手术者的术后生存状态,积极给予医疗支持,提高患者术后生活质量。

综上,与中年患者相比,老年肝内外胆管结石多次手术者基础性疾病更多,术前应积极控制基础性疾病,确保手术安全性;两个年龄段患者本次手术原因均为结石残留或复发,但老年患者术前上腹区疼痛、发热症状不明显,应注重对无明显临床症状老年患者的影像学筛查;此外,老年患者与上次手术之间的间隔时间更长,结石直径更大,手术方案更为复杂,应注重手术风险控制及术后并发症管理工作。

【参考文献】

[1] 程志祥, 尹玉春, 江平, 等. 一期法经皮经肝胆道镜取石术治疗老年复杂性肝内外胆管结石的应用分析[J]. 腹部外科, 2023, 36(1): 25-29. DOI: 10.3969/j.issn.1003-5591.2023.01.005.

[2] Clements O, Eliahoo J, Kim JU, *et al*. Risk factors for intrahepatic and extrahepatic cholangiocarcinoma: a systematic review and meta-analysis[J]. J Hepatol, 2020, 72(1): 95-103. DOI: 10.1016/j.jhep.2019.09.007.

[3] Kim SY, Lee S, Cho Y, *et al*. Transcholecystic management of extrahepatic duct stones in poor candidates for endoscopic or transhepatic approaches[J]. Eur Radiol, 2022, 32(3): 1709-1717. DOI: 10.1007/s00330-021-08259-0.

[4] Kida A, Yoshio T, Minami H, *et al*. Successful endoscopic treatment of multiple large intrahepatic bile duct stones with benign choledochojejunal anastomotic stenosis[J]. Endoscopy, 2023, 55(1): 914-915. DOI: 10.1055/a-2120-1694.

[5] Lien HH, Huang CC, Wang PC, *et al*. Changes in quality-of-life following laparoscopic cholecystectomy in adult patients with cholelithiasis[J]. J Gastrointest Surg, 2010, 14(1): 126-130. DOI: 10.1007/s11605-009-1062-9.

[6] Wu Y, Xu CJ, Xu SF. Advances in risk factors for recurrence of common bile duct stones[J]. Int J Med Sci, 2021, 18(4): 1067-1074. DOI: 10.7150/ijms.52974.

[7] Su W, Zhu JG, Li WP, *et al*. Gallstone disease and the risk of cardiac mortality in patients with acute coronary syndrome[J]. Front Cardiovasc Med, 2022, 9: 1033959. DOI: 10.3389/fcvm.2022.1033959.

[8] 何启雄, 吴志扬, 黄铭祥, 等. 肝内外胆管结石多次手术原因及再次手术治疗方法和预后研究[J]. 实用肝脏病杂志, 2018, 21(5): 781-784. DOI: 10.3969/j.issn.1672-5069.2018.05.032.

[9] Latenstein CSS, Hannink G, van der Bilt JDW, *et al*. A clinical decision tool for selection of patients with symptomatic cholelithiasis for cholecystectomy based on reduction of pain and a pain-free state following surgery[J]. JAMA Surg, 2021, 156(10): e213706. DOI: 10.1001/jamasurg.2021.3706.

[10] 乔敏, 夏炳兰. 胆总管取石术后多发脓肿一例[J]. 中华老年多器官疾病杂志, 2022, 21(8): 610-611. DOI: 10.11915/j.issn.1671-5403.2022.08.131.

[11] Renzulli M, Brandi N, Brocchi S, *et al*. Association between anatomic variations of extrahepatic and intrahepatic bile ducts: do look up![J]. J Anat, 2023, 242(4): 683-694. DOI: 10.1111/joa.13808.

[12] West WM, Brady-West DC, West KP, *et al*. Cholelithiasis on imaging — an analysis of clinical presentations by age and gender in a Jamaican population[J]. West Indian Med J, 2009, 58(4): 375-378.

[13] 贾梅, 李檬, 郭爱华, 等. 三种外科疗法治疗老年胆囊结石并发肝外胆管结石病人的疗效比较[J]. 实用老年医学, 2021, 35(2): 155-158. DOI: 10.3969/j.issn.1003-9198.2021.02.011.

[14] 王荇, 张云, 张淼, 等. 高龄残余胆囊结石的诊疗分析[J]. 腹腔镜外科杂志, 2023, 28(8): 609-613.

[15] Konyn P, Alshuwaykh O, Dennis BB, *et al*. Gallstone disease and its association with nonalcoholic fatty liver disease, all-cause and cause-specific mortality[J]. Clin Gastroenterol Hepatol, 2023, 21(4): 940-948. DOI: 10.1016/j.cgh.2022.04.043.

(编辑: 温玲玲)