

doi: 10.13241/j.cnki.pmb.2020.07.026

超声引导下肝内胆管置管治疗肝内胆管结石并发梗阻的临床效果观察*

韩转宁 郭宏斌[△] 胡海燕 张静芳 韩秀清

(西安医学院第二附属医院超声科 陕西 西安 710038)

摘要 目的:探究超声引导下肝内胆管置管治疗肝内胆管结石并发梗阻的临床效果和安全性。**方法:**选择 2014 年 1 月至 2018 年 1 月于我院接受治疗的 98 例肝内胆管结石并发梗阻患者为研究对象,将患者按照入院顺序统一编号后,根据随机数字表法进行分为实验组与对照组,每组各 49 例患者。对照组患者于常规 X 线引导下肝内胆管置管治疗,实验组患者在超声引导下实施肝内胆管置管治疗,对比两组患者穿刺次数、手术时间、术后并发症的发生情况,并对两组患者随访 3 个月,比较其结石残余率及治疗效果。**结果:**(1)实验组患者穿刺次数及操作时间均显著少于对照组($P<0.05$);(2)实验组患者术后各类并发症发生率为 4.08%,明显低于对照组(20.41%, $P<0.05$);(3)对照组患者后 3 个月的结石残余率为 14.29%(7/49),实验组为 2.04%(1/49),显著低于对照组($P<0.05$);(4)术后 3 个月,实验组患者治疗总有效率为 97.96%,明显高于对照组(81.63%, $P<0.05$)。**结论:**与常规 X 线引导下肝内胆管置管治疗相比,超声引导下肝内胆管置管在治疗肝内胆管结石并发梗阻中具有较更好的治疗效果和安全性。

关键词:超声引导;肝内胆管置管;肝内胆管结石并发梗阻

中图分类号:R445.1;R657.4 文献标识码:A 文章编号:1673-6273(2020)07-1322-04

Clinical Observation on the Effect of Ultrasound-guided Intrahepatic Bile Duct Placement on the Hepatolithiasis Complicated with Obstruction*

HAN Zhuan-ning, GUO Hong-bin[△], HU Hai-yan, ZHANG Jing-fang, HAN Xiu-qing

(Department of Doppler Ultrasonic, The second affiliated hospital of Xi'an medical University, Xi'an, Shaanxi, 710038, china)

ABSTRACT Objective: To explore the clinical effect and security of ultrasound-guided intrahepatic bile duct catheterization in the treatment of hepatolithiasis complicated with obstruction. **Methods:** 98 patients with hepatolithiasis complicated with obstruction who were treated in our hospital from January 2014 to January 2018 were selected as the research objects. After the patients were numbered in accordance with the order of admission, according to the random number table the patients were, divided into the experimental group and the control group with 49 patients in each group. Patients in the control group were treated with intrahepatic bile duct catheterization under the guidance of routine X-ray, while patients in the experimental group were treated with intrahepatic bile duct catheterization under the guidance of ultrasound. The number of punctures, the operation time and the incidence of postoperative complications were compared between the two groups. The patients in the two groups were followed up for 3 months. The residual rate and treatment effect of the stones were compared between two groups. **Results:** (1)The number of punctures and the operation time of experimental group were significantly lower than those of the control group ($P<0.05$). (2) The postoperative complication rate of experimental group was 4.08%, which was significantly lower than that of the control group(20.41%, $P<0.05$). (3)The residual rate of stones was 2.04% (1/49) in the experimental group at 3 months after operation, and the residual rate of stones in the control group and experimental group was 14.29% (7/49), 2.04% (1/49) at 3 months after operation, which was significantly lower in the experimental group than that of the control group ($P<0.05$). (4) At 3 months after operation, the total effective rate of experimental group was 97.96%, which was significantly higher than that of the control group 81.63%($P<0.05$). **Conclusion:** Ultrasound-guided intrahepatic bile duct catheter has better therapeutic effect and safety in the treatment of intrahepatic bile duct stones complicated with obstruction compared with conventional X-ray guided intrahepatic bile duct catheterization.

Key words: Ultrasound-guided; Intrahepatic bile duct catheterization; Hepatolithiasis complicated with obstruction

Chinese Library Classification(CLC): R445.1; R657.4 **Document code:** A

Article ID: 1673-6273(2020)07-1322-04

前言

肝内胆管结石是世界性疾病,在亚洲国家多发,由于其病

* 基金项目:陕西省科技厅重点研发项目(2018SF-129)

作者简介:韩转宁(1982-),女,本科,主治医师,主要研究方向:超声介入,心血管超声,电话,13572966837,E-mail:hzn_198207@163.com

[△] 通讯作者:郭宏斌(1976-),男,本科,副主任医师,主要研究方向:超声介入及超声造影,E-mail:1521350260@qq.com

(收稿日期:2019-06-23 接受日期:2019-07-18)

情严重、治疗困难,是我国良性胆道疾病重要死亡原因之一^[1]。肝内胆管结石又被称为肝内胆管结石,是指左右肝管汇合部以上各分支胆管内的结石,此类结石可以单独存在,也可与其他类型肝外胆管结石共同存在^[2]。肝内管结石常常并发胆管梗阻,导致局部炎症或胆管狭窄,进一步增加结石排出的困难,因而治疗难度较大,病情迁延不愈,且复发率较高^[3,4]。目前,外科手术是肝内胆管结石最主要的治疗手段,传统肝切除术不仅会对患者肝脏造成较大伤害,同时由于肝内胆管结石分布较广,切除手术治疗效果也受到较大限制^[5,6]。肝内胆管置管是近些年随着影像学技术的发展而兴起的新型治疗手段,在影像检查实时指导下,具有准确、快速、创伤小等优点^[7,8]。本研究结果也表明超声引导下肝内胆管置管在治疗肝内胆管结石并发梗阻中具有较好的治疗效果,患者术后并发症发生率和远期随访残石率均较低,具体结果如下。

1 资料与方法

1.1 一般资料

选择我院诊治的 98 例肝内胆管结石并发梗阻患者,研究时间段为 2014 年 1 月至 2018 年 1 月,按随机数字表法分为两组,每组各 49 例。对照组男 27 例,女 22 例,年龄 36-71 岁,平均 (46.32 ± 2.65) 岁,结石位置肝左叶 28 例,肝右叶 19 例,左右肝叶混合 2 例,结石直径 0.72-1.36 mm,平均结石直径 (1.01 ± 0.12) mm。实验组男 28 例,女 21 例,年龄 35-70 岁,平均 (45.98 ± 2.98) 岁,结石位置肝左叶 27 例,肝右叶 20 例,左右肝叶混合 2 例,结石直径 0.71-1.35 mm,平均结石直径 (1.03 ± 0.11) mm。两组一般资料比较差异无统计学意义($P>0.05$),具有可比性。

纳入标准^[9]:(1)意识清晰能够配合进行调研;(2)经影像学检查确诊为肝内胆管结石且行肝内胆管置管术者;(3)患者及其家属签署知情同意书。

排除标准:(1)合并心、肝、肾等重要器官功能障碍者;(2)合

并凝血功能不全者;(3)合并恶性肿瘤者;(4)合并大量腹水无法实施超声检测者;(5)合并胆道蛔虫者。

1.2 方法

两组患者均接受肝肾功能筛查、血常规、凝血四项的检测等,术前对患者病情进行评估,掌握梗阻情况,术前 10 h 患者禁食水,取仰卧位,施术者使用超声进行探查,确定穿刺点^[10]。对照组患者在 X 线引导下实施胆管内置管手术,术前实施局麻后常规 X 线引导下将穿刺针刺入胆管,而后针尖转向肝门,将导管置入梗阻处后退出穿刺针,固定引流袋^[11];实验组患者在超声引导下实施胆管内置管术,使用超声导航系统导入患者术前检查的 CT 图像及三维图像,患者仰卧后常规消毒麻醉,再次使用超声进行三维重建,并在超声引导下进入穿刺针,待穿刺针进入胆管内、出现胆汁溢出后,将穿刺针斜转向肝门,将导丝刺入梗阻部位,固定后退出穿刺针。

1.3 观察指标及评测标准

一般手术情况如手术时间、穿刺次数、术后 7 d 内各类并发症发生率进行统计,并进行比对;对两组患者实施 3 个月随访,记录术后 3 个月患者结石残余率,判断标准为术后彩超检查结果,结石残余率 = 结石残余例数 / 总例数 $\times 100\%$ ^[12];术后 3 个月治疗效果^[13,14]:显效:临床症状完全消失,无复发,有效:疼痛症状明显减轻,频率下降,且无胆道感染情况出现,无效:临床症状无缓解或加重。

1.4 统计学方法

数据采用 SPSS16.0 进行统计学分析,计数资料以%表示,组间比较采用卡方检验,计量资料以 $(\bar{x} \pm s)$ 表示,组间比较采用 t 检验,以 $P<0.05$ 为差异有统计学意义。

2 结果

2.1 两组手术情况的比较

实验组患者穿刺次数及操作时间明显少于对照组($P<0.05$),见表 1。

表 1 两组患者一般手术情况的对比

Table 1 Comparison of the general surgical conditions between two groups

Groups	Cases	Number of punctures(times)	Operation time(min)
Experience group	49	1.23 $\pm$ 0.36	19.86 $\pm$ 2.66
Control group	49	3.56 $\pm$ 0.55	43.23 $\pm$ 1.56
t	-	-24.812	-53.050
P	-	<0.001	<0.001

2.2 两组术后并发症发生情况的比较

对两组患者术后 7 d 内各类并发症发生率进行统计并进

行对比分析,结果显示,实验组各类并发症发生率为 4.08%,明显低于对照组(20.41%, $P<0.05$),见表 2。

表 2 两组患者术后并发症发生情况的对比[例(%)]

Table 2 Comparison of the incidence of postoperative complications between the two groups of patients[n(%)]

Groups	Cases	Bile leakage	Liver hemorrhage	Biliary hemorrhage	Incidence rate
Experience group	49	1(2.04)	1(2.04)	0(0.00)	2(4.08)
Control group	49	3(6.12)	4(8.16)	3(6.12)	10(20.41)
χ^2	-	-	-	-	6.078
P	-	-	-	-	0.014

2.3 两组结石残余率的比较

随访结果显示, 对照组患者后 3 个月的结石残余率为 14.29%(7/49), 实验组为 2.04%(1/49), 显著低于对照组($\chi^2=5.995, P=0.031$);

2.4 两组术后 3 个月治疗效果的比较

术后 3 个月, 实验组治疗总有效率为 97.96%, 明显高于对照组(81.63%, $P<0.05$), 具体见表 3。

表 3 两组患者术后 3 个月治疗有效率对比[例(%)]

Table 3 Comparison of the efficiency between the two groups of patients at 3 months after surgery[n(%)]

Groups	Cases	Significant effect	Effective	Invalid	Total effective rate
Experience group	49	36(73.47)	12(24.49)	1(2.04)	48(97.96)
Control group	49	26(53.06)	14(28.57)	9(18.37)	40(81.63)
χ^2	-	-	-	-	7.127
P	-	-	-	-	0.016

3 讨论

肝内管结石在我国华南、西南、长江流域地区较为多见, 临床分析其病因主要为胆道细菌感染、寄生虫感染、胆汁滞留等, 此外炎症反应引起的上皮细胞脱落、金属离子聚集等也会增加该病的发病率^[15,16]。临床研究指出虽然肝内胆管结石是良性病变, 但由于其病因复杂、并发症多样, 且随着病情发展患者常常继发肝功能损伤^[17,18], 因而对我国居民健康造成了较大的威胁。临床上对肝内管结石的主要治疗手段为外科手术, 但部分患者由于肝功能严重受损, 故而难以耐受根治性手术, 增加了治疗难度^[19,20]。肝内胆管置管是治疗肝内胆管结石并发现梗阻较为常见的手段, 通过置管不但能够缓解胆管高压状态, 同时还有助于炎症的治疗及结石取出^[21], 该术的主要难点在于穿刺点的确定及穿刺针的引导, 常规 X 线引导虽然对手术具有较好的辅助作用, 但辐射剂量较大, 会影响医生及患者健康^[22-23], 因而临床上建议采用其他引导方式实施手术。

随着近些年影像学技术的发展, 超声引导在肝内胆管置管中的应用越来越广泛, 学者 Huang Z^[24]等通过对 64 例胆道结石致胆道梗阻患者超声引导下经皮经肝穿刺胆管置管术发现, 术前患者血清胆红素水平为(312.43± 31.90) $\mu\text{mol/L}$, 经治疗 1 周后患者总胆红素水平下降至(165.32± 23.13) $\mu\text{mol/L}$, 提示超声引导下的肝内胆管置管对胆道梗阻具有较好的治疗效果; 学者 Tanimizu N^[25]等通过将 120 例患者随机分为观察组与对照组的方式, 就超声引导下的 PTCD 引流术对肝内胆管结石梗阻治疗效果进行了探究, 结果显示, 超声引导下施术的观察组患者治疗优良率达 98.33%, 远优于常规 X 线引导下对照组的 86.67%, 同时随访显示观察组患者手术时间较短, 预后较好; 该学者的另外一项研究还显示^[26], 超声引导下的胆管置管术穿刺精确度、精密度较高, 穿刺时间较短, 提示超声引导能够提高穿刺成功率, 减小对患者组织的损伤。

本研究结果显示超声引导下施术的实验组患者穿刺次数及操作时间明显少于对照组, 术后实验组患者并发症发生率、术后 3 个月结石残余率较低, 且术后 3 个月随访显示治疗效果优于对照组。分析原因可能是由于胆管腔较细, 发生的结石容易引发胆管梗阻, 使胆管内压力骤增, 对患者肝功能造成较大的损伤, 患者容易出现胆管炎、肾功能衰竭等症, 甚至威胁其生命健康。胆管置管术能够降低胆管压力, 使患者的肝脏功能有

所恢复, 通过引流还能够将含有毒素的胆汁排出体外, 降低心力衰竭、肾功能衰竭的发生率, 超声引导能够显示肝内胆管的具体情况, 包括胆管扩张程度、走向等, 为穿刺提供明确的指导, 同时高分辨率的超声检测能够清晰显示肝内结构, 实时提供穿刺整个过程视野, 提高了穿刺的精准性^[27]。相比于 X 线, 一方面超声引导无辐射, 安全性高, 适用于肝肾功不全患者, 另一方面超声成像更为直观, 能够构建三维图像, 优化穿刺路线, 为穿刺提供准确信息, 尽量减小了对正常组织的损伤, 因而术后并发症及结石残余率较低^[28,29]。

总而言之, 与常规 X 线引导下肝内胆管置管治疗相比, 超声引导下肝内胆管置管在治疗肝内胆管结石并发现梗阻中具有较更好的治疗效果和安全性。

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