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超声引导下经皮穿刺聚桂醇注射液与无水乙醇硬化治疗单纯性肝囊肿的疗效对比研究

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摘要 目的:探讨并对比超声引导下经皮穿刺聚桂醇注射液与无水乙醇硬化治疗单纯性肝囊肿的疗效。**方法:**选择 2014 年 5 月至 2016 年 9 月我院收治的 60 例单纯性肝囊肿患者为研究对象,按随机数字表法分为两组。实验组 30 例在超声引导下给予聚桂醇注射液进行硬化治疗,对照组 30 例在超声引导下给予无水乙醇进行硬化治疗。比较两组患者临床有效率、不良反应发生率;于术前及术后 24 h 检测并对比两组患者血常规指标水平;于术前、术后 1 周及术后 1 月检测并对比两组患者总胆红素(TBIL)、谷丙转氨酶(ALT)、谷草转氨酶(AST)、碱性磷酸酶(ALP)、胆碱酯酶(CHE)及白蛋白(ALB)。**结果:**实验组总有效率为 93.33%,对照组总有效率为 90.00%,两组总有效率比较,差异无统计学意义($P>0.05$)。术前、术后 24 h 两组各项血常规指标对比,差异均无统计学意义($P>0.05$)。与术前相比,术后 1 周实验组患者血清 TBIL、ALT、AST、ALP、CHE 及 ALB 均无明显变化($P>0.05$),对照组患者血清 ALT 和 AST 升高($P<0.05$)。与术后 1 周相比,术后 1 个月实验组患者血清 ALT、ALP 降低, CHE 升高($P<0.05$),对照组 ALT、AST 及 ALP 降低, CHE 升高 ($P<0.05$)。术后 1 周实验组患者血清 ALT 和 AST 水平明显低于对照组 ($P<0.05$), TBIL、ALP、CHE 及 ALB 均无明显差异 ($P>0.05$); 术后 1 月实验组患者血清 ALT 水平明显低于对照组, ALB 水平明显高于对照组 ($P<0.05$), TBIL、AST、ALP 及 CHE 均无明显差异($P>0.05$)。实验组不良反应发生率为 16.67%, 低于对照组的 30.00%, 差异具有统计学意义($P<0.05$)。**结论:**超声引导下经皮穿刺聚桂醇注射液与无水乙醇治疗单纯性肝囊肿均具有较好的疗效,但聚桂醇注射液作为硬化剂的不良反应率明显低于无水乙醇,对肝功能的损伤也较无水乙醇小。因此对于单纯性肝囊肿的硬化治疗,聚桂醇注射液是一种安全有效的硬化剂,值得在临床上推广。

关键词: 穿刺;聚桂醇注射液;无水乙醇;单纯性肝囊肿;疗效

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Simple Hepatic Cysts: Comparative Study on Ultrasound-guided Percutaneous Puncture Lauromacrogol Injection and Anhydrous Ethanol Sclerotherapy

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ABSTRACT Objective: To compare the clinical efficacy of ultrasound-guided percutaneous puncture lauromacrogol injection and anhydrous ethanol sclerotherapy in the treatment of simple hepatic cysts. **Methods:** A total of 60 patients with simple hepatic cyst, who were treated in Jinling Hospital Affiliated to Medical School of Nanjing University from May 2014 to September 2016, were enrolled as the subjects and randomly divided into two groups (30 patients in each group). The experimental group was treated with lauromacrogol injection sclerotherapy under ultrasound guidance. The control group was treated with anhydrous ethanol injection sclerotherapy. The clinical efficacy and the incidence of adverse reactions were compared between the two groups. Blood Routine Indexes of the two groups were measured and compared before operation and 24 hours after operation. The levels of total bilirubin (TBIL), alanine aminotransferase (ALT), aspartate aminotransferase (AST), alkaline phosphatase (AST), Alkaline phosphatase (ALP), cholinesterase (CHE) and albumin (ALB) of the two groups were measured and compared before operation, 1 week and 1 month after operation. **Results:** The total effective rate of the experimental group was 93.33%, the total effective rate of the control group was 90.00%, the difference of the total effective rate between the two groups was not statistically significant ($P>0.05$). There was no significant difference in blood test between the two groups before operation and 24 hours after operation($P>0.05$). Compared with before operation, there were no significant changes

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in the levels of serum TBIL, ALT, AST, ALP, CHE and ALB in the experimental group 1 week after operation ($P>0.05$), while the serum ALT and AST were increased in the control group ($P<0.05$). Compared with 1 week after operation, the levels of serum ALT and ALP were decreased, but the levels of CHE were increased in the experimental group 1 month after operation ($P<0.05$), while the levels of ALT, AST and ALP in the control group were decrease, but the levels of CHE were increased ($P<0.05$). One week after operation, the levels of serum ALT and AST in the experimental group were significantly lower than those in the control group ($P<0.05$). There were no significant differences in TBIL, ALP, CHE and ALB between the two groups ($P>0.05$). One month after operation, the level of serum ALT in the experimental group was significantly lower than that in the control group, the level of ALB was significantly higher than that of control group ($P<0.05$). There were no significant differences in TBIL, AST, ALP and CHE between the two groups ($P>0.05$). The incidence of adverse reactions in the experimental group was 16.67%, which was lower than that in the control group (30.00%), the difference was statistically significant ($P<0.05$). **Conclusion:** Ultrasound guided percutaneous puncture of Lauromacrogol Injection and ethanol in the treatment of simple hepatic cysts have a better therapeutic effect, but the adverse reaction rate of lauromacrogol injection is significantly lower than that of anhydrous ethanol, and the liver functional damage is also less than anhydrous ethanol. Therefore, lauromacrogol injection is a safe and effective hardener in the treatment of simple hepatic cyst sclerotherapy, which is worth popularizing in clinic.

Key words: Puncture; Lauromacrogol Injection; Anhydrous ethanol; Simple hard liver cysts; Efficacy comparison

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前言

肝囊肿是一种常见的肝脏良性疾病,单纯性肝囊肿又可分为单发性肝囊肿和多发性肝囊肿。单发性肝囊肿在 20-50 岁的女性患者群中较为多见,且多发于肝右叶;多发性肝囊肿则在 40-60 岁的女性患者群中较为多见,因此单纯性肝囊肿女性发病率高于男性^[1-3]。近几年随着由于超声影像学检查的普及,很多患者肝囊肿是在常规体检中发现,无明显的临床症状。肝囊肿生长到一定程度可能会压迫周围的脏器,出现上腹部的不适、疼痛以及腹胀、恶心等消化道症状,还有少数肝囊肿破裂,囊内出血,带蒂囊肿的扭转等急腹症出现^[4]。肝囊肿感染时,常有发热、寒战、白细胞升高等表现^[5,6]。对于单纯性肝囊肿的首选治疗方法通常采用完全切除、部分囊壁切除、囊肿开窗术等,尽管疗效好,但手术损伤大,并发症多,费用高^[7-9]。穿刺硬化疗法具有创伤性小,安全性高,操作相对简单,术后恢复快,费用较低等优点,可应用于单纯性肝囊肿的治疗。无水乙醇为最常用的穿刺硬化剂,应用历史已有 30 年,对于单纯性肝囊肿疗效确切,但是存在较多的不良反应,如腹痛腹胀、恶心呕吐、头晕、醉酒样反应等,部分患者不能耐受,尤其是酒精过敏者,不能应用无水乙醇,因此在临床上应用受到限制^[10],还有部分患者的依从性差,在治疗一次后因不良反应严重拒绝再次接受穿刺治疗。聚桂醇,化学名称为聚氧乙烯月桂醇醚,在欧美等国家作为首选的血管内硬化剂,已经广泛应用于各种血管瘤、静脉曲张以及囊性疾病的硬化治疗,其安全可靠,在我国已于 2008 年应用于临床治疗。聚桂醇注射液近几年在临床已用于肝囊肿的硬化治疗,治疗效果良好,并具有刺激性小,不良反应发生率低等特点^[11]。本研究对比分析超声引导下经皮穿刺聚桂醇注射液与无水乙醇硬化治疗单纯性肝囊肿的临床疗效、不良反应发生率、不同时间节点患者血常规和肝功能等指标变化,为更好地治疗单纯性肝囊肿提供临床依据,现报道如下。

1 资料与方法

1.1 一般资料

选择 2014 年 5 月至 2016 年 9 月我院收治的 60 例单纯性肝囊肿患者为研究对象,纳入标准:(1)经超声、增强 CT 或磁共振成像等技术诊断为单纯性肝囊肿且最大切面直径 $\geq 3\text{cm}$;(2)年龄 ≥ 18 周岁;(3)有明显的临床症状,如腹部压迫、黄疸、腹胀、腹痛及呼吸困难等;(4)有强烈的超声介入治疗意愿;(5)无严重并发症、慢性疾病或手术禁忌症者,排除标准:(1)有明确的乙醇过敏史者;(2)合并多种内科严重疾病者;(3)凝血功能低下者;(4)严重心功能不全者;(5)术中不耐受或中途退出的治疗者。按随机数字表法分为两组,每组 30 例。实验组男性 14 例,女性 16 例;年龄为 35-70 岁,平均年龄为 (51.28 ± 7.24) 岁;囊肿直径在 3-8 cm 者的 25 例,8 cm 以上者 5 例。对照组男性 12 例,女性 18 例;年龄为 34-70 岁,平均年龄为 (50.67 ± 6.98) 岁;囊肿直径在 3-8 cm 者的 26 例,8 cm 以上者 4 例。两组患者在性别、年龄、囊肿直径等一般情况的比较中差异无统计学意义($P>0.05$),具有可比性。

患者术前均行血常规、血型、血凝分析、肝肾功电解质、尿粪常规、甲乙丙肝、梅毒、HIV、心电图、胸部正位及腹部立位 X 线、腹部 B 超、肝脏 CT 等检查,明确无穿刺禁忌症,确认利多卡因及无水乙醇等药物过敏史。本研究已通过医院伦理委员会批准,并告知患者及家属肝囊肿穿刺治疗的风险及其可能的并发症,已征得患者及家属同意及良好配合,签署治疗方案知情同意书及手术知情同意书

1.2 超声介入治疗

术前患者血常规、血凝分析、肝肾功电解质、心电图均在正常范围内,无局麻药利多卡因、聚桂醇注射液及无水乙醇过敏史。术前患者行腹部超声、上腹部 CT 或磁共振成像明确肝囊肿,确定囊肿与肝脏及周围重要脏器的位置。术中根据肝内病灶部位患者呈仰卧位、斜卧位或左侧卧位,此体位为穿刺常规体位。穿刺前选用东芝—350 超声仪,配以专用穿刺架,探头频率 3.5 MHz,超声定位穿刺点,寻找最佳的穿刺点及穿刺角度,避免损伤周围脏器及血管,规划最优的穿刺路径(即选择囊肿距体表最近处作为穿刺点,穿刺针与探头声束呈 8° ~ 15° 为最宜穿刺角度,穿刺途径尽可能地选择经过一定厚度的正常肝

组织,且无伤及肝内重要管道可能)。常规消毒穿刺部位、铺无菌洞巾,给予2%利多卡因注射液局部麻醉,超声探头套上无菌手套,安装穿刺架,再次确认穿刺点及穿刺角度,务必做到穿刺架角度与超声设定的角度一致,否则进针时穿刺针会偏离针道,并且可能出现B超下不能显示穿刺针,引起并发症。确认后,在超声引导下使用日本Hakko Co,Ltd生产的21 GV×150 mm的PEI,r穿刺针快速进入肝囊肿,B超确认针尖在囊腔内,针尖至囊腔远端1/3,将针固定好,拔出针芯,连接一次性连接管和一次性注射器,在超声监视下用20 mL注射器抽吸囊液^[3],在抽吸过程中随时调整针尖的位置,避免损伤周围器官。将抽出的第一管囊液进行生化检查和细菌培养确定囊肿类型,收集常规脱落细胞进行病理学检查排除肿瘤性病变更可能,直至抽吸过程中连接管内出现气泡为止,但不能将囊腔内的液体抽尽。通过向酒精杯内分别注入1 mL囊液及无水酒精,然后观察其是否变浑浊,以排除交通性囊肿后方可进行硬化治疗。实验组向囊腔内注入聚桂醇注射液,实验组:采用Monfreux法,按药液:空气=1:4将聚桂醇(陕西天宇制药有限公司,国药准字H20080445,规格:10 mL:100 mg)制成泡沫状硬化剂,现配现用。若患者囊肿直径≤6.0 cm,则向囊腔注入100 mg配好的聚桂醇硬化剂;若患者囊肿直径>6.0 cm,则向囊腔注入200 mg配好的聚桂醇硬化剂,注入完毕后静待20 min,使得聚桂醇硬化剂充盈于囊肿,而后叮嘱患者小幅度地更换成侧动体位,以达到促使聚桂醇硬化剂与囊壁上皮充分接触的目的。对照组:确定囊液后再向囊腔内缓慢注入无水乙醇20 mL。注射过程中观察患者反应,如果患者出现剧烈疼痛则立即停止注射并嘱咐屏住呼吸,然后小口吸气,小口呼气,适应1-2分钟后均能缓解。待患者稳定后继续缓慢注入无水乙醇并再次抽出。按照此方法反复的冲洗囊腔直至抽出的液体呈澄清样为止,而后根据抽出的囊液量增加注入无水乙醇的量,一般为囊液总量的1/4~1/3,停滞5-7分钟,而后抽出无水乙醇。最后的步骤为再次注入无水乙醇与少许的浓度为2%的利多卡因的混合液,拔针并且确保所有患者保持穿刺体位20 min。而后皮肤常规碘伏消毒,消毒完成后用辅料包扎,让患者平卧2-4小时,观察穿刺部位有无渗血、红肿等并监测生命体征,并予以对症治疗。

1.3 检测指标

采集两组患者术前和术后24 h空腹静脉血5 mL于采样管中,将样品按照操作步骤规范化处理后转移至全自动流式血细胞计数仪,检测患者血小板(PLT)、白细胞总数(WBC)、红细胞总数(RBC)、血红蛋白(Hb)、嗜中性粒细胞百分比(NEUT%)。采集两组患者术前和术后1周及术后1月的空腹静脉血5 mL于采样管中,样品按照操作步骤规范化处理后转移至全自动生化分析仪,检测患者肝功能各项指标,包括:总胆红素(TBIL)、谷丙转氨酶(ALT)、谷草转氨酶(AST)、碱性磷酸酶(ALP)、胆碱酯酶(CHE)及白蛋白(ALB)。所有患者均随访至术后1个月。

1.4 疗效及安全性判断

所有患者均于术后1月行腹部超声检查,根据术前后囊肿直径及体积的变化情况分为:无效、有效、显效以及治愈。总有效率=(有效例数+显效例数+治愈例数)/总例数×100%。

观察各组患者术前及术后1至2天的临床症状如上腹部的不适、疼痛及黄疸等消化道症状等有无好转及不良反应发生情况,如腹胀腹痛、恶心呕吐、出血及醉酒样反应等发生情况,及时给予正确干预并记录。

1.5 统计学方法

采用SPSS 17.0软件对数据进行处理分析,血常规及肝功能等计量资料以均值±标准差($\bar{x} \pm s$)表示,采用t检验法进行组内及组间比较;有效率和不良反应发生率等计数资料以频数及频率表示,采用 χ^2 检验进行组间比较, $P < 0.05$ 表示差异具有统计学意义。

2 结果

2.1 疗效评价

实验组术后1月后临床总有效例数为28例,其中包括治愈26例,显效2例,总有效率为93.33%;对照组临床总有效例数为27例,其中包括治愈24例,显效2例,有效1例,总有效率为90.00%,两组总有效率比较,差异无统计学意义($\chi^2=0.294, P=0.525$),详见表1。

表1 两组临床疗效对比

Table 1 Comparison of clinical efficacy between the two groups

Groups	n	Cured	Excellent	Effective	Invalid	Total effective
Experimental group	30	26(86.67)	2(6.67)	0(0.00)	2(6.67)	28(93.33)
Control group	30	24(80.00)	2(6.67)	1(3.33)	3(10.00)	27(90.00)

2.2 血常规变化

术前、术后24 h两组各项血常规指标对比,差异均无统计

学意义($P > 0.05$)。与术前相比,术后24 h两组NEUT%指标均有所升高,但是差异无统计学意义($P > 0.05$),详见表2。

表2 两组术前及术后24 h血常规比较

Table 2 Comparison of blood test between two groups before operation or 24 hours after operation

Groups	n	Time	RBC ($10^{12}/L$)	Hb (g/L)	WBC ($10^9/L$)	NEUT% (%)	PLT ($10^9/L$)
Experimental group	30	Before operation	4.33±1.24	148.21±20.36	37.59±9.06	9.18±2.92	186.23±27.88
		24 hours after operation	4.48±1.15	146.41±24.79	38.19±5.06	9.91±2.42	193.08±29.61
Control group	30	Before operation	4.23±1.38	150.78±22.27	38.15±6.66	8.87±2.26	189.36±27.16
		24 hours after operation	4.60±1.16	153.30±25.69	80.12±16.23	9.78±2.37	192.87±23.80

2.3 肝功能评价

两组术前患者血清 TBIL、ALT、AST、ALP、CHE 及 ALB 水平均无明显差异($P>0.05$)。与术前相比,术后 1 周实验组患者血清各肝功能指标水平均无明显变化($P>0.05$),对照组患者血清 ALT 和 AST 升高($P<0.05$)。与术后 1 周相比,术后 1 个月实验组患者血清 ALT 及 ALP 降低,CHE 和 ALB 升高

($P<0.05$), 对照组 ALT、AST 及 ALP 降低,CHE 升高 ($P<0.05$)。术后 1 周实验组患者血清 ALT 和 AST 水平明显低于对照组($P<0.05$),TBIL、ALP、CHE 及 ALB 均无明显差异 ($P>0.05$);术后 1 月,实验组患者血清 ALT 水平明显低于对照组,ALB 水平明显高于对照组($P<0.05$),TBIL、AST、ALP 及 CHE 均无明显差异($P>0.05$),详见表 3。

表 3 两组术前、术后 1 周及术后 1 月肝功能指标比较

Table 3 Comparison of liver function between two groups before operation, 1 week or 1 month after operation

Groups	Time	TBIL ($\mu\text{mol/L}$)	ALT (U/L)	AST (U/L)	ALP (U/L)	CHE (U/L)	ALB (g/L)
Experimental group	Before operation	14.62 $\pm$ 3.02	48.21 $\pm$ 10.36	37.59 $\pm$ 9.06	90.18 $\pm$ 20.92	5986.23 $\pm$ 1897.88	35.89 $\pm$ 5.34
	1 week after operation	14.48 $\pm$ 1.85	46.41 $\pm$ 10.79 ^a	38.19 $\pm$ 5.06 ^c	89.18 $\pm$ 12.92	5930.08 $\pm$ 1794.61	36.21 $\pm$ 6.74
	1 month after operation	14.98 $\pm$ 1.28	30.69 $\pm$ 6.75 ^{bd}	37.16 $\pm$ 7.58	76.89 $\pm$ 15.34 ^b	7250.21 $\pm$ 2956.74 ^b	50.21 $\pm$ 6.74 ^{bd}
Control group	Before operation	14.23 $\pm$ 2.38	46.78 $\pm$ 12.27	38.15 $\pm$ 6.66	88.07 $\pm$ 23.26	5759.36 $\pm$ 1714.56	36.67 $\pm$ 3.89
	1 week after operation	15.10 $\pm$ 2.16	70.30 $\pm$ 13.69 ^a	80.12 $\pm$ 16.23 ^a	86.78 $\pm$ 14.37	5729.67 $\pm$ 1823.89	35.78 $\pm$ 4.37
	1 month after operation	14.14 $\pm$ 3.24	40.15 $\pm$ 8.96 ^b	35.78 $\pm$ 8.23 ^b	80.78 $\pm$ 14.37 ^b	7536.45 $\pm$ 2524.90 ^b	35.67 $\pm$ 3.89

Note: Compared with before operation, ^a $P<0.05$; Compared with 1 week after operation, ^b $P<0.05$; Compared with Control group 1 week after operation, ^c $P<0.05$; Compared with Control group 1 month after operation, ^d $P<0.05$.

2.4 安全性评价

共有 14 例患者于术 1-2 d 后出现发热、腹胀腹痛、恶心呕吐、出血及醉酒样反应,未出现严重的不良反应,及时给予适当处理后均逐渐消失。实验组不良反应例数为 5 例,其中包含 1 种不良反应的 1 例,2 种及以上不良反应的 4 例,不良反应发生率为 16.67%(5/30);对照组不良反应例数为 9 例,其中包含 1 种不良反应的 2 例,2 种及以上不良反应的 7 例,不良反应发生率为 30.00%(9/30),实验组不良反应发生率明显低于对照组,差异有统计学意义($\chi^2=3.827$, $P=0.042$)。

3 讨论

肝囊肿是一种常见的肝脏良性疾病,目前认为主要是由于肝内胆管或淋巴管发育障碍所致。在胚胎时期,多余的胆管由于自行退化未与远端的胆管相连接,肝内多余的胆管或淋巴管没有发生退化和吸收,呈分节状和囊状扩张成为囊肿^[12,13]。报道显示^[14]单纯性肝囊肿在健康人群中发病率约为 2.5%-5.0%。欧洲一项大规模研究^[15]显示肝囊肿发病率为 4.75%,26000 例患者腹部 B 超检查中发现肝囊肿 1235 例,其中单纯性肝囊肿的患者为 61.2%,统计发生率为 2.8%。其中年龄在 40 岁以上者占绝大部分。目前我国未见肝囊肿发病率的大宗文章报道,但是随着近年来人们生活方式和生活环境的改变,临床上单纯性肝囊肿的发病率和检出率也呈现逐年升高的趋势,因此研究更有效治疗单纯性肝囊肿的方法具有重要意义^[16-19]。

本研究选取 60 例肝囊肿的患者,均具有外科手术指证且都均经过入排标准筛选后行硬化治疗。结果表明:两组总有效率比较无明显差异,实验组不良反应情况优于对照组,说明超声引导下经皮穿刺聚桂醇注射液与无水乙醇硬化治疗单纯性肝囊肿均具有较好的疗效,但聚桂醇注射液作为硬化剂的不良

反应率明显低于无水乙醇。硬化治疗常用的硬化剂包括无水乙醇和聚桂醇注射液等。临床使用无水乙醇硬化治疗肝囊肿的原理是:肝囊肿的内壁是由上皮组织组成的,无水乙醇可以使上皮细胞蛋白变性,细胞破坏,使囊腔硬化、粘连,最后囊肿消失。肝囊肿内注入无水乙醇后囊壁凝固硬化,从而其通透性降低,因此其只能逐步向外渗透,一般对周围组织无不良影响。囊壁上的分泌细胞遭酒精破坏从而失去了分泌囊液功能,所以又能预防复发^[20]。聚桂醇注射液治疗肝囊肿的机理主要是聚桂醇注射液可通过机化反应和炎症作用引起组织损伤和细胞肿胀,可对囊壁具有分泌功能的上皮细胞造成不可逆地破坏,进而有效硬化、闭塞囊腔,最终达到消除囊肿的目的^[21-24]。聚桂醇注射液具有止血、局部麻醉和镇痛等作用,可降低患者不良反应率。此外,无水乙醇注入囊腔后可引起囊壁凝固硬化,进而导致囊壁通透性降低,最终在囊内形成一个无水乙醇的不良扩散环境,不利于进一步的治疗^[25]。

血常规的检查项目主要分为三大块,即红细胞系统、白细胞系统和血小板系统^[26]。RBC 和 Hb 反映的是红细胞系统功能。红细胞系统更多的和供氧相关,如果各项指标有所下降,就表明有贫血的症状,组织处于缺氧状态。各项指标升高则可能存在脱水、肺源性心脏病、先天性心脏病的风险。WBC 及 NEUT%反映的是白细胞系统功能。白细胞指标过高则表明体内有炎症,过低则可能是病毒感染或药物作用。嗜中性粒细胞百分比增高可能是细菌感染、炎症或骨髓增殖症。PLT 反映的是血小板系统功能^[27]。血小板具有止、凝血以及修复破损血管的作用,是外科手术的指证,与病人的愈后恢复有关。本研究中术后 24 h 两组 NEUT%指标较术前均有所升高,但是差异无统计学意义($P>0.05$)。说明硬化治疗可以引起炎症反应,但是因为手术创口较小,所以与术前比较无明显差异。进一步的印证

了硬化治疗手术出血少,患者痛苦小的优点^[28,29]。

本研究结果显示:术后1周,实验组患者血清ALT和AST水平明显低于对照组($P < 0.05$);术后1月,实验组患者血清ALT水平明显低于对照组,ALB水平明显高于对照组($P < 0.05$)。说明无水乙醇作为硬化剂可以对肝功能造成损害,而聚桂醇则对肝细胞损伤较小。肝功能检查可反应肝脏健康情况,TBIL反应肝脏解毒能力,正常情况下胆红素经过肝脏处理后排泄体外,一旦肝脏受损,则该指标则升高。ALT广泛分布于体内,但是以肝细胞含量最高,其主要分布在肝细胞浆水溶性部分,少量存在于线粒体中,而AST仅少量分布在肝细胞浆,绝大部分存在于肝细胞线粒体中。当肝细胞轻度或中度受损时,此时虽有肝细胞损伤,但是其线粒体仍然保持完整,故而释放入血的主要是ALT;而当肝细胞破坏程度更加严重甚至发生坏死时,线粒体亦受到严重破坏,故血清中AST浓度会显著升高。血清中ALT和AST的浓度可反映肝功能损害程度^[30]。ALP是胆汁淤积性疾病的敏感指标,主要用于阻塞性黄疸、肝癌、胆汁淤积性肝炎等的检查。CHE是肝细胞分泌酶之一,可反映肝细胞的合成功能。ALB是一种由肝脏合成的蛋白,其浓度下降可能提示肝细胞合成功能受损。

综上所述,超声引导下经皮穿刺聚桂醇注射液与无水酒精硬化治疗单纯性肝囊肿均具有较好的疗效,但聚桂醇注射液作为硬化剂的不良反应率明显低于无水乙醇,对肝功能的损伤也较无水乙醇小。因此对于单纯性肝囊肿的硬化治疗,聚桂醇注射液是一种安全有效的硬化剂,值得在临床上推广。

参考文献(References)

- [1] 李勇男,吴硕东,田雨,等.单孔腹腔镜肝囊肿去顶减压术在单纯性肝囊肿治疗中的应用与操作技巧[J].肝胆胰外科杂志,2016,28(4): 305-307
Li Yong-nan, Wu Shuo-dong, Tian Yu, et al. Application and operating skills of single hole laparoscopic liver cyst unroofing decompression in the treatment of simple hepatic cyst[J]. Journal of Hepatopancreatobiliary Surgery, 2016, 28(4): 305-307
- [2] 张卫兵,陈建,颜朝晖,等.超声引导下聚桂醇与无水乙醇硬化治疗单纯性肝囊肿的比较[J].实用医学杂志,2014,30(8): 1312-1315
Zhang Wei-bing, Chen Jian, Yan Zhao-hui, et al. Effect of ultrasound-guided sclerotherapy with lauromacrogol or anhydrous ethanol intreatment of simple hepatic cyst:a comparative analysis [J]. The Journal of Practical Medicine, 2014, 30(8): 1312-1315
- [3] 祝建勇,邱宝安,郭晓东,等.腹腔镜开窗术治疗单纯性肝囊肿的临床观察[J].现代生物医学进展,2014,14(10): 1901-1903
Zhu Jian-yong, Qiu Bao-an, Guo Xiao-dong, et al. Clinical Effects of Laparoscopic Fenestration on the Treatment of Simple Hepatic Cyst [J]. Progress in Modern Biomedicine, 2014, 14(10): 1901-1903
- [4] 董金斌,石益海,方卫兵.超声引导下聚桂醇与无水乙醇硬化治疗单纯性肝囊肿的疗效分析与对比研究[J].临床肝胆病杂志,2016,32(6): 1160-1164
Dong Jin-bin, Shi Yi-hai, Fang Wei-bing. Clinical effect of ultrasound-guided injection of lauromacrogol versus anhydrous ethanol as sclerotherapy for simple hepatic cyst: a therapeutic effect analysis and comparative study[J]. J Clin Hepatol, 2016, 32(6): 1160-1164
- [5] 经朝龙,盛剑,孙雨菡,等.超声引导聚桂醇硬化治疗单纯性肝、肾囊肿的临床疗效[J].中国民康医学,2016,28(18): 7-8, 20
Jing Chao-long, Sheng Jian, Sun Yu-han, et al. Clinical effects of ultrasound-guided injection of Lauromacrogol in sclerotherapy of simple liver and kidney cyst [J]. Medical Journal of Chinese People's Health, 2016, 28(18): 7-8, 20
- [6] Mori A, Fukase K, Masuda K, et al. A case of adult undifferentiated embryonal sarcoma of the liver successfully treated with right trisectionectomy: a case report[J]. Surg Case Rep, 2017, 3(1): 19
- [7] Dinc T, Kayilioglu SI, Akturk OM, et al. Surgical Management of Liver Hydatid Cyst Related Non-traumatic Emergencies: Single Center Experience[J]. Iran J Parasitol, 2016, 11(4): 574-579
- [8] Khazaei S, Rezaeian S, Khazaei Z, et al. Epidemiological and Clinical Characteristics of Patients with Hydatid Cysts in Khorasan Razavi Province, from 2011 to 2014[J]. Iran J Parasitol, 2016, 11(3): 364-370
- [9] Su Q, Bi S, Yang X. Prioritization of liver MRI for distinguishing focal lesions[J]. Sci China Life Sci, 2017, 60(1): 28-36
- [10] Wang D, Liu Y, Chen D, Li X, et al. Flexible transgastric endoscopic liver cyst fenestration: A feasibility study in humans (with video)[J]. Medicine (Baltimore), 2016, 95(51): e5420
- [11] Mohan R, Sreekumaran GT. Secondary Aneurysmal Bone Cyst of the Scapula Treated by CT Guided Percutaneous Polidocanol Injection - A Case Report[J]. J Clin Diagn Res, 2016, 10(12): RD04-RD06
- [12] Imaoka Y, Ohira M, Kobayashi T, et al. Elective laparoscopic deroofing to treat the spontaneous rupture of a large simple liver cyst: a case report[J]. Surg Case Rep, 2016, 2(1): 148
- [13] Kirmizi S, Kayaalp C, Yilmaz S. Hydatid liver cyst causing portal vein thrombosis and cavernous transformation: a case report and literature review[J]. Gastroenterol Hepatol Bed Bench, 2016, 9(4): 331-335
- [14] Heo JH, Kang JY, Lee MS, et al. A Case of Biliary Obstruction Caused by Liver Cyst [J]. Korean J Gastroenterol, 2016, 68 (5): 270-273
- [15] Kim Y, Bae SK, Cheng T, et al. Automated segmentation of liver and liver cysts from bounded abdominal MR images in patients with autosomal dominant polycystic kidney disease [J]. Phys Med Biol, 2016, 61(22): 7864-7880
- [16] Wijnands TF, Görtjes AP, Gevers TJ, et al. Efficacy and Safety of Aspiration Sclerotherapy of Simple Hepatic Cysts: A Systematic Review [J]. AJR Am J Roentgenol, 2017, 208(1): 201-207
- [17] Labib PL, Aroori S, Bowles M, et al. Differentiating Simple Hepatic Cysts from Mucinous Cystic Neoplasms: Radiological Features, Cyst Fluid Tumour Marker Analysis and Multidisciplinary Team Outcomes[J]. Dig Surg, 2017, 34(1): 36-42
- [18] Akhan O, Islim F, Balci S, et al. Percutaneous Treatment of Simple Hepatic Cysts: The Long-Term Results of PAIR and Catheterization Techniques as Single-Session Procedures [J]. Cardiovasc Intervent Radiol, 2016, 39(6): 902-908
- [19] Hotta M, Yoshida H, Makino H, et al. Spontaneous rupture of a simple hepatic cyst: report of a case [J]. J Nippon Med Sch, 2015, 82(2): 113-116
- [20] Takita M, Iwanishi M, Minami T, et al. Monoethanolamine Oleate Sclerotherapy for Polycystic Liver Disease [J]. Dig Dis, 2016, 34(6): 654-658
- [21] Jha A, Khunger N, Malarvizhi K, et al. Familial Disseminated Cutaneous Glomovenous Malformation: Treatment with Polidocanol Sclerotherapy[J]. J Cutan Aesthet Surg, 2016, 9(4): 266-269

- versions of the Hirschsprung's disease and Anorectal malformations Quality of Life (HAQL) questionnaires for adolescents and adults[J]. Health & Quality of Life Outcomes, 2017, 15(1): 24
- [20] Wester T. Children with anorectal malformations and Hirschsprung disease need special education or remedial support at school [J]. ActaPaediatrica, 2016, 105(2): 127-128
- [21] Honca M, Dereli N, Kose E A, et al. Low-dose levobupivacaine plus fentanyl combination for spinal anesthesia in anorectal surgery [J]. Brazilian Journal of Anesthesiology, 2015, 65(6): 461-465
- [22] Imaizumi T, Murakami H, Nakamura H, et al. Rectal mucosal/submucosal biopsy under general anesthesia ensures optimum diagnosis of bowel motility disorders [J]. Pediatric Surgery International, 2016, 32(12): 1173
- [23] Wang N, Fu Y, Ma H, et al. Advantages of caudal block over intrarectal local anesthesia plus periprostatic nerve block for transrectal ultrasound guided prostate biopsy [J]. Pakistan Journal of Medical Sciences, 2016, 32(4): 978-982
- [24] Keshtgar A S, Choudhry M S, Kufeji D, et al. Anorectal manometry with and without ketamine for evaluation of defecation disorders in children[J]. Journal of Pediatric Surgery, 2015, 50(3): 438-443
- [25] Portilla F D L, Durá n V, Maestre M V, et al. Effectiveness of a three-dimensional anorectal ultrasound in perianal Crohn's disease: incompatibility with clinical and surgical examinations [J]. International Journal of Colorectal Disease, 2015, 30(4): 529-534
- [26] Singh A K, Singh Y, Jain G, et al. Comparison of two different doses of intrathecal dexmedetomidine as adjuvant with isobaric ropivacaine in lower abdominal surgery [J]. Anesthesia Essays & Researches, 2015, 9(3): 343-347
- [27] Keplinger M, Marhofer P, Kettner S C, et al. A pharmacodynamic evaluation of dexmedetomidine as an additive drug to ropivacaine for peripheral nerve blockade: A randomised, triple-blind, controlled study in volunteers[J]. European Journal of Anaesthesiology, 2015, 32(11): 790
- [28] Kwon Y, Hwang S M, Lee J J, et al. The effect of dexmedetomidine as an adjuvant to ropivacaine on the bispectral index for supraclavicular brachial plexus block [J]. Korean Journal of Anesthesiology, 2015, 68(1): 32
- [29] Hofstad J K, Winther S B, Rian T, et al. Perioperative local infiltration anesthesia with ropivacaine has no effect on postoperative pain after total hip arthroplasty [J]. ActaOrthopaedica, 2015, 86(6): 654-658
- [30] Xu T, Wang J, Wang G, et al. Relative potency ratio between hyperbaric and isobaric solutions of ropivacaine in subarachnoid block for knee arthroscopy [J]. International Journal of Clinical & Experimental Medicine, 2015, 8(6): 9603-9606
- [31] Sinha S, Palta S, Saroa R, et al. Comparison of ultrasound-guided transversus abdominis plane block with bupivacaine and ropivacaine as adjuncts for postoperative analgesia in laparoscopic cholecystectomies[J]. Indian Journal of Anaesthesia, 2016, 60(4): 264-269

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- [22] Juhl ME, Sidiropoulos M, Antonijevic S, et al. Focal cutaneous mucinosis after knee replacement: A rare entity successfully treated with intralesional polidocanol[J]. JAAD Case Rep, 2016, 3(1): 16-18
- [23] Slayden OD, Lee DO, Yao S, et al. Polidocanol induced tubal occlusion in nonhuman primates: immunohistochemical detection of collagen I-V[J]. Contraception, 2016, 94(5): 521-526
- [24] Malagón Reyes RM, Castorena de Ávila R, Ángeles Vázquez MJ, et al. Sclerotherapy with 6% polidocanol solution in patients with placenta accreta[J]. Taiwan J Obstet Gynecol, 2016, 55(5): 654-658
- [25] Zhelnin K, Xue Y, Quigley B, et al. Nonmucinous Biliary Epithelium Is a Frequent Finding and Is Often the Predominant Epithelial Type in Mucinous Cystic Neoplasms of the Pancreas and Liver[J]. Am J Surg Pathol, 2017, 41(1): 116-120
- [26] Kohashi T, Itamoto T, Matsugu Y, et al. An adult case of lymphangioma of the hepatoduodenal ligament mimicking a hepatic cyst[J]. Surg Case Rep, 2017, 3(1): 2
- [27] 范晓英. 超声引导下经皮注射无水乙醇治疗单纯性肝囊肿 83 例临床分析[J]. 现代卫生医药, 2014, 30(6): 893-894
- Fan Xiao-ying. Ultrasound-guided transdermal injection of anhydrous ethanol in treatment of simple hepatic cyst: a clinical analysis of 83 cases[J]. J Mod Med Health, 2014, 30(6): 893-894
- [28] Jha A, Khunger N, Malarvizhi K, et al. Familial Disseminated Cutaneous Glomuvenous Malformation: Treatment with Polidocanol Sclerotherapy[J]. J Cutan Aesthet Surg, 2016, 9(4): 266-269
- [29] Adelman LB, Bartges J, Whittemore JC. Povidone iodine sclerotherapy for treatment of idiopathic renal hematuria in two dogs [J]. J Am Vet Med Assoc, 2017, 250(2): 205-210
- [30] Roberts KJ, Bharathy KG, Lodge JP. Kinetics of liver function tests after a hepatectomy for colorectal liver metastases predict post-operative liver failure as defined by the International Study Group for Liver Surgery[J]. HPB (Oxford), 2013, 15(5): 345-351