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超声及 DSA 引导硬化治疗下肢静脉曲张的疗效对比分析 *

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摘要 目的:对比超声及数字减影血管造影机(Digital subtraction angiography, DSA)引导泡沫硬化治疗下肢静脉曲张的临床治疗效果。**方法:**选取我院 2015 年 10 月到 2020 年 10 月共收治的 120 例下肢静脉曲张患者,将其随机分为观察组与对照组,每组 60 例,对照组患者应用 DSA 引导硬化治疗,观察组患者应用超声引导硬化治疗,对比两组患者的治疗效果,精神健康成分(Mental health components, MCS)、躯体健康成分(Physical health components, PCS)与疾病严重程度量表(Clinical severity of venous disease, VCSS)评分,住院时间与手术时间,不良反应发生情况。**结果:**观察组患者治疗总有效率 96.67%,高于对照组治疗总有效率 86.67%,组间对比有统计学差异($P<0.05$);两组患者治疗前 MCS、PCS 与 VCSS 评分对比无明显差异($P>0.05$),治疗后,观察组患者 MCS 评分高于对照组,VCSS 评分低于对照组,组间对比,差异具有统计学意义($P<0.05$);观察组患者的住院时间与手术时间,高于对照组的住院时间与手术时间,组间对比,差异具有统计学意义($P<0.05$);观察组患者不良反应总发生率 5.00%,低于对照组患者不良反应发生率 20.00%,组间对比,差异具有统计学意义($P<0.05$)。**结论:**超声引导下进行下肢静脉曲张硬化治疗有显著效果,能够治愈或降低静脉曲张分级,提升静脉曲张患者的精神、躯体健康,促进患者早日康复。

关键词:多普勒超声;数字减影血管造影;下肢静脉曲张;治疗效果

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Comparative Analysis of Ultrasound and DSA Guided Sclerotherapy in the Treatment of Varicose Veins of Lower Extremities*

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ABSTRACT Objective: To compare the clinical efficacy of Digital subtraction angiography (DSA) in the treatment of varicose veins of lower extremities with polyvinyl alcohol foam sclerotherapy. **Methods:** 120 patients with varicose veins of lower limbs in our hospital from October 2015 to October 2020 were selected and randomly divided into observation group and control group, with 60 cases in each group. Patients in the control group were treated with DSA-guided sclerotherapy, and patients in the observation group were treated with ultrasound-guided sclerotherapy. The treatment effect, MCS, PCs and VCSs scores, treatment cost and hospitalization time of the two groups were compared And operation time, adverse reactions. **Results:** The total effective rate of treatment in the observation group was 96.67%, which was higher than the total effective rate of 86.67% in the control group. There was a statistical difference between the groups ($P<0.05$). There was no significant difference in the scores of MCS, PCs and VCSs between the two groups before treatment ($P>0.05$). After treatment, the MCS score of the observation group was higher than that of the control group, and the VCSs score was lower than that of the control group. The hospitalization time and operation time of the observation group were higher than those of the control group, and the difference was statistically significant ($P<0.05$). The total incidence of adverse reactions in the observation group was 5.00%, lower than 20.00% in the control group, and the difference was statistically significant ($P<0.05$). The difference was statistically significant ($P<0.05$). **Conclusion:** Ultrasound-guided treatment of varicose veins of the lower extremities has a significant effect, which can improve the mental health, physical health and clinical severity of venous diseases of patients with varicose veins, and promote the patient's speedy recovery.

Key words: Doppler ultrasound; Digital subtraction angiography; Varicose veins of lower extremity; Treatment effect

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前言

下肢静脉曲张(Varicose veins of lower extremity)是临床上血管手术之中常见的一种疾病,患者多数表现为下肢浅静脉迂曲、扩张,皮肤色素沉着,严重者溃烂及溃疡形成。当前临床医学上对于下肢静脉曲张的发病机制一般认为是因为静脉瓣膜功能不全、血液反流,导致的静脉压力增大所致,患者会出现下肢酸胀困重,久则皮肤色素沉着,甚至溃疡形成,对患者的生活质量产生严重影响^[1,2]。当前对下肢静脉曲张患者多采用手术方法治疗,手术治疗具有一定的创伤性而且存在较多的术后并发症,术后如果不进行有效管理会导致病情再复发情况。随着临床科学技术的发展,新的硬化剂出现,使得泡沫硬化技术变得更加安全有效,泡沫硬化成为了下肢静脉曲张微创治疗的主要手段。这种治疗方法治疗费用低、创伤性小而且操作简单,但是目前在治疗过程中依然存在很大争议。有国外学者认为应用数字减影血管造影引导硬化治疗静脉曲张,治疗效果更好,能够更清晰、直观的观察患者静脉曲张的范围和程度,治疗安全性更高^[3,4]。而有学者认为^[5],应用超声引导可以对注射的全过程进

行监控,并充分硬化曲张静脉分支,具有明显的治疗效果,而且超声下可对交通静脉进行注射,更具有治疗优势。为了分析两种不同引导方式的治疗效果,本文选取我院 2015 年 10 月到 2020 年 10 月共收治的 120 例下肢静脉曲张患者,对比超声及 DSA 引导聚桂醇泡沫硬化剂治疗下肢静脉曲张的临床治疗效果,具体报告如下。

1 资料与方法

1.1 一般资料

选取我院 2015 年 10 月到 2020 年 10 月共收治的 120 例下肢静脉曲张患者,将其随机分为观察组与对照组,每组 60 例。纳入标准:所有患者均通过彩超确诊为下肢静脉曲张;所有患者均行聚桂醇泡沫硬化剂治疗;符合手术治疗指征;所有患者对本研究均知情并签署同意书。排除标准:合并下肢静脉血栓患者;临床资料不全患者;伴随智力与精神异常患者;有沟通能力障碍患者;合并严重重要器官疾病患者^[6]。两组患者一般资料对比无明显差异($P>0.05$),如表 1 所示。

表 1 两组一般资料对比

Table 1 Comparison of two general data

Groups	n	Gender (M/F)	Average age (years)	Average duration (years)
Observation group	60	21/39	54.32± 8.92	9.64± 2.34
Control group	60	18/42	54.35± 8.89	9.65± 2.37

1.2 方法

观察组:患者仰卧检查床上,在股隐交界处及膝下应用止血带进行高位结扎,在浅静脉充盈情况下应用超声引导 7 号或 5 号头皮针,多点穿刺入曲张静脉、大隐静脉主干、交通静脉腔内,固定穿刺针,垫高患肢,远端穿刺针回血后将泡沫硬化剂(1%聚桂醇注射液与无菌空气以 1:3 的比例制成)推入,近侧针回抽血液,至泡沫回流,超声检查曲张静脉及大隐静脉主干内充盈高回声呈云雾样硬化剂,则结束治疗,每次不超过聚桂醇原液 15 mL。治疗毕拔出穿刺针,对穿刺点进行局部压迫止血,15 min 后解除结扎带。

对照组:应用 Seldinger 技术进行对侧股静脉穿刺成功后直入血管鞘,将 5F cobra 导管通过髂总、髂外、股总静脉至大隐静脉造影显示曲张静脉,在导管和导丝的配合之下尽量选入曲张静脉,绑扎膝下及股隐静脉交界处在 DSA 监视下经过导管曲张静脉及大隐静脉主干内注入泡沫硬化剂,透视下显示透亮影填充静脉血管,拔出导管,15 min 后解除绑扎带,拔出血管鞘,穿刺点压迫并加压包扎,穿刺侧下肢常规固定 12 h。

1.3 观察指标与疗效判定标准

观察指标:(1)应用健康调查 12 条简表(12 items of Health Survey, SF-12)中的精神健康成分(Mental health components, MCS)、躯体健康成分(Physical health components, PCS)评价患者治疗前与治疗 3 个月的精神健康与躯体健康进行评价;应用静脉曲张临床严重程度量表(Clinical severity of venous disease, VCSS)评价患者治疗前与治疗 3 个月的疾病严重程度进行评价^[7,8]。(2)观察并记录两组患者住院时间与手术时间。(3)观察并记录两组患者在住院时间内出现的注射部位肿胀、注射部

位疼痛。

疗效判定标准:治疗后患者临床症状完全消失,表浅静脉迂曲、扩张消失或静脉呈不可压缩条索状物,大隐静脉主干与属支完全闭塞为显效;治疗后临床症状有所改善,虽然肉眼可见静脉曲张情况但是与治疗前相比有明显改善为有效;治疗后患者临床症状无明显变化,甚至静脉曲张增粗,大隐静脉主干与属支不完全闭塞为无效^[9,10]。总有效率 = 显效率 + 有效率。

1.4 统计学方法

本研究数据采取统计学软件 SPSS 23.0 进行数据分析,计数资料以例数/百分比(n/%)表示,进行 χ^2 检验;计量资料以符合正态分布则用均数±标准差($\bar{x} \pm s$)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 两组治疗效果对比

观察组患者治疗总有效率 96.67%,高于对照组治疗总有效率 86.67%,组间对比有统计学差异($P<0.05$),如表 2 所示。

2.2 两组不同时间 MCS、PCS 与 VCSS 评分对比

两组患者治疗前 MCS、PCS 与 VCSS 评分对比无明显差异($P>0.05$),治疗后,观察组患者 MCS 评分高于对照组,VCSS 评分低于对照组,组间对比,差异具有统计学意义($P<0.05$),如表 3 所示。

2.3 两组住院时间与手术时间对比分析

对照组患者的住院时间与手术时间,高于观察的住院时间与手术时间,组间对比,差异具有统计学意义($P<0.05$),如表 4 所示。

表 2 两组治疗效果对比(例,%)

Table 2 Comparison of treatment effects between the two groups (n, %)

Groups	n	Excellence	Valid	Invalid	Total effective rate
Observation group	60	25(41.67)	33(55.00)	2(3.33)	58(96.67)*
Control group	60	20(33.33)	32(53.33)	8(13.33)	52(86.67)

Note: Compared with the control group, * $P < 0.05$.

表 3 不同时间 MCS、PCS 与 VCSS 评分对比($\bar{x} \pm s$, 分)

Table 3 Comparison of MCS, PCS and VCSS scores at different times ($\bar{x} \pm s$, scores)

Groups	n	MCS		PCS		VCSS	
		Pretherapy	Post-treatment	Pretherapy	Post-treatment	Pretherapy	Post-treatment
Observation group	60	51.52 $\pm$ 4.95	53.75 $\pm$ 4.23*	47.95 $\pm$ 5.02	51.60 $\pm$ 4.86 [#]	4.62 $\pm$ 0.42	0.80 $\pm$ 0.21**
Control group	60	51.67 $\pm$ 4.02	56.65 $\pm$ 4.54 [#]	46.25 $\pm$ 6.95	52.50 $\pm$ 5.14 [#]	4.64 $\pm$ 0.15	0.48 $\pm$ 0.35 [#]

Note: Compared with the control group, * $P < 0.05$, Compared with the pretherapy, [#] $P < 0.05$.

表 4 两组患者住院时间与手术时间对比分析($\bar{x} \pm s$)

Table 4 Comparative analysis of hospital stay and operation time between the two groups of patients ($\bar{x} \pm s$)

Groups	n	Hospitalization time (d)	Duration of operation (min)
Control group	60	5.61 $\pm$ 1.52*	46.37 $\pm$ 12.41*
Observation group	60	6.47 $\pm$ 1.75	53.27 $\pm$ 11.76

Note: Compared with the control group, * $P < 0.05$.

2.4 两组不良反应发生率对比

观察组患者不良反应总发生率 5.00 %, 低于对照组患者不

良反应发生率 20.00 %, 组间对比, 差异具有统计学意义 ($P < 0.05$), 如表 5 所示。

表 5 不良反应发生率对比(例,%)

Table 5 Comparison of incidence of adverse reactions (n, %)

Groups	n	Swelling at injection site	Pain at injection site	Capillary vein dilatation	Chromatosis	Total
Observation group	60	3(5.00)	4(6.67)	2(3.33)	3(5.00)	12(20.00)*
Control group	60	0(0.00)	1(1.67)	1(1.67)	1(1.67)	3(5.00)

Note: Compared with the control group, * $P < 0.05$.

3 讨论

下肢静脉曲张作为一种高发、常见的周围血管疾病会导致患者下肢表浅血管迂曲膨隆、皮肤颜色改变、溃烂及溃疡形成、下肢肿胀或者形成硬结情况, 不仅会影响下肢的美观, 还有可能限制患者下肢的活动功能。随着临床医学的发展, 微创硬化硬化治疗成为了静脉曲张的主要治疗方法^[11-13]。传统硬化剂经典制备材料为聚桂醇, 主要为聚桂醇 400, 通过与血管内皮细胞的细胞膜脂相互作用, 让局部血管出现血栓, 并促进注射部位组织纤维化和血管炎性病变, 让病变血管永久性闭塞, 从而达到治疗效果^[14-16]。

本研究结果显示, 观察组患者治疗总有效率 96.67 %, 高于对照组治疗总有效率 86.67 %, 提示超声引导治疗下肢静脉曲张疗效确切, 能改善相应症状和体征, 治愈或减轻下肢静脉曲张。与王晓涛^[17]的研究类似, 该学者探究了超声引导泡沫硬化联合手术对下肢静脉曲张疗效, 结果显示治疗组患者的治疗总

有效率 98 %(61/62) 高于对照组的 87 %(45/52), 相较于术前, 术后 6 个月 2 组患者的 VCSS 评分均降低, 且治疗组低于对照组, 治疗组术后并发症总发生率 3 %(2/62) 低于对照组的 17 %(9/52)。但是也有相关研究表明^[18], 应用 DSA 引导下的聚桂醇泡沫硬化剂对下肢静脉曲张的治疗, 总有效率达到 100 %, 而 CRAWFORD J 等^[19]下肢静脉曲张患者应用超声引导下的泡沫硬化剂治疗, 通过一年的随访发现, 治疗总有效率为 100 %。分析其原因可能为原样本量的来源, 与患者的自身情况等因素相关。本研究主要针对于患者治疗出院之前的治疗效果所进行的分析, 因此可能与以往研究存在一定差异^[20,21]。两组患者治疗前 MCS、PCS 与 VCSS 评分对比无明显差异, 治疗后, 观察组患者 MCS 评分高于对照组, VCSS 评分低于对照组, 相关研究发现^[22-24], 应用超声引导下注射泡沫硬化剂对下肢静脉曲张患者进行治疗, 患者的健康状况更好。分析其原因为超声方式无辐射, 对造影剂过敏的患者更加有优势, 超声监视下可对曲张静脉、大隐静脉主干、及交通静脉进行完全注射, 有效的监控硬化剂的分

布范围^[25],这也是本研究取得较对照组较高疗效的主要原因。近年来,在超声引导下行曲张静脉腔内置管泡沫疗法,以在临床上广泛开展。本研究中发现通过超声引导下硬化治疗,能够提升静脉曲张患者的精神健康、躯体健康,减轻静脉曲张的临床严重程度,与相关研究相符。观察组患者的住院时间与手术时间,低于对照组的住院时间与手术时间,组间对比,差异具有统计学意义,与 KIM R^[26]等研究不同,在 KIM R 等研究中发现,应用不同引导的硬化治疗,患者的预后情况没有差异。但是本研究发现患者的观察组患者的住院时间与手术时间更短,效果更佳,减少术后不良反应情况^[27-29]。观察组患者不良反应总发生率 5.00%,低于对照组患者不良反应发生率 20.00%,组间对比差异有统计学意义,两组患者均在不同程度出现了注射部位疼痛现象。但应用超声引导下硬化治疗的不良反应发生率较低,与张矛等^[30]的研究类似,该学者探讨超声引导下泡沫硬化治疗老年下肢静脉曲张的疗效,结果显示术后 6 个月随访率 73%,不良反应总发生率 1%,术后 12 个月随访率 52%,不良反应总发生率 6%。这也证明了超声的安全性和微创性。本研究也存在一定的不足,没有进行长期的追踪,探究术后 1 年的下肢静脉曲张的复发率,后续研究还要继续追踪研究,为临床提供更加完整的参考数据。

综上所述,超声引导下进行下肢静脉曲张硬化治疗有显著效果,能够提升静脉曲张患者的精神健康、躯体健康以及减轻静脉曲张临床严重程度,促进患者早日康复。

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