

注射用丹参多酚酸对脑梗死患者神经功能及炎症指标的影响

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【摘要】 目的 观察注射用丹参多酚酸用于改善脑梗死患者神经功能及炎症指标的效果。方法 选取2020年10月至2022年9月新乡市第二人民医院神经内科收治的100例脑梗死患者(发病在6~72 h内)作为研究对象,通过简单随机法将患者分为观察组和对照组,每组50例。所有患者入院后均常规给予抗血小板、抗动脉硬化以及抗神经损伤治疗,观察组患者在常规治疗基础上静脉滴注丹参多酚酸注射液0.13 g,1次/d,连用两周。比较两组患者治疗前后的神经损伤程度[采用美国国立卫生研究院卒中量表(NIHSS)评估]和外周静脉血中C反应蛋白(CRP)和白细胞介素(IL-6、IL-8)水平。结果 治疗前,两组患者的NIHSS评分比较差异无统计学意义($P>0.05$);治疗两周后,两组患者的NIHSS评分较治疗前均降低,且观察组的NIHSS评分为(5.14±1.69)分,明显低于对照组的(7.46±2.25)分,差异均有统计学意义($P<0.05$)。治疗前,两组患者的血清CRP、IL-6、IL-8水平比较差异均无统计学意义($P>0.05$);治疗两周后,两组患者的血清CRP、IL-6、IL-8水平较治疗前降低,且观察组的上述各项指标分别为(5.33±2.14) mg/L、(7.47±2.22) ng/L、(16.51±5.71) μg/L,明显低于对照组的(8.85±9.03) mg/L、(10.836 0±4.34) ng/L、(25.562±6.57) μg/L,差异均有统计学意义($P<0.001$)。结论 脑梗死患者在常规治疗的基础上采用注射用丹参多酚酸治疗可进一步减轻神经损伤程度和炎症反应,从而提升疗效。

【关键词】 脑梗死;注射用丹参多酚酸;神经功能;炎症反应

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【Abstract】 Objective To observe the effect of salvianolic acid for injection on improving neurological function and inflammatory indicators in patients with cerebral infarction. **Methods** From October 2020 to September 2022, 100 patients with acute cerebral infarction (onset within 6-72 hours) admitted to Department of Neurology, the Second People's Hospital of Xinxiang were selected and randomly divided into an observation (50 cases) and a control group (50 cases). After admission, all patients were routinely given anti-platelet and anti-arteriosclerosis medication, and treatment against nerve damage, and patients in the observation group was also administered salvianolic acid injection 0.13 g intravenously once a day for two weeks based on routine treatment. National Institutes of Health Stroke Scale (NIHSS) was used to evaluate and compare the degree of nerve damage between two groups of patients. C-reactive protein (CRP) and interleukin-6 (IL-6, IL-8) in peripheral venous blood were measured and compared between the two groups of patients. **Results** Before treatment, there was no statistically significant difference in NIHSS scores between the two groups of patients ($P>0.05$); after two weeks of treatment, the NIHSS scores of both groups of patients decreased compared to those before treatment, and the NIHSS score of the observation group was (5.14±1.69) points, significantly lower than the control group's (7.46±2.25) points, with statistically significant differences ($P<0.05$). Before treatment, there was no statistically significant difference in serum CRP, IL-6, and IL-8 levels between the two groups of patients ($P>0.05$); after two weeks of treatment, the serum levels of CRP, IL-6, and IL-8 in both groups of patients decreased compared to those before treatment, and the above indicators in the observation group were (5.33±2.14) mg/L, (7.47±2.22) ng/L, and (16.51±5.71) μg/L, respectively, significantly lower than the control group's (8.85±9.03) mg/L, (10.836 0±4.34) ng/L, and (25.562±6.57) μg/L; the differences were statistically significant ($P<0.001$). **Conclusion** Salvianolic acid for injection based on routine treatment can improve the therapeutic efficacy and further reduce the degree of nerve injury and inflammation in patients with cerebral infarction.

【Key words】 Cerebral infarction; Salvianolic acid for injection; Neural function; Inflammatory response

脑梗死(cerebral infarction, CI)患者因脑组织突然缺血、缺氧而导致中枢神经损伤,进而造成不同程度的神经功能障碍,甚至增加病死率^[1]。静脉溶栓是目前公认的治疗CI最有效的治疗手段,但时间窗要求严

格。往往多数CI患者入院时已超出溶栓时间窗,无法进行溶栓治疗,因此对于超时间窗患者,寻求有效治疗方法以挽救脑组织缺血缺氧造成的神经损伤至关重要。丁苯酞氯化钠注射液具有改善脑灌注和微循

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环、减少神经元损伤、修复神经缺损的作用,但单药治疗效果有限。祖国医学认为,CI属“中风”范畴,患者因气虚血瘀、脉络痹阻,致脑窍失养、神机失调而发病,中医治疗遵循活血化瘀、疏经通络等原则^[2]。注射用丹参多酚酸为中药粉针剂,具有活血通络功效,利于改善中风后半身不遂、口舌歪斜等病症^[3]。鉴于此,本研究将观察注射用丹参多酚酸用于治疗CI的临床效果,现报道如下:

1 资料与方法

1.1 一般资料 选取2020年10月至2022年9月新乡市第二人民医院神经内科收治的100例CI患者作为研究对象。纳入标准:(1)符合《中国急性缺血性脑卒中诊治指南》^[4]中急性脑梗死的诊断标准;(2)首次发病,发病至入院时间为6~72 h,经头CT/MRI证实;(3)患者及家属签署知情同意书。排除标准:(1)合并脑肿瘤;(2)合并神经退行性疾病;(3)合并颅脑损伤;(4)合并其他炎症疾病;(5)存在严重心、肺、肝、肾功能异常。按简单随机法将患者分为观察组和对照组,每组50例。观察组中男性34例,女性16例;年龄58~76岁,平均(67.12±1.64)岁。对照组中男性30例,女性20例,年龄56~78岁,平均(67.24±1.68)岁。两组患者的性别和年龄比较差异均无统计学意义($P>0.05$),具有可比性。本研究经我院医学伦理委员会批准。

1.2 治疗方法 两组患者入院后均常规行抗血小板、抗动脉硬化以及抗神经损伤治疗。观察组在常规治疗基础上静脉输注注射用丹参多酚酸(天津天士力之骄药业有限公司,国药准字Z20110011,每支装0.13 g,其中含丹参多酚酸100 mg) 0.13 g/次,1次/d,连续治疗两周。

1.3 观察指标与评价(检测)方法 (1)神经功能:治疗前后,采用美国国立卫生研究院卒中量表(National Institutes of Health Stroke Scale, NIHSS)^[5]评估两组患者的神经损伤程度,该量表涵盖11个条目,总分为42分,得分越高意味着神经损伤越严重。(2)炎症指标:治疗前后,采集两组患者的外周静脉血4 mL,以3 500 r/min的速率离心10 min取血清(离心半径为10 cm,离心机购自湖南湘仪实验室仪器开发有限公司,型号:CTK80),运用酶联免疫吸附法检测血清C反应蛋白(C reactive protein, CRP)、白细胞介素[interleukin (IL)-6、IL-8]水平,试剂盒购自广州万孚生物技术股份有限公司和深圳市金准生物医学工程有限公司。

1.4 统计学方法 应用SPSS23.0统计学软件分析所有数据。计量资料以均数±标准差($\bar{x}\pm s$)表示,组间比较采用独立样本 t 检验,组内比较采用配对样本 t 检验;计数资料采用 χ^2 检验。以 $P<0.05$ 表示差异有统计学意义。

2 结果

2.1 两组患者治疗前后的NIHSS评分比较 治

疗前,两组患者的NIHSS评分比较差异无统计学意义($P>0.05$)。治疗两周后,两组患者的NIHSS评分较治疗前均有所降低,且观察组分值明显低于对照组,差异均有统计学意义($P<0.001$),见表1。

表1 两组患者治疗前后的NIHSS评分比较($\bar{x}\pm s$,分)

Table 1 Comparison of NIHSS scores before and after treatment ($\bar{x}\pm s$, points)

组别	例数	治疗前	治疗两周后	t 值	P 值
观察组	50	10.58±2.408	5.14±1.69	13.074	0.001
对照组	50	10.3±2.620 5	7.46±2.25	5.812	0.001
t 值		-0.556	5.827		
P 值		0.579	0.001		

2.2 两组患者治疗前后的炎症指标比较 治疗前,两组患者的血清CRP、IL-6、IL-8水平比较差异均无统计学意义($P>0.05$)。治疗两周后,两组患者的血清CRP、IL-6、IL-8水平均较治疗前降低,且观察组患者的CRP、IL-6、IL-8水平明显低于对照组,差异均有统计学意义($P<0.05$),见表2。

表2 两组患者治疗前后的血清CRP、IL-6及IL-8水平比较($\bar{x}\pm s$)

Table 2 Comparison of serum CRP, IL-6, IL-8 between the two groups before and after treatment ($\bar{x}\pm s$)

时间	组别	例数	CRP (mg/L)	IL-6 (ng/L)	IL-8 (μ g/L)
治疗前	观察组	50	10.22±3.22	14.71±5.63	32.18±9.22
	对照组	50	9.75±3.63	14.73±6.76	32.45±10.93
	t 值		0.679	0.019	0.130
	P 值		0.499	0.984 6	0.894 9
治疗两周	观察组	50	5.33±2.14 ^a	7.47±2.22 ^a	16.51±5.71 ^a
	对照组	50	8.85±9.03 ^b	10.83±4.34 ^b	25.56±6.57 ^b
	t 值		2.682	4.878	7.247
	P 值		0.008 6	0.001	0.001

注:与观察组治疗前比较,^a $P<0.05$;与对照组治疗前比较,^b $P<0.05$ 。

Note: Compared with that in the observation group before treatment, ^a $P<0.05$; Compared with that in the control group before treatment, ^b $P<0.05$.

3 讨论

CI是临床常见的急危重症,具有发病率高、致死率高及致死率高的特点,严重影响患者生活质量,给家庭和社会造成沉重负担。其主要病因为动脉粥样硬化导致脑部血管狭窄闭塞,因此及时开通血管、恢复脑血流至关重要。

丁苯酞氯化钠注射液是我国自主研发的新型多靶点治疗缺血性脑卒中的药物,可通过促进侧枝循环的建立,增加缺血区脑血流量和改善局部微循环^[6];同时还具有保护线粒体结构和功能、促进缺血缺氧神经细胞功能恢复的作用^[7]。祖国医学将CI归属于“中风”病,病变位于脑窍,气血、肝肾亏虚为发病根本,因饮食不节、积损正衰、劳倦过度致气血逆乱、脏腑失调、脑窍失养而出现半身不遂等病症^[8]。因此,中医治疗CI以活血通络、滋补肝肾为主。注射用丹参多酚酸的主要成分为中药丹参,具有活血祛瘀、通经止痛的功

效,适用于脑中风后恢复期的康复治疗^[9]。丹参经现代工艺技术提纯后可获取丹酚酸 B、原儿茶醛、紫草酸及迷迭香等物质,其中丹酚酸 B 具有活血化瘀、通经活络的功效,可通过激活 MAPK/ERK 信号通路,抑制活性氧簇聚集,减轻过氧化氢(H₂O₂)所诱导的氧化应激反应,进而延缓神经细胞凋亡^[10];迷迭香可安神醒脑,具有细胞保护作用,通过 PKA-PI3K 通路发挥抗氧化机制,抑制神经细胞氧化损伤,减少神经细胞凋亡^[11];原儿茶醛具有活血化瘀功效,紫草酸可活血凉血、清热消肿,诸药共奏活血化瘀、通经活络、安神醒脑等功效,利于改善神经损伤程度减轻病情。一项动物研究显示,注射用丹参多酚酸可通过增强脑损伤大鼠线粒体酶活性而发挥脑保护作用^[12]。本研究结果显示,常规治疗加用丹参多酚酸治疗的 CI 患者较常规治疗组的 NIHSS 评分显著降低。由此可见,注射用丹参多酚酸治疗 CI 患者可进一步改善神经功能,与苏刚等^[13]研究一致。

炎症反应在 CI 发病过程中起关键作用,炎症因子浸润可加重血管内皮损伤,促进斑块破裂而造成血管阻塞^[14]。CRP 是炎症反应敏感指标,CRP 过表达可激活补体并攻击粥样斑块,促进斑块破裂;IL-6 为促炎因子,常在创伤、炎症等反应中呈高表达,并参与炎症反应进展,加重局部炎症程度;IL-8 是一种早期炎症因子,可诱导脑细胞黏附和炎症浸润,加重脑组织梗死程度^[15]。由此可见,炎症因子水平与动脉粥样硬化疾病严重程度相关,减轻炎症因子水平可能有助于降低疾病风险,改善患者病情。有研究表明注射用丹参多酚酸治疗急性脑梗死患者的疗效肯定,且可减轻患者炎症反应^[16]。本研究结果显示,注射用丹参多酚酸可进一步降低 CI 患者 CRP、IL-6、IL-8 水平。究其原因,丹酚酸 B 可通过抑制核因子(nuclear factor, NF)- κ B 信号通路,减少 IL-6、IL-8 等炎症因子释放,进而发挥抗炎作用^[17];丹参多酚酸还可作用于 H₂O₂ 酶体增生物激活受体 PPAR,PPAR 被激活后可减轻脑梗死后炎症反应、抗氧化应激、抑制细胞凋亡^[18]。由此可见,注射用丹参多酚酸用于 CI 患者可进一步减轻炎症反应。然而本研究尚不能明确丹参多酚酸针对 CI 患者的抗炎靶点。脑梗病理状态下神经细胞、免疫细胞和血管内皮细胞均可参与炎症反应,影响患者的预后。下一步研究工作将通过网络药理学及分子生物学实验等手段筛选出丹参多酚酸的抗炎位,探讨多种细胞间的互作机制。

综上所述,注射用丹参多酚酸用于脑梗死患者可提升疗效,进一步改善神经功能,减轻炎症反应,安全性高,具有临床应用价值。

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阑尾低级别黏液性肿瘤 ICD-10 编码探究

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【摘要】 目的 分析我院阑尾低级别黏液性肿瘤 ICD-10 编码现状及问题, 以期提高交界性肿瘤编码的准确率以及医院按病种分值付费(DIP)的入组率。**方法** 从病案信息系统调取 2018—2022 年主要诊断编码为阑尾低级别黏液性肿瘤的首次住院病案, 获得病案共 263 份, 对疾病编码进行逐一核查。**结果** 263 份低级别黏液性肿瘤病案中, 形态码编码正确 153 份, 形态码编码正确率为 58.17%; 无转移的病案共 91 份, 形态码编码正确 82 份, 正确率为 90.11%; 有转移的病案共 172 份, 形态码编码正确 71 份, 正确率为 41.28%。**结论** 阑尾低级别黏液性肿瘤的形态学编码正确率偏低, 对 DIP 的入组造成一定影响。编码人员应加强 ICD-10 编码和相关医学知识的学习, 不断提高编码人员的专业技术水平和综合素质, 从而提高病案形态学编码的正确率和 DIP 的入组率。

【关键词】 阑尾; 低级别黏液性肿瘤; ICD-10 编码; 按病种分值付费

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Study on ICD-10 coding of low-grade appendiceal mucinous neoplasms. YAN Hui-lian, LIAO Ding-ke, WANG Jie-rong, WANG Yong-jie, ZHAO Yan-li. Department of Medical Record Statistics, Sun Yat-sen University Affiliated Cancer Hospital, Guangzhou 510060, Guangdong, CHINA

【Abstract】 Objective To study the present situation and problems of ICD-10 coding for low-grade appendiceal mucinous neoplasms in Sun Yat-sen University Affiliated Cancer Hospital, so as to improve the accuracy of coding for borderline tumors and the admission rate of DIP in hospitals. **Methods** From 2018 to 2022, the first hospitalization medical records with the main diagnosis code of low-grade appendiceal mucinous neoplasms were retrieved from the medical record information system, and 263 medical records were obtained. The medical record codes were checked one by one. **Results** Among the 263 medical records, 153 cases were correctly coded with morphological code (with correct rate of 58.17%); there were 91 medical records without metastasis, 82 of which were correctly coded with morphological code (accounting for 90.11%); there were 172 medical records with metastasis, 71 of which were correctly coded (41.28%). **Conclusion** The correct rate of morphological code of low-grade appendiceal mucinous neoplasms is low, which has some influence on the inclusion of DIP. Coders should strengthen the study of ICD-10 coding and related medical knowledge, and constantly improve the professional technical level and comprehensive quality of coders, so as to improve the correct rate of medical record morphological coding and the enrollment rate of DIP.

【Key words】 Appendices; Low-grade mucinous neoplasms; ICD-10 coding; Diagnosis intervention packet

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