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血浆置换及血小板输注治疗特发性血小板减少性紫癜疗效观察 *

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摘要 目的：探究血浆置换及血小板输注治疗特发性血小板减少性紫癜疗效。**方法：**选择 2016 年 2 月至 2019 年 1 月于我院接受治疗的 60 例特发性血小板减少性紫癜患者为研究对象，按照其选择治疗方式的差异将其分为血小板输注组（20 例）及血浆置换（Plasma exchange，PE）组（40 例），对比两组患者治疗有效率、治疗前后血细胞计数变化情况以及治疗中各类不良反应发生情况。**结果：**血小板输注组患者治疗显效数 10 例，有效数 6 例，总有效率 80.00 %，PE 组患者治疗显效数 27 例，有效数 12 例，治疗总有效率 97.50 %，PE 组治疗总有效率高于血小板输注组（P<0.05）。与治疗前比较，PE 组患者的 PLT、RBC 计数和 Hb 水平出现了明显的升高，WBC 计数出现明显的下降（P<0.05），血小板输注组 PLT、RBC 计数和 Hb 水平也出现明显升高，WBC 计数水平出现下降（P<0.05），但组间比较显示治疗后 PE 组患者上述指标均优于血小板输注组（P<0.05）。血小板输注组患者不良反应总发生人数为 4 人，不良反应总发生率为 20.00 %，PE 组总不良反应发生人数 3 人，不良反应总发生率为 7.50 %，PE 组不良反应总发生率明显低于血小板输注组（P<0.05）。**结论：**血血浆置换及血小板输注治疗均对特发性血小板减少性紫癜具有较好的治疗效果，能够显著改善患者血细胞计数异常情况，但血浆置换治疗安全性更高。

关键词：血液治疗；血小板输注；特发性血小板减少性紫癜

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Plasma Exchange and Platelet Transfusion in the Treatment of Idiopathic Thrombocytopenic Purpura*

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ABSTRACT Objective: To explore the therapeutic effect of plasma exchange and platelet transfusion on idiopathic thrombocytopenic purpura. **Methods:** 60 patients with idiopathic thrombocytopenic purpura who were treated in our hospital from February 2016 to January 2019 were selected as the research object, and they were divided into platelet transfusion group (20 cases) and plasma according to the difference in treatment options In the Plasma exchange (PE) group (40 cases), the treatment efficiency, changes in blood cell counts before and after treatment, and the occurrence of various adverse reactions during treatment were compared between the two groups. **Results:** In the platelet transfusion group, there were 10 cases of effective treatment, 6 effective cases, and the total effective rate was 80.00 %. In the PE group, there were 27 cases of effective treatment, 12 effective cases, and the total effective rate was 97.50 %. The difference is obvious(P<0.05). Compared with before treatment, the PLT, RBC count and Hb levels of PE patients increased significantly, the WBC count decreased significantly (P<0.05), and the PLT, RBC count and Hb levels of platelet transfusion group also increased significantly High, the WBC count level decreased (P<0.05), but the comparison between the groups showed that the above indexes of the PE group after treatment were better than the platelet transfusion group (P<0.05). The total number of adverse reactions in the platelet transfusion group was 4 and the total incidence of adverse reactions was 20.00%. The total number of adverse reactions in the PE group was 3 and the total incidence of adverse reactions was 7.50%. Lower than platelet transfusion group (P<0.05). **Conclusion:** Platelet transfusion and plasma exchange have a good therapeutic effect on idiopathic thrombocytopenic purpura, which can significantly improve the patient's abnormal blood cell count, but plasma exchange treatment is more safe.

Key words: Blood therapy; Platelet transfusion; Idiopathic thrombocytopenic purpura

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前言

特发性血小板减少性紫癜又被称为自身免疫性血小板减少性紫癜，该病免疫机制为患者体内生成过多抗血小板膜糖蛋白的抗体，血小板被网状内皮系统破坏，造成患者体内血小板减少，进而引发皮肤出血、黏膜出血等。流调学显示，该病的发病率约为 20~100/106 万人[1,2]，现阶段特发性血小板减少性紫癜的发病机制及发病原因尚不清晰，但感染、妊娠、胶原血管病、肿瘤、药物和遗传等因素可能与该病的发生存在一定关系[3,4]。临床实践发现，特发性血小板减少性紫癜具有起病急、病情发展迅速等特点，病变常常会累及末梢动脉和毛细血管，导致微血管堵塞，最终引起多器官功能衰竭[5,6]。根据特发性血小板减少性紫癜的不同类型临床上在治疗方式中也存在明显的差异，如对于特发性血小板减少性紫癜，主张控制出血症状，可应用糖皮质激素治疗，对继发性血小板减少性紫癜主张应用糖皮质激素并积极抗感染治疗，而对血栓性血小板减少性紫癜主张选择血浆置换进行治疗[7,8]。成分调节属于治疗特发性血小板减少性紫癜的传统方式之一，旨在通过调节血液成分来达到治疗疾病的目的，血浆置换是指将全血在体外分离为血浆和细胞成分，将血浆舍弃并将同等剂量的新鲜血浆、白蛋白溶液等血浆代用品替代被分离出来的血浆回输至患者体内的过程[9-11]。本研究旨在分析血浆置换与血小板输注治疗在特发性血小板减少性紫癜中的治疗效果，以期为改善此类患者生活质量提供临床依据。

1 资料与方法

1.1 一般资料

回顾性选择 2016 年 2 月 ~2019 年 1 月于我院接受治疗的 60 例特发性血小板减少性紫癜患者为研究对象，纳入标准：(1)所有入组对象均符合《血液病诊断及诊疗标准》[12]中特发性血小板减少性紫癜诊断标准；(2)患者病程半年以上；(3)出现皮肤瘀斑、出血点等典型症状。排除标准：(1)合并精神疾者；(2) 合并凝血功能障碍者；(3) 调研前接受化疗或抗凝血治疗者；(4)合并继发性、血栓性的血小板减少性紫癜者；(5)对合并严重肝肾功能障碍者；(6)正在接受引发血小板减少药物者。按治疗方式的差异将其分为血小板输注组（20 例）及血浆置换(Plasma exchange，PE)组(40 例)。两组一般临床资料比较无差异(P>0.05)，有可比性，如表 1。

表 1 两组一般资料比较

Table 1 Comparison of general data of two groups

Basic index		Platelet transfusion group	PE group
Sex	Male	8	18
	Female	12	22
Age (years)		41.28± 2.98	41.33± 3.22
BMI(kg/m^2)		21.98± 2.54	22.10± 2.44
Diseases	Acute myeloid leukemia	7	12
	Chronic myeloid leukemia	5	10
	Acute lymphocytic leukemia	8	18

1.2 干预方法

根据患者的实际情况以及临床状况实施不同的治疗程序，治疗开始前为患者实施常规检测，包括血常规、身高、体重检测等，对患者实施血型复查以及主次侧交叉配型实验后，依据患者实验结果制备合适的血小板，并开展血小板输注治疗，每次输注量为 10 U，输注时间控制为 0.5~1.0 h 左右，间隔 2~3 d 输注一次。

PE 患者治疗选用离心式血细胞分离机，建立体外循环血管通道，把血液引出来经过置换器分理出血浆，从回输管道把置换液输入患者体内。置换液：新鲜冰冻血浆 1800 mL，5 %人血白蛋白 1000 mL，低分子右旋糖酐 500 mL，置换时每次置换量约为患者 1.0~1.5 倍血浆容量，约为 3000 mL 左右，隔日 1 次，治疗次数根据患者的病情和治疗效果进行随时调整。置换进程中患者需口服 10 %葡萄糖酸钙，每次服用剂量为 10 mL，或将 20 mL 10 %的葡萄糖酸钙加入 0.9 %氯化钠 20 mL 中静推。40 例患者共实施血浆置换 132 次，所有患者进行血液分离机治疗后其他对症治疗参照常规方式开展。

1.3 观察指标

1.3.1 治疗有效率 显效：无出血症状，血小板水平恢复正常；良好：出血情况有好转，血小板升高至 30× 10^9/L；进步：出血症状有所改善，同时血小板水平有所提升；无效：出血症状无任何改观，血小板数量无改变甚至下降[13]。

1.3.2 治疗前后血细胞计数变化情况 分别于治疗前和治疗后统计两组患者的血细胞计数情况，统计指标包括白细胞(WBC)、红细胞(RBC)、血小板(PLT)、血红蛋白(Hb)等，并实施组内前后差异性比较[14]。

1.3.3 治疗不良反应发生率 分别统计两组患者治疗期间各类不良反应诸如心血管反应、低钙血症、枸橼酸盐中毒、过敏反应、头晕恶心、胃肠道反应等的发生率，并实施组间差异性比较。

1.4 统计学方法

应用 SPSS 20.0，计量数据采取($\bar{x}\pm s$)表示，组间的差异性比较应用 Student's t test 检验，计量资料采取[n(%)]表示，采用卡方检验，P<0.05 有统计学意义。

2 结果

2.1 两组疗效比较

血小板输注组治疗显效数 10 例，有效数 6 例，总有效率 80.00 %,PE 组治疗显效数 27 例,有效数 12 例,治疗总有效率 97.50 %,PE 组治疗总有效率高于血小板输注组(P<0.05),如表2。

表 2 两组疗效比较(例,%)

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

Groups	n	Marked effect	Effective	Invalid	Efficient
Platelet transfusion group	20	10(50.00)	6(30.00)	4(20.00)	16(80.00)
PE group	40	27(67.50)	12(30.00)	1(2.50)	39(97.50)*

Note: Compared with the platelet transfusion group, *P<0.05.

2.2 两组血细胞计数比较

与治疗前比较,PE 组患者的 PLT、RBC 计数和 Hb 水平出现了明显的升高,WBC 计数出现明显的下降(P<0.05),血小板输注组 PLT、RBC 计数和 Hb 水平也出现明显升高,WBC 计数水平出现下降(P<0.05),但组间比较显示治疗后 PE 组患者上述指标均优于血小板输注组(P<0.05),如表 3。

表 3 两组血细胞计数比较($\bar{x}\pm s$)

Table 3 Comparison in blood cell counts between the two groups($\bar{x}\pm s$)

Groups	n	PLT(× 10^9/L)		Hb(g/L)		WBC(× 10^9/L)		RBC(× 10^{12}/L)	
		Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
Platelet transfusion group	20	19.29± 3.87	151.18± 12.12*#	63.01± 9.99	78.18± 8.17*#	16.25± 3.14	10.14± 2.21*#	3.21± 0.36	3.72± 0.52*#
PE group	40	20.28± 3.22	89.89± 4.31*	63.18± 10.28	83.28± 11.21*	16.21± 3.12	6.35± 2.15*	3.24± 0.32	3.48± 0.51*#

Note: Compared with the before treatment, *P<0.05, compared with the platelet transfusion group, #P<0.05.

2.3 两组治疗中不良反应发生率比较

分析发现，血小板输注组患者不良反应总发生人数为 4 人，不良反应总发生率为 20.00 %,PE 组总不良反应发生人数 3 人,不良反应总发生率为 7.50 %,PE 组不良反应总发生率明显低于血小板输注组(P<0.05),如表 4。

表 4 两组不良反应发生率比较

Table 4 Comparison of the incidence of adverse reactions among thetwo groups of patients

Groups	n	Cardiovascular response	Hypocalcemia	Citrate poisoning	Allergic reaction	Dizziness and nausea	Gastrointestinal reactions	Total incidence
Platelet transfusion group	20	1	1	1	0	1	0	4(20.00)
PE group	40	1	1	0	1	0	0	3(7.50)*

3 讨论

特发性血小板减少性紫癜在临床上可呈现多种表现,如全身皮肤、黏膜、内脏出血等[15,16]。糖皮质激素对特发性血小板减少性紫癜治疗有效率约为 80 %，余 20 %治疗效果较差者被称为难治性特发性血小板减少性紫癜,10 年死亡率高达 10 %~20 %[17,18]。近些年的研究发现,B 淋巴细胞产生的免疫球蛋白、自身抗原的递呈是该病的发病机制之一,同时 T 淋巴细胞亚群中的 CD4/CD8 也对该病有影响,导致 CD 淋巴细胞降低,血小板抗体大量滋生,缩短血小板存活时间[19,20]。血小板输注属于血液成分调节治疗的重要方式之一,血浆置换属于血液治疗的常用治疗手段,上述两种干预方式的原理为通过血液分离机去除或置换掉患者血液中的病理成分，而后使用替代液补充血容量,该干预措施能够较为迅速的清除掉患者机体内的有毒有害成分,快速缓解患者临床症状,由于上述治疗方式主要由电脑实施监控,且体外循环量较低,因而治疗安全性较高,对患者造成的伤害较小,易于被患者和医师接受[21-23]。

本研究通过设立不同分组的方式,就血浆置换以及血液成分单采在治疗特发性血小板减少性紫癜中的应用效果进行了分析。结果显示,血小板输注组患者治疗有效率为 80.00 %,PE 组患者治疗有效率为 97.50 %,两组间比较差异明显。同时开展治疗前后血细胞计数变化分析可以发现，血小板输注组和 PE 组患者经治疗后 PLT、RBC、WBC 计数、Hb 水平都出现了明显的变化，其中血小板输注组患者的 PLT、RBC 计数和 Hb 水平出现明显升高,WBC 计数水平出现下降,PE 组患者的 PLT 计数、RBC 和 Hb 水平出现明显升高,WBC 计数出现明显的下

降，与赵燕[24]等学者的研究类似，分析 PE 联合激素、免疫抑制剂对血栓性血小板减少性紫癜患者血常规和生化指标的影响，结果显示治疗后观察组临床疗效总有效率为 100.00 %，显著高于对照组 88.88 %，观察组 Hb 和 PLT 水平较均高于对照组。本文作者分析认为，血液成分调节是在电脑调控下开展的成分调节治疗，治疗中可以将每次处理的血量控制在 2000~6000 mL 之间的任意数值，而涉及到的体外循环血量仅不到 200 mL，因此对患者造成的伤害较小[25,26]。该干预方式主要能够通过对特发性血小板减少性紫癜患者输注血小板来起到缓解症状的效果，属于对症治疗，能够改善患者血小板参数水平以及出血症状，改善患者预后[27]。

血浆置换主要是通过将血液中的病理性免疫球蛋白、免疫复合物以及抗原抗体排出体外，同时通过补充血浆等纠正血容量。是在血液中缺失正常成分时采取的进行疾病治疗的干预手段 [28,29]。文中的调研结果显示，40 例行 PE 患者治疗有效率为 97.50 %，经治疗后患者的 PLT、RBC、WBC 计数、Hb 水平均出现了明显的改变，提示治疗效果较好。同时治疗前后血细胞计数的比较结果也提示，PE 治疗不仅能够改善 PLT 低下症状，相比于血小板输注的对症治疗，PE 治疗更倾向于对因治疗，因而在治疗效果上更为优异。需要注意的是，开展血浆置换治疗时需预防低钙血症的出现，文中主要是通过口服或静脉滴注的方式对患者进行钙质补充[30,1]。文中通过两种方式治疗有效率以及治疗安全性的比较可以发现，相比于血小板输注，实施血浆置换的患者治疗有效率与成分调节治疗差异较大，在治疗安全性上比较显示，血浆置换患者并发症发生率仅为 7.50 %，而血小板输注治疗治疗高达 20.00 %，组间比较差异明显，这说明血浆置换在保证治疗效率的同时还具有更高的安全性。本研究也存在一定的不足，样本量少，结果可能存在一定的偏倚，后续研究需要增加样本量，进行研究，分析血浆置换治疗特发性血小板减少性紫癜的治疗的具体优势。

综上所述，血小板输注和血浆置换均对特发性血小板减少性紫癜具有较好的治疗效果，能够显著改善患者血细胞计数异常情况，但血浆置换治疗安全性更高。

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