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痰热清注射液联合纳洛酮对老年慢性呼吸衰竭并发肺性脑病患者 临床疗效的影响*

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摘要 目的:探讨痰热清注射液联合纳洛酮对老年慢性呼吸衰竭并发肺性脑病患者临床疗效的影响。**方法:**选取我院呼吸科收治的慢性呼吸衰竭并发肺性脑病患者 60 例,随机分为治疗组和对照组,每组 30 例。对照组给予加痰热清注射液治疗,治疗组在对照组治疗基础上联合纳洛酮注射液治疗。治疗结束后,比较治疗前后两组患者动脉血气分析结果、血清 BNP(脑钠肽)、SOD(超氧化物歧化酶)、MDA(丙二醛)水平及临床疗效。**结果:**与治疗前相比,两组患者治疗后的血清 BNP、MDA 水平降低,SOD 水平升高($P<0.05$), PaO_2 水平升高, PaCO_2 水平下降($P<0.05$);与对照组比较,治疗组总有效率较高,BNP、MDA 水平较低,SOD 水平较高($P<0.05$), PaO_2 水平较高, PaCO_2 水平较低($P<0.05$)。**结论:**痰热清注射液联合纳洛酮治疗老年慢性呼吸衰竭并发肺性脑病临床疗效好,推测其机制与降低血清 BNP、MDA 及升高血清 SOD 水平有关。

关键词:痰热清注射液;纳洛酮;慢性呼吸衰竭;肺性脑病;脑钠肽;超氧化物歧化酶;丙二醛

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Clinical Efficacy of Tanreqing Injection Combined with Naloxone in the treatment of Elderly Patients with Chronic Respiratory Failure and Pulmonary Encephalopathy*

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ABSTRACT Objective: To investigate the clinical efficacy of tanreqing injection combined with naloxone in the treatment of elderly patients with chronic respiratory failure and pulmonary encephalopathy. **Methods:** A total of 60 cases with chronic respiratory failure and pulmonary encephalopathy from our hospital were collected and randomly divided into the experiment group and control group with 30 cases in each group. Patients in the control group were treated by tanreqing injection 20ml intravenous drip, 1 time / day; patients in the experiment group were treated on the basis of control group with naloxone injection 2 mg intravenous drip, 1 time/day. Both groups were treated for 4 cycles, a cycle with 7 days. After treatment, the arterial blood gas analysis results, serum BNP and SOD levels before and after the treatment and clinical efficacy were compared between two groups. **Results:** Compared with before treatment, the serum BNP and MDA levels of both groups were decreased after treatment, the serum SOD levels were increased ($P<0.05$), arterial blood gas analysis results showed PaO_2 levels were increased, PaCO_2 levels were decreased ($P<0.05$); compared with the control group, the total effective rate of experiment group was higher, the serum BNP and MDA levels were lower, the serum SOD levels were higher ($P<0.05$), arterial blood gas analysis results showed the PaO_2 levels were higher, PaCO_2 level were lower ($P<0.05$). **Conclusion:** Tanreqing injection combined with naloxone had a good clinical curative effect in the treatment of elderly patients with chronic respiratory failure and pulmonary encephalopathy, which might be related to the decrease of serum BNP and MDA levels, increase of the serum SOD level.

Key words: Tanreqing injection; Naloxone; Chronic respiratory failure; Pulmonary encephalopathy; BNP; SOD; MDA

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前言

慢性呼吸衰竭是一种严重的呼吸功能障碍,临床表现为呼吸、中枢、心血管系统的异常,可伴有上消化道出血,弥散性血

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管内凝血^[1]。当 PaCO₂ 浓度增至正常值 2 倍时,患者出现肺性脑病,是慢性呼吸衰竭的常见并发症之一,多表现为呼吸困难、咳嗽咳痰、球结膜水肿或充血、紫绀、伴有不同程度意识障碍,精神神经异常等,严重者可有昏迷、抽搐、扑翼样震颤等情况的发生^[2]。流行病学调查显示^[3]老年慢性呼吸衰竭并发肺性脑病患者人数呈逐年上升趋势。痰热清注射液具有较好清热解毒、解痉平喘作用,能有效改善呼吸衰竭并发肺性脑病所引起的意识障碍、呼吸困难及咳嗽咳喘等症。纳洛酮注射液是一种特异性阿片类受体拮抗剂,其作用机制主要是通过与内啡肽的结合来阻断对呼吸中枢的抑制,恢复呼吸水平,减轻、消除 CO₂ 潴留和缺氧情况,从而缓解患者的意识障碍,改善精神状态的异常^[4,5]。本实验通过观察治疗前后患者血清 BNP、SOD 变化水平、临床疗效,探讨痰热清注射液与纳洛酮的联合应用对老年慢性呼吸衰竭合并肺性脑病的疗效及机制。

1 资料与方法

1.1 临床资料

本研究共收集我院 2013 年 9 月~2015 年 5 月期间收治的慢性呼吸衰竭合并肺性脑病老年患者 60 例为本次研究对象。根据电脑自动生成的随机对照表随机分为治疗组 and 对照组,每组 30 例。患者年龄在 55~85 岁,包括男性 42 例,女性 18 例,对照组平均年龄(68.34± 5.27),治疗组平均年龄(69.31± 5.41),两组患者性别、年龄、病况等一般资料经统计学处理后,差异无统计学意义(P>0.05)。患者自愿参与实验,并签署知情同意书。方案获我院伦理委员会批准并全过程跟踪。

1.2 方法

对照组:采用痰热清注射液(上海凯宝药业有限公司,国药准字 H20032054)25 mL 加入 200 mL 生理盐水静脉滴注,1 次/日,7 日为一个疗程,连续治疗 4 个疗程;治疗组:在对照组治

疗基础上,给予盐酸纳洛酮注射液(成都天台山制药有限公司,国药准字 H20052369)2 mg 加入 500 mL 生理盐水静脉滴注,1 次/日,7 日为一个疗程,连续治疗 4 个疗程。

1.3 观察指标及检测方法

1.3.1 血气分析 患者于治疗前清晨进行血气分析,治疗过程中动态监测血气变化,观察记录患者意识状况及精神状态。

1.3.2 BNP、SOD 和 MDA 的测定 所有研究对象均于治疗前与治疗后清晨 8 点~9 点空腹静脉采血 5 mL。采用 EDTA 抗凝血管法测定 BNP,黄嘌呤氧化酶法测血清 SOD,采用硫代巴比妥酸法测血清 MDA。

1.4 疗效评价标准

显效:治疗后患者呼吸功能紊乱、头痛、球结膜出血水肿等症状消失,意识清醒、精神症状基本恢复正常,血气分析结果基本接近正常。有效:治疗后呼吸功能紊乱、头痛、球结膜出血水肿等症状好转,意识清醒时间延长、精神状态有所改善,血气分析结果好转,低氧血症或高碳酸症明显减轻。无效:治疗前后患者症状无改善或加重,意识状态无改善,血气分析结果大体无变化。总有效率 = [(有效例数 + 显效例数)/ 本组患者例数] × 100%。

1.5 统计学分析

计量数据以均数± 标准差($\bar{x} \pm s$)表示,采用 SPSS17.0 统计软件进行单因素方差分析,使用 Turkey 检验进行组间检验、校正。所有数据比较,以 P<0.05 认为差异有统计学意义。

2 结果

2.1 两组患者临床疗效的比较

两组患者经过 4 个疗程治疗后,对照组总有效率为 70.00%,治疗组总有效率为 90.00%,与对照组相比,治疗组总有效率高(P<0.05)。(表 1)

表 1 两组临床疗效比较[例(%)]

Table 1 Comparison of the clinical curative effect between two groups[n(%)]

Groups	n	Excellence	Effective	Invalid	Linical effect rate
Control group	30	13(43.33)	8(26.67)	9(30.00)	21(70.00)
Experiment group	30	15(50.00)	11(36.67)	5(16.67)	27(90.00)*

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

2.2 两组患者治疗前后血气分析的对比

经过 4 个疗程的治疗后,与治疗前相比,两组患者 PaO₂ 升高、PaCO₂ 降低,差异具有统计学意义(P<0.05);与对照组相

比,治疗组患者血清 PaO₂ 较高、PaCO₂ 较低,差异具有统计学意义(P<0.05)。两组患者的 PH 值治疗前后、组间对比差异均无统计学意义(P>0.05)。(表 2)

表 2 两组患者治疗前后血气分析的比较[例(%)]

Table 2 Comparison of the blood gas analysis between two groups before and after treatment[n(%)]

Groups		PaO ₂ (mmHg)	PaCO ₂ (mmHg)	pH
Control group (n=35)	Before treatment	52.02± 12.83	73.51± 7.37	7.21± 0.01
	After treatment	61.41± 13.12*	63.11± 4.39*	7.34± 0.04*
Experiment group (n=35)	Before treatment	51.03± 13.19	72.52± 8.44	7.20± 0.02
	After treatment	76.19± 15.14**	54.37± 4.36**	7.38± 0.03**

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

2.3 两组患者治疗前后血清 BNP、SOD、MDA 水平的比较

经过 4 个疗程的治疗,两组患者 BNP、MDA 均降低、SOD 升高,差异具有统计学意义($P<0.05$);与对照组相比,治疗组患

者 BNP、MDA 明显较低、SOD 较高,差异具有统计学意义($P<0.05$)(表 3)。

表 3 两组患者治疗前后血清 BNP、SOD、MDA 水平的比较

Table 3 Comparison of the serum BNP, SOD and MDA levels between two groups before and after treatment

Groups		BNP(ng/mL)	SOD(U/mL)	MDA(nmol/mL)
Control group (n=35)	Before treatment	178.56± 17.83	63.11± 14.39	9.48± 0.91
	After treatment	128.41± 12.62*	88.75± 16.37*	7.23± 1.21*
Experiment group (n=35)	Before treatment	173.02± 18.19	65.37± 13.36	9.36± 1.07
	After treatment	112.14± 10.54*#	87.92± 17.44*#	6.22± 1.63*#

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

3 讨论

慢性呼吸衰竭并发肺性脑病在老年人中发病率较高,其危险性随年龄的增加呈指数倍增长,严重危害老年人的生命健康^[6]。慢性呼吸衰竭并发肺性脑病主要通过扩大通气容量、纠正酸碱平衡、提高氧气吸入量、抗感染进行治疗^[7]。祖国医学将慢性呼吸衰竭并发肺性脑病归属于“痰厥”“神昏”的范畴^[8]。痰热清注射液通过中药提取而成,主要作用是清热解毒、解痉平喘、化痰止咳,通过抗炎杀菌、松弛平滑肌,从而改善肺部通气,有效抑制感染,减轻咳嗽哮喘等症状的发生^[9]。研究表明^[10]纳洛酮通过阻断内啡肽对中枢神经系统的抑制,解除其对呼吸系统的抑制作用,改善通气状况,缓解低氧和高碳酸血症,对意识的改善有着积极的作用。本研究探讨了痰热清注射液联合纳洛酮对老年慢性呼吸衰竭并发肺性脑病患者临床疗效,结果显示痰热清注射液联合纳洛酮治疗老年慢性呼吸衰竭并发肺性脑病患者的临床疗效较单用痰热清注射液更好。

呼吸动力不足和呼吸主力的严重不平衡所导致的通气障碍是慢性呼吸衰竭并发肺性脑病的主要原因^[11,12]。研究表明^[13,14]动脉血气分析是呼吸系统常规检查能直观反映出体内氧气含量及是否伴有二氧化碳潴留情况,有效评定呼吸衰竭严重程度。本次研究通过监测动脉血气分析结果观察患者意识状况及精神状态,对老年慢性呼吸衰竭并发肺性脑病患者的病情变化进行评估与预测。研究结果显示:与治疗前相比,治疗后患者动脉血气分析结果均得到有效改善,意识状态得到恢复,同时精神状态比较稳定,进一步证实痰热清注射液与纳洛酮的联合应用对改善老年慢性呼吸衰竭并发肺性脑病患者的临床症状、稳定其精神状态、保持其意识清醒有积极的作用^[15-17]。

氧化应激反应能通过评定人体内活性氧的生成、清除能力反映人体内分子、细胞、机体的损伤情况,常用于慢性呼吸衰竭并发肺性脑病的评估^[18]。血清 MDA、SOD 是氧化应激常用的检测指标,在慢性呼吸衰竭患者中,SOD 含量与 PaO_2 水平呈正相关,MDA 含量与 PaO_2 水平呈负相关^[19,20]。本研究结果显示治疗后,患者 SOD 水平升高,MDA 及 BNP 水平降低, ($P<0.05$)。这表明痰热清注射液联合纳洛酮提高老年慢性呼吸衰竭并发肺性脑病临床疗效可能与降低血清 BNP、MDA 及升高血清 SOD

水平有关。

总之,本研究结果表明痰热清注射液联合纳洛酮治疗老年慢性呼吸衰竭并发肺性脑病临床疗效好,推测其机制与降低血清 BNP、MDA 及升高血清 SOD 水平有关。

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