

doi: 10.13241/j.cnki.pmb.2020.21.025

呼吸机辅助美罗培南及胸腺法新治疗重症肺炎的疗效及对患者血清炎症因子水平的影响*

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摘要 目的:探讨呼吸机辅助美罗培南及胸腺法新治疗重症肺炎的临床疗效及血清炎症因子水平的影响。**方法:**选取 2018 年 8 月至 2020 年 2 月我院收治的 96 例重症肺炎患者作为研究对象,将其随机均分为两组。对照组 48 例给予美罗培南治疗,研究组 48 例给予呼吸机辅助美罗培南及胸腺法新治疗,观察和比较两组患者的疗效、肺部症状的改善情况、治疗前后血清白细胞介素(IL, Interleukin)-6、IL-10、肿瘤坏死因子(Tumor Necrosis Factor- α , TNF- α)水平的变化及不良反应的发生情况。**结果:**治疗后,研究组总有效率为 97.96%,显著高于对照组(85.41%, $P < 0.05$);研究组肺部啰音消失时间及炎症吸收时间明显短于对照组($P < 0.05$), IL-6、IL-10、TNF- α 明显低于对照组($P < 0.05$)。治疗过程中,研究组不良反应率为 2.08%,显著低于对照组(31.25%, $P < 0.05$)。**结论:**呼吸机辅助美罗培南及胸腺法新用于重症肺炎患者的临床疗效明显优于单用美罗培南治疗,其能有效减轻炎症反应,且安全性高。

关键词:美罗培南;胸腺法新;重症肺炎;炎症因子

中图分类号:R563.1 **文献标识码:**A **文章编号:**1673-6273(2020)21-4113-04

Efficacy of Ventilator-assisted Meropenem and Thymus Method in the Treatment of Severe Pneumonia and its Effect on the Serum Inflammatory Factors Levels*

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ABSTRACT Objective: To explore the effect of ventilator-assisted meropenem and thymus therapy on severe pneumonia and the influence of immune factors. **Methods:** 96 patients with severe pneumonia admitted in our hospital from August 2018 to February 2020 were selected as the research object, and they were randomly divided into two groups, 48 cases in the control group and treated with meropenem. 48 cases in the study group, given ventilators Adjuvant meropenem and thymus method new treatment, observe the efficacy of the two groups of patients, the improvement of the lungs, IL-6, IL-10, TNF- α changes and the incidence of adverse reactions. **Results:** The total effective rate in the study group was 97.96%, which was significantly higher than that in the control group (85.41%, $P < 0.05$). Compared with the improvement of the lungs in the two groups, the time for lung rales disappearance and inflammation absorption in the study group were significantly lower than those in the control group ($P < 0.05$). There was no significant difference in IL-6, IL-10 and TNF- α between the two groups pre-treatment ($P > 0.05$), after treatment, the study group was significantly lower than the control group ($P < 0.05$). The adverse reaction rate in the study group was 2.08%, significantly lower than the control group (31.25%, $P < 0.05$). **Conclusion:** The ventilator-assisted meropenem and thymus method were newly used to treat patients with severe pneumonia. They have good clinical efficacy, could improve the patient's body immunity, and had fewer adverse reactions. They were safe and reliable, and were worthy of clinical promotion and application.

Key words: Meropenem; Thymus method; Severe pneumonia; Immune factor

Chinese Library Classification(CLC): R563.1 **Document code:** A

Article ID: 1673-6273(2020)21-4113-04

前言

重症肺炎是临床上比较常见的呼吸内科疾病,发病群体以

老年人为主^[1,2]。近些年,该病的发病率呈逐年递增的趋势,且年轻人的发病率也在不断增加^[3]。重症肺炎临床表现常以咳嗽、痰多、呼吸困难为主,若不及时有效的治疗,严重的患者还会出现

* 基金项目:国家自然科学基金项目(81760069);陕西省社会发展科技攻关项目(2016SF-075)

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(收稿日期:2020-05-02 接受日期:2020-05-26)

精神萎靡、意识模糊甚至惊厥、昏迷等现象^[4,5]。该病的发病比较急,病情比较危重,致死率比较高,极大的降低了患者的生命及生活质量^[6]。

重症肺炎的临床治疗多以抗生素为主,用以改善患者的肺部感染症状^[7,8]。随着用药的增加,患者的耐药性也在增强。因此,在治疗的同时要增加患者的机体免疫能力,以提高临床疗效^[9]。本研究选取2018年8月至2020年2月我院收治的96例重症肺炎患者作为研究对象,探讨了呼吸机辅助美罗培南及胸腺法新治疗重症肺炎疗效及血清炎症因子水平的影响。

1 资料与方法

1.1 一般资料

选取2018年8月至2020年2月我院收治的96例重症肺炎患者,将其随机分为两组。对照组48例,男28例,女20例,年龄45~75岁,平均 (58.28 ± 15.04) 岁,病程3~9个月,平均 (5.21 ± 4.14) 个月;研究组48例,男性26例,女性22例,年龄51~74岁,平均 (61.38 ± 14.36) 岁,病程2~10个月,平均 (6.21 ± 3.16) 个月。经比较,两组一般资料对比无差异($P > 0.05$),有可比性。

1.2 纳入与排除标准

纳入标准:(1)确诊为重症肺炎的患者^[10,11];(2)存在意识障碍、需要机械通气的患者;(3)其他重要器官功能正常,可接受治疗;(4)无治疗禁忌症;(5)无药物过敏史的患者;(6)患者及家属均知情并签署了同意书。

排除标准:(1)其他原因引起的肺部感染的患者;(2)患有心律失常的患者;(3)有相关药物过敏史的患者;(4)有精神类疾病、依从性比较差的患者。

1.3 治疗方法

对照组,给予常规治疗,对于呼吸困难的患者利用呼吸机供给氧气,同时维持患者营养及水电解质等平衡。再给予患者美罗培南(住友制药有限公司,批准文号:国药准字J20140169,规格为0.25 g/支)0.5 g,加入0.9%生理盐水50 mL,持续静脉滴注,1次/d。疗程为7 d。

研究组,在对照组的基础上全部患者给予呼吸机供氧,同时给予患者胸腺法新(日达仙,意大利赛生制药有限公司,国药准字H20120531,规格1.6 mg),皮下注射,2次/w,治疗1 w。

1.4 评价标准

疗效及评价标准^[12,13]:显效:患者经过治疗后肺炎症状全部消失,胸片显示正常,且体温正常;有效:患者经过治疗后肺炎症状明显改善,胸片显示基本恢复正常,体温正常;无效:患者临床症状与治疗前比较,没有明显变化,甚至加重,体温不正常。

1.5 观察指标

观察两组患者的疗效、治疗前后肺部症状的改善情况、血清IL-6、IL-10、TNF- α 水平的变化情况及不良反应的发生情况。

1.6 统计学方法

采取SPSS 23.0进行数据分析,计数资料以(n/%)表示,组间比较采用 χ^2 检验;计量资料以 $(\bar{x} \pm s)$ 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 两组临床疗效的比较

治疗后,研究组总有效率为97.96%(47/48),显著高于对照组[85.41%(41/48)],组间差异具有统计学意义($P < 0.05$),见表1。

表1 两组疗效的比较(例,%)

Table 1 Comparison of the clinical efficacy between two groups(n,%)

Groups	Cu(μ g/mL)	Zn(μ g/mL)	Se(mmol/L)
Control group (n=40)	1.23 $\pm$ 0.04	4.61 $\pm$ 0.15	12.45 $\pm$ 1.47
Study group (n=40)	1.61 $\pm$ 3.18*	3.37 $\pm$ 0.11*	10.32 $\pm$ 1.03*

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

2.2 两组肺部症状的改善情况比较

两组肺部改善情况比较,研究组肺部啰音消失时间及炎症

吸收时间明显短于对照组,组间差异具有统计学意义($P < 0.05$),见表2。

表2 两组肺部症状改善情况的比较($\bar{x} \pm s$)

Table 2 Comparison of the improvement of pulmonary symptoms between two groups ($\bar{x} \pm s$)

Groups	IL-6(pg/mL)	IL-8(pg/mL)	TNF- α (μ g/L)
Control group (n=40)	98.76 $\pm$ 14.38	108.87 $\pm$ 16.36	1.78 $\pm$ 0.35
Study group (n=40)	165.21 $\pm$ 20.45*	185.34 $\pm$ 14.63*	3.57 $\pm$ 0.46*

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

2.3 两组治疗前后血清炎症因子的变化比较

两组治疗前血清IL-6、IL-10、TNF- α 水平比较差异无统计学意义($P > 0.05$);治疗后,两组上述指标均较治疗前显著降低,且研究组以上指标均明显低于对照组($P < 0.05$),见表3。

2.4 两组不良反应发生情况的比较

治疗过程中,研究组不良反应的发生率为2.08%(1/48),对照组为31.25%(15/48),研究组不良反应的发生率显著低于对照组($P < 0.05$),见表4。

3 讨论

表 3 两组治疗前后血清炎症因子的变化比较($\bar{x} \pm s$)Table 3 Comparison of the changes of inflammatory factors between two groups before and after treatment ($\bar{x} \pm s$)

Groups	n	IL-6(pg/mL)		IL-10(pg/mL)		TNF- α (mg/mL)	
		Pre-treatment	After treatment	Pre-treatment	After treatment	Pre-treatment	After treatment
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Research group	48	86.5 $\pm$ 27.9	44.3 $\pm$ 11.2**	91.3 $\pm$ 26.1	47.2 $\pm$ 12.9**	79.5 $\pm$ 28.6	42.3 $\pm$ 13.2**
Control group	48	87.1 $\pm$ 28.5	70.3 $\pm$ 14.5*	90.6 $\pm$ 25.8	58.6 $\pm$ 14.3*	78.1 $\pm$ 29.5	65.3 $\pm$ 22.3*

Note: Compared with the control group, * $P < 0.05$; compared with pre treatment, ** $P < 0.05$.

表 4 两组不良反应的发生情况比较(例,%)

Table 4 Comparison of the incidence of adverse reactions between two groups (n,%)

Groups	n	Dizziness	Disgusting	Upper abdominal discomfort	Adverse reaction rate
Research group	48	0	0	1(2.08)	1(2.08)*
Control group	48	3(6.25)	5(10.42)	7(14.58)	15(31.25)

近些年,重症肺炎受环境以及人们免疫力下降等多种因素影响,病发率在不断的增加,且该病情危重,严重的影响人们的健康^[14,15]。重症肺炎的临床表现主要为咳嗽、发热等^[16]。若不及时给予治疗,随着病情的恶化,患者可能出现呼吸衰竭、意识障碍、甚至休克、昏迷等严重后果^[17,18]。重症肺炎的治疗以抗菌、止咳、化痰等为主,呼吸困难的患者配以吸氧^[19]。临床经验表明多数患者在初期使用抗菌药物治疗时效果很好,但随着用药时间的推移,人体对于抗菌药物会产生耐药性,而使治疗的效果逐渐降低^[20,21]。滥用抗生素会使患者的机体免疫力降低,并发多重感染,使病情加重^[22]。因此,针对重症肺炎的治疗不仅要抗菌还要提高患者的机体免疫功能,改善患者的临床症状,防止病情恶化,从而达到预期的治疗效果^[23]。

美罗培南是目前临床上比较常见的抗菌类药物,针对重症肺炎具有一定的疗效^[24]。其抗菌机制是可以穿透细胞壁,抑制病原细胞壁的合成,同时清除病原菌,进而有效的改善患者肺部啰音等症^[25,26],因而被广泛用于治疗各类型的感染,尤其对于肺炎具有很好的抑制效果。但美罗培南的半衰期相对而言比较短,需要多次给药或是延长输注时间才能达到良好的治疗效果,且长期用药会使患者产生耐药,而使其疗效降低^[27,28]。重症肺炎患者由于年龄偏大,免疫功能下降,且胸腺萎缩,严重影响胸腺激素的分泌,致使患者的免疫力低下。一旦患者并发肺部感染,因其自身的免疫功能障碍而使病情恶化,如果不及及时给予有效的治疗,会危及患者的生命^[29]。研究表明免疫调节剂能够很好的改善患者的免疫机能,提高患者的免疫力,降低炎症反应,从而改善重症肺炎的危重状况。胸腺法新是目前临床上比较常用的免疫细胞调节剂,能够有效的增强患者的机体免疫力^[30]。

目前,重症肺炎患者人群趋于老龄化,多数患者由于肺功能减退致使咳嗽功能低下,出现气道痉挛或阻塞的症状,因此治疗上不仅要给予患者抗菌、止咳等治疗,还要为患者使用呼吸机辅助治疗,改善患者呼吸困难症状,增强疗效。本研究结果显示,研究组总有效率(97.96%)明显高于对照组(85.41%),与戴斌等^[31]的研究类似。其探讨注射用胸腺法新治疗老年社区获得性重症肺炎的疗效,发现社区获得性重症肺炎患者在常规治疗的基础上给予呼吸机辅助通气联合胸腺法新治疗 1 w 后,患

者的总有效率为 61.97%,显著高于常规治疗组的 47.89%,表明呼吸机辅助美罗培南及胸腺法新治疗重症肺炎患者的疗效显著。分析其原因为胸腺法新治疗重症肺炎患者,通过增强患者的免疫力来提高疗效。本研究中,研究组肺部啰音消失时间及炎症吸收时间明显低于对照组,提示美罗培南具有很好的抗菌作用,能够很好的改善重症肺炎患者的临床症状,对于疾病的治疗及预后都起到积极的作用。

本研究中,研究组治疗后血清 IL-6、IL-10、TNF- α 水平显示明显低于对照组,与宣娟娟^[32]等的研究类似。该学者探讨胸腺法新对重症肺炎患者免疫功能及炎症反应的影响,发现常规基础联合胸腺法新治疗的患者血清 TNF- α 、IL-6 水平显著低于常规治疗组,提示胸腺法新治疗重症肺炎可提高患者免疫功能,减轻炎症反应。由此可见,胸腺法新能够很好的增加患者的机体免疫功能。近些年,胸腺法新作为具有生物活性的免疫增强剂被广泛应用于治疗感染性以及免疫缺陷或是低下类疾病,但国内临床对其用于治疗重症肺炎的报道较少。本研究在给予患者呼吸机辅助通气合并抗菌药物的同时应用胸腺法新,能够很好的作用于患者免疫因子,提升患者的免疫功能,进而增强疗效。此外,研究组不良反应率显著低于对照组,此结果与宣娟娟的研究也类似,说明呼吸机辅助美罗培南及胸腺法新治疗重症肺炎的安全性更高。

总之,呼吸机辅助美罗培南及胸腺法新用于重症肺炎的治疗的临床疗效明显优于单用美罗培南治疗,其不仅能够改善患者的肺部危重症状,也能提高患者的机体免疫功能,且安全性更高。本研究为重症肺炎的治疗提供了新的思路与方法,但本研究样本量少,结果可能存在一定的偏倚,也没有设立呼吸机辅助胸腺法组,后续研究需要扩大样本量,深入探究呼吸机辅助美罗培南及胸腺法新用于重症肺炎的治疗的优缺点。

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