

doi: 10.13241/j.cnki.pmb.2014.10.035

无创机械通气治疗老年 COPD 合并呼吸衰竭的疗效分析*

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摘要 目的: 观察无创机械通气治疗老年慢性阻塞性肺疾病(Chronic obstructive pulmonary disease, COPD)合并呼吸衰竭的临床效果及护理方法。方法: 回顾分析我院 2011 年 1 月-2012 年 12 月收治的 COPD 合并呼吸衰竭的老年患者 122 例, 分为观察组与对照组, 观察组采用 BiPAP Vision 呼吸机进行无创机械通气治疗, 依据氧合调整 EPAP, 使脉搏血氧饱和度维持在 90%以上, 当病情好转, 及时降低 FiO₂, 降低呼吸条件。并在通气阶段配合心理护理, 管道护理, 气道湿化, 预防感染等护理措施, 使患者保持良好的心态, 提高治疗依从性, 对患者进及家属讲解该方法的优越性, 协助患者取舒适体位。严密监护患者病情发展, 加强与患者沟通, 消除患者紧张、烦躁心理。定期观察患者意识、呼吸、HR、BP 等变化。定时复查血气分析, 保持充足的液体摄入量, 及避免误解。对照组给予持续低流量吸氧治疗, 1-3 L/min, 并酌情给予呼吸兴奋剂静脉滴注。观察两组患者生命体征变化, 并于治疗前后行动脉血气分析。结果: 观察组患者治疗后 PaO₂、PaCO₂ 较治疗前明显改善, 治疗前后比较差异有统计学意义(P<0.01); 且上述指标较对照组改善更为明显, 组间比较差异有统计学意义(P<0.05)。结论: 无创机械通气是治疗老年 COPD 合并呼吸衰竭的一种安全有效的方法。

关键词: 无创机械通气; 呼吸衰竭; 治疗; 护理

中图分类号: R563.8 **文献标识码:** A **文章编号:** 1673-6273(2014)10-1946-03

Clinical Analysis of Noninvasive Mechanical Ventilation on the Treatment of COPD Combined with Respiratory Failure*

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ABSTRACT Objective: To observe the clinical efficacy and nursing methods of noninvasive mechanical ventilation on the treatment of COPD complicated with respiratory failure. **Methods:** 122 elderly patients with COPD and respiratory failure who were admitted in our hospital from January 2011 to December 2012 were enrolled and divided into the observation group and the control group on the basis of different therapeutic regimens. The noninvasive mechanical ventilation treatment was used for the observational group with BiPAP Vision. Adjusted EPAP based on Oxygen saturation to maintain the pulse oximetry remained at more than 90%. To Lower FiO₂ and respiratory conditions in time When condition improved. And aeration with psychological care, nursing pipeline, airway humidification, prevention of infection and other care measures, so that patients maintain a good attitude, improve treatment compliance for patients and their families to explain the method into superiority, to help patients get comfortable position. Closely monitoring the patient's condition to develop, strengthen communication with patients, eliminating patient tension, irritability psychology. Regularly observed in patients with consciousness, breathing, HR, BP and other changes. Regular review of blood gas analysis, to maintain adequate fluid intake, and to avoid misunderstandings. The mental nursing, airway nursing, airway humidification and infection prevention were employed during the ventilation phase. The patients in the control group were given continuous low flow oxygen inhalation treatment, 1-3 L/min. And Intravenous infusion of respiratory stimulants discretionary. The change of the vital signs of the patients in the two groups was observed and the arterial blood gas analysis was performed before and after treatment. **Results:** The PaO₂ and PaCO₂ of patients in the observational group were obviously improved after the treatment than before with significant difference (P<0.01). Moreover, the improvement of the above indicators was more obvious when comparing with the control group with significant difference (P<0.05). **Conclusions:** The noninvasive mechanical ventilation is a safe and effective method to treat the the COPD complicated with respiratory failure for elderly patients.

Key words: Noninvasive mechanical ventilation; Respiratory failure; Treatment; Nursing

Chinese Library Classification(CLC): R563.8 **Document code:** A

Article ID: 1673-6273(2014)10-1946-03

* 基金项目: 国家自然科学基金项目(81172725)

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(收稿日期: 2013-11-15 接受日期: 2013-12-14)

前言

COPD 常合并呼吸衰竭,传统有创机械通气对其治疗效果肯定,但易产生呼吸机依赖、呼吸机相关性肺炎(VAP)等并发症^[1-3]。合理选用通气方式对挽救患者生命、改善预后有着极为重要的意义^[4-5]。笔者为探讨无创机械通气对避免上述并发症及改善患者预后的效果,回顾分析我院 2011.1-2012.12 月收治老年 COPD 合并呼吸衰竭患者,在常规治疗的基础上给予无创机械通气治疗,取得了良好的疗效,结果报道如下。

1 资料与方法

1.1 一般资料

回顾分析我院 2011.1-2012.12 月收治的病例资料完整的 COPD 合并呼吸衰竭 122 例,男 74 例,女 48 例;年龄 61~83 岁,平均 67.4±3.2 岁。所有患者诊断均符合中华医学会 COPD 合并呼吸衰竭诊断标准^[6]。排除心源性休克、血流动力学不稳定及意识不清或烦躁不安患者。

1.2 方法

122 例患者依据通气方法不同分为观察组与对照组,两组入院后均予以常规抗感染、解痉、祛痰、纠正水电解质紊乱和

酸碱平衡失调以及营养支持、吸氧等治疗。观察组 48 例,采用 BiPAP Vision 呼吸机(美国伟康公司生产),患者取半卧位,佩戴合适的面罩,通气模式选择 S/T 模式,设置参数为:IPAP 15~25 cmH₂O,EPAP 5~10 cmH₂O,吸入氧浓度 FiO₂ 40%~60%,依据氧合调整 EPAP,使脉搏血氧饱和度维持在 90%以上,当病情好转,及时降低 FiO₂,降低呼吸条件。对照组 74 例,给予持续低流量吸氧,1-3 L/min,并酌情给予呼吸兴奋剂静脉滴注。

1.3 观察指标

对比两组患者呼吸、心率(HR)、血压(BP)等生命体征变化,并于治疗前后行动脉血气分析,观察患者血动脉血氧分压(PaO₂)、二氧化碳分压(PaCO₂)变化。

1.4 统计学方法

本组资料采用 SPSS15.0 软件处理,计量资料以 ($\bar{x} \pm s$) 表示,采用 t 检验,P<0.05 为差异有统计学意义。

2 结果

2.1 两组患者治疗前后生命体征变化

两组患者治疗前后呼吸、HR、BP 均趋于平稳,治疗前后比较差异有统计学意义(P<0.05);组间比较差异有无统计学意义(P>0.05),结果见表 1。

Table 1 The change of the vital signs of the patients in the two groups before and after treatment.

Groups		Respiration (times/min)	HR (times/min)	Systolic pressure (mmHg)	Diastolic pressure (mmHg)
Observational group (n=48)	Before treatment	29.1±8.7	113.6±14.1	147.8±9.5	101.8±9.0
	After treatment	20.5±10.9	93.3±11.9	124.8±11.9	87.1±7.4
Control group (n=74)	Before treatment	28.9±9.0	114.3±13.9	148.2±9.6	102.1±9.1
	After treatment	21.0±11.5	94.5±13.1	127.9±12.3	89.3±8.1

2.2 两组患者治疗前后动脉血气变化

两组患者通气治疗后 PaO₂、PaCO₂ 较治疗前明显改善,治疗前后比较差异有统计学意义(P<0.05),观察组 PaO₂、PaCO₂ 改

善较对照组更为明显,组间比较差异有统计学意义(P<0.05),结果见表 2。

Table 2 The arterial blood gas changes of the patients in the two groups before and after treatment

Groups	n		PaO ₂ (mmHg)	PaCO ₂ (mmHg)
Observational group	48	Before treatment	33.8±5.7	91.5±7.6
		After treatment	65.9±4.6	46.4±6.8
Control group	74	Before treatment	34.9±6.6	94.1±4.9
		After treatment	62.3±5.4	45.4±6.3

3 讨论

老年 COPD 合并呼吸衰竭的患者临床较为多见,常合并营养不良,单纯药物治疗疗效差。传统有创机械通气是有效的治疗方法,但存在人工气道建立后的呼吸机相关性肺炎、撤机困难等问题^[7-9]。近年来,无创机械通气技术已广泛应用于临床,大量文献报道其在治疗各种原因引起的急性呼吸衰竭方面疗效显著^[5]。并且操作简便,更符合人体的生理状态,便于早期应用、及时抢救,可有效减少有创通气并发症发生。有研究表明,无创机械通气亦对老年 COPD 合并呼吸衰竭有良好的疗效,且患者

及家属依从性较好^[10-13]。无创机械通气能改善通气和换气功能,降低呼吸肌功耗,缓解呼吸肌疲劳,提高 PaO₂ 和降低 PaCO₂,从而改善呼吸功能,BiPAP 通气还可减少回心血量,降低心脏负荷,减轻肺水肿,增加心肌供氧,从而改善心功能^[14],治疗过程中配合以个性化的护理措施可对患者预后起到良好作用。

为使患者保持良好的心态,提高治疗依从性,我们对患者进行了心理护理,包括详细向患者及家属讲解该方法的优越性、安全性,协助患者取舒适体位。通气初始对患者进行监护,训练患者呼吸规律与机器同步;通气阶段加强与患者沟通,向其解释疾病的发生、发展、治疗措施及预后,消除患者紧张、烦

躁心理^[5]。为避免吸气压过大患者产生不适和恐惧感,先从较低的吸气压开始,待患者适应后再逐步提高,同时密切观察吸入潮气量和漏气量变化。监测病情变化,遵医嘱使用镇静、镇痛剂,定期观察患者意识、呼吸、HR、BP 等变化。定时复查血气分析,并对调整呼吸机参数^[6]。加强气道湿化,在呼吸机湿化器中加入定量水并及时补充^[7]。保持充足的液体入量,匀速补充。加强营养支持,多食用高维生素、高蛋白、易消化的食物^[18-19]。为避免面罩漏气,连接面罩时需施加较大压力,常导致面部皮肤缺血损伤,可用纱布或海绵衬垫,对已出现损伤的皮肤可采取局部按摩等方法缓解。误吸是无创机械通气较严重的并发症,严重者甚至会出现窒息,患者应采取半卧位,避免饱餐后使用呼吸机^[20]。

本研究结中,观察组采用无创机械通气治疗老年 COPD 合并呼吸衰竭,治疗后的呼吸、HR、BP 等生命体征均趋于平稳,PaO₂、PaCO₂ 明显改善,且显著优于对照组(P<0.05),无明显并发症发生,表明无创机械通气配合以优质的护理,可能迅速改善患者氧合状况,疗效确定,是治疗老年 COPD 合并呼吸衰竭的有效治疗方案。

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的一种较好的肿瘤标志物。此外,本研究结果也显示内异症患者术后血清 sB7-H4 水平低于术前,表明内异症患者血清 sB7-H4 水平可能与其疗效和预后相关,尚需扩大样本量进一步研究。

综上所述,B7-H4 可能参与了子宫内膜异位症的异位内膜组织的免疫逃逸,使机体不能有效阻止异位内膜在盆腹腔中的种植生长,促进了子宫内膜异位病灶的形成。血清 sB7-H4 可能是内异症一种新的血清标记物,检测 sB7-H4 对 EM 的辅助诊断及疗效评估有一定的参考价值。

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