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急诊慢性阻塞性肺疾病急性加重期患者预后相关因素分析

谈晓侠 姬润美 陈建玲 白 文 吴 洁

（西安医学院第二附属医院急诊科 陕西 西安 710038）

摘要 目的：探讨急诊收治的慢性阻塞性肺疾病急性加重期患者的预后相关因素。**方法：**选取我院 2008 年 12 月 -2013 年 12 月急诊收治的慢性阻塞性肺疾病急性加重期患者 94 例，根据预后结果分为死亡组 17 例及存活组 77 例，回顾分析两组患者的相关资料。**结果：**存活组较死亡组 BMI、血肌酐值、清蛋白、pH 值、$PaCO_2$、FT_3 差异具有统计学意义。死亡组较存活组在 APACHEⅡ，CCS，有创通气率及合并肺心病率上差异均具有统计学意义。结果显示合并肺心病率、APACHEⅡ评分、肌酐、清蛋白为影响慢性阻塞性肺疾病急性加重期患者预后的独立因素。**结论：**急诊收治的慢性阻塞性肺疾病急性加重期患者如合并肺心病率，APACHEⅡ评分较高，血肌酐较高，清蛋白较低，这些因素提示我们患者预后较差，需及早进行相关治疗。

关键词：慢性阻塞性肺疾病；急性加重期；急诊；预后分析

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Prognostic Factors Analysis of Acute Exacerbation Patients with Emergency Chronic Obstructive Pulmonary Disease

TAN Xiao-xia, JI Run-mei, CHEN Jian-ling, BAI Wen, WU Jie

(Department of Emergency, The Second Affiliated Hospital of Xi'an Medical University, Xi'an, Shaanxi, 710038, China)

ABSTRACT Objective: To investigate the prognostic factors of chronic obstructive pulmonary disease in acute exacerbation in emergency department. **Methods:** 94 patients with the acute exacerbatin chronic obstructive pulmonary disease who were treated in our hospital from Dec. 2008 to Dec. 2013 were selected. According to the prognostic results, the objectives were divided into the death group(17 cases) and the survived group (77 cases), then the related information of two groups were retrospectively analyzed. **Results:** Compared with death group, the BMI, the serum creatinine values, the albumin, pH, $PaCO_2$ and FT_3 of patients in the survived group were significantly different ($P<0.05$). The complications of pulmonary heart disease rate, APACHEⅡ score, creatinine and albumin were the independent factors of acute exacerbation chronic obstructive pulmonary disease. **Conclusion:** The patients with the acute exacerbation chronic obstructive pulmonary disease who were treated in the emergency department showed a high incidence of heart disease, APACHEⅡ score and creatinine and low albumin. The risk factors prompt a poor prognosis for patients that should be treated early.

Key words: Chronic obstructive pulmonary disease; Acute exacerbation; Emergency; Prognostic analysis

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前言

慢性阻塞性肺疾病（Chronic Obstructive Pulmonary Disease,COPD）是呼吸系统最常见的疾病之一，其死亡率已居世界疾病死亡率第四位，未来趋势亦不容乐观[1]。慢性阻塞性肺疾病急性加重期（Acute Exacerbation Of Chronic Obstructive Pulmonary Disease, AECOPD）患者短期内病情急剧恶化，医疗费用高，为患者及其家属带来巨大的经济压力[2]。近年来，国内外已有多个研究报道 AECOPD 的预后影响因素分析，但因患者个体差异，样本量不一及统计方法不同等原因造成结果不一致[3,4,6,13,14]，且国内大多研究针对于住院治疗的 AECOPD 患者，关于急诊 AECOPD 患者的研究较少[3,4]，但 AECOPD 患者入院时常于急诊就诊，因此，研究急诊 AECOPD 患者的预后因素就异常重要。本研究回顾分析近年来于我院急诊收治的患者相关资料，探讨分析其预后因素。

1 资料与方法

1.1 一般资料

选取我院 2008 年 12 月 -2013 年 12 月急诊收治的 AECOPD 患者 94 例，所有患者诊断均符合 2007 年中华医学会所制定的《慢性阻塞性肺疾病诊疗指南》中的诊断标准[5]。排除合并严重的心力衰竭、肺栓塞、气胸、甲状腺疾病、严重的肝、肾疾病患者。其中男 58 例，女 36 例，年龄 54～83 岁，平均(76.2± 8.9)岁。根据预后分为死亡组 17 例，其中男 10 例，女 7 例，年龄 57～82 岁，平均(76.9± 7.6)岁，存活组 77 例，男 48 例，女 29 例，年龄 59～82 岁，平均(75.4± 5.7)岁。

1.2 方法

回顾性分析所有患者的相关资料，其中包括①一般资料：包括性别比、年龄、体重指数(BMI)。②实验室检查：温度、心

作者简介：谈晓侠(1965-)，女，专科，主治医师，研究方向：急救内科，电话：13186056735，E-mail：tanxiaoxia_6735@163.com

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率、血糖、白细胞计数(WBC)、血小板计数(PLT)、肌酐、尿素氮、清蛋白、PH 值、二氧化碳分压($PaCO_2$)、氧分压(PO_2)、游离三碘甲状腺原氨酸(FT_3)、有创通气率,合并肺心病率。③相关量表:格拉斯哥昏迷评分(CCS)、急性生理与慢性健康状况评分Ⅱ(APACHEⅡ)。以上相关资料均采用入院 24 h 内抽取血液或 24 h 内最高值。

1.3 统计学方法

采用 SPSS 16.02 软件进行统计分析,计量资料采用($\bar{x}\pm s$)表示,组间比较采用 t 检验或 U 检验,计数资料组间比较采用 X^2 检验。将单因素分析结果作为自变量,是否死亡作为因变量,多因素分析采用 logistic 回归,模型筛选采用逐步回归法。P<0.05 表示差异具有统计学意义。

2 结果

2.1 一般资料及实验室检查单因素比较

两组在性别、年龄、体温、心率、血糖、WBC、PLT、尿素氮比较差异无统计学意义。存活组较死亡组 BMI、血肌酐值、清蛋白、pH 值、$PaCO_2$、FT_3 差异具有统计学意义(P>0.05)。见表 1。

表 1 慢性阻塞性肺疾病急性加重期预后的单因素分析

Table 1 Single analysis of prognosis for patients with the chronic obstructive pulmonary disease in the acute exacerbation

Index	Death Group(n=17)	Survival Group(n=77)	t 或 x^2	*P*
Sexuality(male/female)	1.43	1.65	0.74	>0.05
Age(Years)	76.9± 7.6	75.4± 5.7	0.95	>0.05
BMI	20.5± 2.3	24.3± 4.8	5.86	<0.05
Temperature(℃)	37.1± 0.7	36.8± 0.6	0.41	>0.05
Heart Rate(次/min)	71.4± 11.9	74.2± 12.4	1.12	>0.05
Blood Glouse(mmol/L)	9.6± 5.7	7.3± 3.1	1.21	>0.05
WBC(× 10^9/L)	9.1± 4.2	10.6± 3.9	1.46	>0.05
PLT(× 10^9/L)	106± 72	121± 87	1.20	>0.05
Creatinine(μmol/L)	101.4± 41.2	74.0± 8.5	11.27	<0.05
Urea Nitrogen(mmol/L)	7.1± 4.7	6.1± 2.5	1.36	>0.05
Albumin(mmol/L)	26.3± 1.9	32.5± 2.3	5.68	>0.05
pH Value	7.2± 0.2	7.3± 0.1	0.02	<0.05
$PaCO_2$(mmHg)	61± 26	72± 29	10.24	<0.05
FT_3(ng/L)	2.11± 0.35	1.72± 0.37	4.68	<0.05

2.2 两组量表评分,有创通气率及合并肺心病率比较

死亡组较存活组在 APACHEⅡ,CCS,有创通气率及合并肺心病率上差异均具有统计学意义(P<0.05),见表 2。

2.3 多因素分析

根据单因素分析的结果,将 P<0.05 的因素进行非条件 logistic 回归分析,结果显示合并肺心病率、APACHEⅡ评分、肌酐、清蛋白为影响慢性阻塞性肺疾病急性加重期患者预后的独立因素(P<0.05),见表 3。

表 2 两组量表评分,有创通气率及合并肺心病率比较

Table 2 Comparison of the scores, the rate of the invasive ventilation and pulmonary heart disease of patients in the two groups

	n	APACHEⅡ	CCS	Invasive ventilation rate(%)	Pulmonary heart disease rate(%)
Death Group	17	18	8	88.2	82.4
Survival Group	77	28	14	13.0	39.0
x^2/u		-4.31	-4.14	13.27	9.49
P		<0.05	<0.05	<0.05	<0.05

表 3 慢性阻塞性肺疾病急性加重期患者的预后影响多因素分析

Table 3 Multivariate analysis of risk factors for the prognosis of patients with chronic obstructive pulmonary disease in acute exacerbation

Factors	Regression coefficients	Standard error	Wald 2 Value	P Value	OR Value
Pulmonary heart disease rate	-3.426	0.651	4.341	0.018	0.851
APACHEⅡ Score	-0.167	0.045	3.427	0.023	0.113
Urea Nitrogen	-2.526	0.347	5.145	0.008	0.865
Albumin	0.507	0.034	3.352	0.027	1.135

3 讨论

AECOPD 是导致 COPD 患者急诊的主要原因之一，据美国研究报道[6]，1993 年至 2005 年每年约有 60 万人因 AECOPD 于急诊科就诊，每千人 COPD 患者因 AECOPD 急诊就诊人数约为 3.2 人，仅 2000 年约有 150 万美国人因 AECOPD 于急诊科就诊。另一项对美国 388 例 COPD 患者进行的多中心研究显示 1 年内因 AECOPD 到急诊就诊的次数达 1090 次，其中 13% 的 COPD 患者一年内就诊达 6 次以上[7]。COPD 的急性加重在病程中可反复出现，随着每一次 AECOPD 的发作，患者的肺功能不断降低，因此，有研究显示 AECOPD 的发作次数亦可作为 COPD 病情发展的一个重要监测指标[8]。

当 AECOPD 患者被送入急诊室时，急诊医师最关心的即是通过相关资料判断患者的预后如何，以决定下一步的治疗方案，如急诊医师判断错误，易引起相关医疗事故的发生。英国 2010 年 COPD 指南显示年龄、既往 ICU 住院史、1 秒用力呼气容积（FEV1）、既往肺功能情况、BMI 是否伴随并发症等是判断预后的重要因素[9]。但由于个体差异上述指南不一定适用于我国急诊 AECOPD 患者。

本研究显示存活组较死亡组血肌酐值、BMI、清蛋白、pH 值、$PaCO_2$、FT_3 差异具有统计学意义（P>0.05）。这与国内外研究基本一致。清蛋白和 BMI 反应患者就诊时的营养状况，pH 值可反应患者是否具有酸碱平衡紊乱，$PaCO_2$ 可反应患者是否有呼吸衰竭。Wonderling 等[10]研究显示 BMI、FEV1、$PaCO_2$ 为判断 AECOPD 患者预后的重要指标。汪学琴等[11]研究显示低蛋白血症影响 AECOPD 患者生存期的长短。Terzano 等[12]研究显示 FT_3 与 AECOPD 患者的预后具有密切关系，其可反映患者疾病的严重程度。本研究显示年龄不能预测急诊 AECOPD 患者的预后，但 Burney 等[13]的研究表明年龄大的 AECOPD 患者预后较差，这可能与 Burney 等应用年龄范围作为研究有关，亦可能和患者的人种、病情等个体因素差异有关，具体仍需进一步研究。

本研究还应用相关量表来作为预测急诊 AECOPD 患者预后的指标，结果显示 APACHEⅡ与 CCS 评分对 AECOPD 患者的预后具有较高的预测价值。有学者 [14-17] 研究显示急诊 AECOPD 患者 APACHEⅡ评分大于 21 分患者死亡率较高。而 CCS 是 APACHEⅡ的重要组成部分，其可一定程度上反应 COPD 患者中枢神经系统障碍情况。同时本研究显示一些与疾病严重程度明显相关的指标：有创通气率及合并肺心病率两项在死亡组及存活组差异具有显著性。这与国内研究[11]基本一致。

国内大多数研究均对 AECOPD 住院患者的预后影响因素进行探讨，本研究发现合并肺心病率、APACHEⅡ评分、肌酐、清蛋白为影响急诊 AECOPD 患者预后的独立因素，这表明 APACHEⅡ评分高，血肌酐较高，清蛋白较低，合并肺心病患者预后较差，需及早进行相关治疗。这与国外研究一致[18-20]。这对国内急诊医师对 AECOPD 患者的诊断及预后判断具有重要意义，为后续治疗提供一定帮助。

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