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Predictors of mortality of severe virus-associated community-acquired pneumonia using logistic regression analysis

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Results : Logistic regression results

Introduction

Despite the fact that the influenza virus pathogenicity factors have been well studied in vitro, in vivo quite clear to the end the question remains just those risk factors, objective and laboratory parameters, which to a great extent related to the fatal virus-associated CAP.

Aim

to study the clinical and laboratory parameters of patients with severe virus-associated CAP during the 2015-2016 influenza epidemic and to determine their role as predictors of patients' mortality.

Methods

Main group – 33 patients (mean age – 49.3±1.87 years, men – 18 (54.5%)) with severe virus-associated CAP, divided into two subgroups: subgroup A – 22 deaths from the virus-associated severe CAP, subgroup B – 11 patients with successful treatment of virus-associated severe CAP. General analysis, determination of RNA Influenza A(H1N1)-California, markers of systemic inflammation, statistic, including univariate analysis, Pearson x2 test, multifactorial analysis using logistic regression and determination of diagnostic Wald's coefficients.

Parameter	General information content	Diagnostic Wald's coefficient	The relative risk	Odds ratio	p	x2
obesity	2,50	8	6,00	12,00	0,012	6,3
disorders of consciousness	1,64	7	5,00	8,33	0,037	4,4
Breathing rate ≥35 per minute	0,14	-1	0,73	0,00	0,056	3,7
SaO ₂ <80%	1,43	6	5,50	10,00	0,021	5,3
PaO ₂ <50 mmHg	2,88	7	4,67	12,00	0,036	4,4
PaCO ₂ ≥50 mmHg	0,11	-3	0,56	0,00	0,042	4,1

Conclusions

1. Independent predictors of mortality in patients with severe virus-associated CAP according to the logistic regression are the presence of obesity, disorders of consciousness, SaO₂<80%, PaO₂<50 mmHg, PaCO₂≥50 mmHg. at hospitalization, presence of obesity and PaO₂<50 mm Hg are the most significant.
2. Major steps in determining the severity of the patients with virus-associated severe CAP and their treatment are diagnostics of blood gases, and early sufficient and adequate oxygen therapy with regular monitoring of its effectiveness and timely correction.