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Title: Cardiovascular autonomic alterations and severity of the disease in community-acquired pneumonia

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Body: No data evaluated cardiovascular autonomic control (CAC) in community-acquired pneumonia (CAP). Aim was to describe CAC according to the severity of CAP. Patients hospitalized in two university hospitals from Sept. 2011 to Jan. 2013 for CAP underwent 15' registration of ECG and respiration within 24 hours after admission. CURB65, gas exchange and the presence of severe CAP (sCAP ATS 2007) were recorded on admission. CAC was assessed using spectral (SP) and symbolic (SY) analysis of heart rate variability (HRV). SP evaluates rhythmical components of HRV identifying two oscillations: low (LF) and high (HF) frequency components, markers of sympathetic and vagal modulation, respectively. SY identifies two indices, 0V% and 2UV%, indices of sympathetic and vagal modulation, respectively. 58 patients (33 males; median age: 74 yrs) were enrolled. sCAP patients showed a higher HR (p=0.036), lower 0V% and higher 2UV% compared to patients without sCAP. Patients with CURB65 score≥3 were characterized by lower LFnu compared to patients with CURB65<3. Patients with a PaO2/FiO2 ratio<200 showed a higher 2UV% compared to those with a PaO2/FiO2 ratio≥200.

	LFnu	0V%	2UV%
sCAP+	18 (4.9-54)	18 (5.9-25)	44 (28-47)
sCAP-	46 (18-67)	29 (18-45)	20 (12-33)
p	0.12	0.04	0.01
CURB65<3	50 (16-71)	25 (13-38)	23 (12-40)
CURB65>=3	20 (5.3-38)	27 (19-49)	24 (13-42)

p	0.016	0.70	0.70
PaO2/FiO2<200	9.8 (2.2-34)	21 (4.4-29)	35 (24-45)
PaO2/FiO2>=200	44 (15-66)	28 (13-44)	22 (13-38)
p	0.13	0.42	0.08

Median (25-75 IQR)

CAP patients with a severe disease on admission show a relatively predominant vagal modulation associated with an altered sympathetic modulation, possibly due to the loss of rhythmical properties of sympathetic outflow.