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ANALYSIS OF FACTORS RELATED TO THE CLINICAL COURSE OF COVID-19 INFECTION IN PATIENTS WITH HYPERTENSION

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OBJECTIVES

The identification of the angiotensin converting enzyme (ACE2) as a target of SARS-CoV2 virus, raises questions about a possible change in the clinical course of this infection associated with renin-angiotensin-aldosterone system (RAAS) inhibitors treatment.

Purpose: characterize the **clinical evolution in hypertensive patients admitted for COVID-19 infection** and to **determine if** treatment with **RAAS inhibitors, age and additional comorbidities may affect the prognosis.**

METHODS

- **Single-center, observational and retrospective study.**
- **Inclusion criteria:** hospital admission for COVID-19 infection between 01/03/2020-24/03/2020
- **Collected variables:** demographic, clinical and analytical. End of follow up: 10/10/2020
- Clinical course was evaluated by: development of acute respiratory distress syndrome (ARDS), bilateral pneumonia, length of stay and mortality.
- Statistical analysis:
 - To evaluate the possible influence of factors on evolution -> Binary logistic regression (STATA-IC14®)
 - Transformation of quantitative dependent variables into dichotomous.
 - Statistical significance: $p < 0,05$

RESULTS

General data:
571 hypertensive patients

RAAS inhibitor treatment: 398 (69,7%)	No RAAS inhibitor treatment: 173 (31,3%)
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Median age: 76 years (IQR: 66-83), 59,2% males.
7,2% smokers and 80,0% had additional comorbidities

-**At hospital admission:** 27,3% presented serious hypoxemia (SatO₂<90%), 64,3% lymphopenia (<1000/mm³), 18,8% CRP> 20 mg/L and 11,6% D-dimer >1200 ng/mL.

-**Clinical outcomes:** 91,9% required oxygen therapy, 76,4% bilateral pneumonia, 47,5% ARDS and 33,6% died during admission.

-**Median hospital stay: 15 days (9-24)**

Use of RAAS inhibitors was not related to changes in analytical parameters at admissions or clinical course.

Factors linked to bilateral pneumonia development:
-Obesity (OR=6,31%; $p < 0,001$)

Factors linked to ARDS development:
-Diabetes (OR=1,84; $p = 0,001$)
-Obesity (OR=1,77; $p = 0,013$)

Factors linked to mortality:

-Additional cardiovascular diseases (OR=2,10; $p < 0,001$)
-Age (OR=1,05; $p < 0,001$)

Factors linked to prolonged length of stay*

-Chronic kidney disease (OR=1,73; $p = 0,043$)
-Age (OR=1,02; $p = 0,022$)
*Duration >14 days

CONCLUSIONS

- ✓ Antihypertensive treatment with RAAS inhibitors does not seem to be linked to risk of worse evolution in COVID-19 infection.
- ✓ Old age and additional cardiovascular disease appear to be associated with increased mortality in hypertensive patients.

