BIOMARKERS EVOLUTION IN PATIENTS WITH SARSCOV-2 PNEUMONIA TREATED WITH BARICITINIB

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Background and Importance

A randomized clinical trial has demonstrated that baricitinib reduces the mortality of patients with COVID-19 that require hospitalization. However, the evolution of biomarkers that predict the patients' outcome is not well described.

Aim and Objectives

To analyse the evolution of biomarkers in hospitalized adults with SARS-CoV-2 pneumonia treated with baricitinib.

Materials and Methods

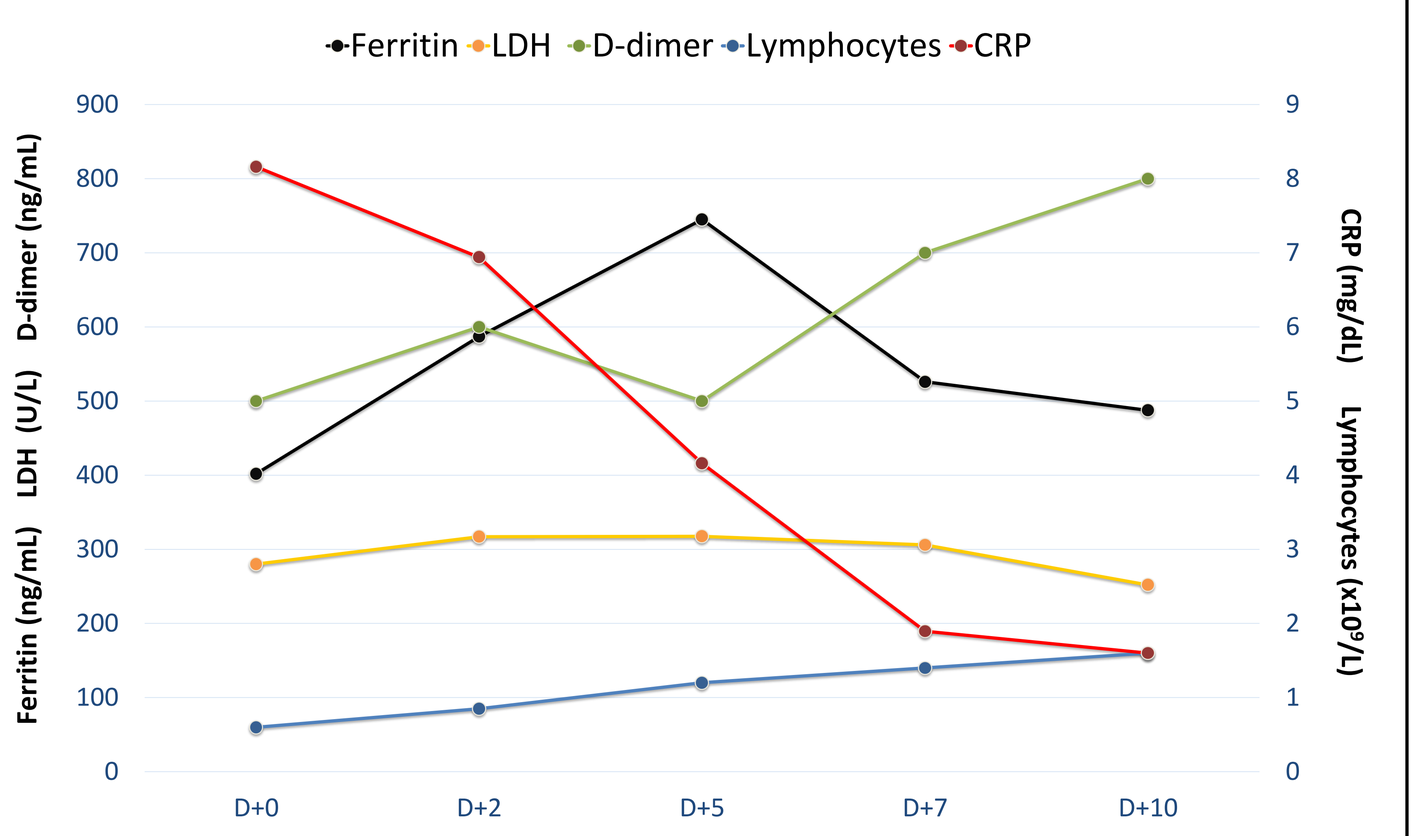
- **Retrospective observational study** conducted in a tertiary university hospital (760 beds) between January and February 2021 that included 31 patients positive to SARS-CoV-2.
- **Doses:** all patients received baricitinib 4mgQD for ≥5 days (2mgQD if glomerular filtration <60mL/min).
- **Biomarkers evaluated**: lymphocytes, C-reactive protein (CRP), ferritin, lactate dehydrogenase (LDH) and D-dimer. The results were obtained on the day of admission (D+0), and on days 2 (D+2), 5 (D+5), 7 (D+7) and 10 (D+10) after starting baricitinib.
- The hospital pharmacist was involved in the multidisciplinary team taking part in COVID-19 protocol drafting, treatment validation, dose adjustments, interactions and monitoring of adverse effects.
- The RED Cap database was used for data collection and the G-STAT-2.0.1 program for statistical analysis (paired t-test/Holm-Bonferroni correction).

Results

Demographic and clinical characteristics of the patients

N	31
Sex	6 women and 25 men
Median age (IQR)	64 (55;75) years
Main comorbidities	Dyslipidemia (39%) Hypertension (35%) Pulmonary disease (29%) Diabetes (16%) Cardiopathy (16%)
Treatments received during admission	15 (48%) corticosteroids 18 (58%) remdesivir
Needed high-flow oxygen	7 (23%)
Required ICU admission	5 (16%)
Died	2 (6%)

Evolution of biomarkers from day 0 (D+0) to day 10 (D+10) after initiation baricitinib treatment



There was a **decrease of CRP which was statistically significant** from D+5 (p=0,0144) onwards and an **increase in lymphocyte count significant** from D+2 (p=0,0148) onwards. LDH, ferritin and D-dimer did not significantly improve. No patient had thromboembolic complications or other adverse reactions associated with treatment.

Conclusion and Relevance

- Patients with severe SARS-CoV-2 pneumonia treated with baricitinib showed a **significant increase of lymphocyte counts as well as a significant decrease in CRP** shortly after baricitinib treatment.
- This fact, together with the low mortality and good tolerance, supports the use of baricitinib for patients with COVID-19 pneumonia.