**EVALUATION OF THE EFFECTIVENESS OF EARLY ADMINISTRATION OF TOCILIZUMAB IN PATIENTS WITH COVID-19**

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Tocilizumab has been positioned since the start of COVID-19 pandemic as an effective drug to treat cytokine release syndrome, which causes acute respiratory distress in patients with SARS-COV2 pneumonia. Throughout these months, clinical protocols have been developed that improve the effectiveness of the drug, introducing it at the onset of symptoms.

**Aim and objective**

The objective of this study is to check whether the paradigm shift in treatment with tocilizumab between the first and second-COVID19-wave, introducing it at the beginning of symptoms, has led to an improvement in its effectiveness.

**Materials and Methods**

**DESIGN:** Retrospective observational study conducted between 03/03/2020-10/15/2020

**POBLAGON:** patients with COVID-19 confirmed by PCR, treated with intravenous tocilizumab in a first-level hospital.

**VARIABLES:**
- days from hospital admission to administration of the drug
- oxygen therapy requirement
- ICU stay and survival

*these parameters were collected at the first-COVID19-wave (until May 31, 2020) and second-COVID19-wave (31 May-15 October)

**STATISTICAL ANALYSIS:**
The differences between quantitative and qualitative variables were analyzed, applying the t-Student and chi-square (p≤0.005)

**Results**

**Distribution:** tocilizumab was administered to 167 patients (131 men) **Average age (SD): 58.9±12.6 years**

<table>
<thead>
<tr>
<th></th>
<th>nº patients</th>
<th>Days (average) until administration</th>
<th>Days (average) of hospital stay</th>
<th>ICU stay (% patients)</th>
<th>Mortality rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIRST WAVE</strong></td>
<td>100</td>
<td>5±4.4</td>
<td>22.9±15.9</td>
<td>39.0</td>
<td>28%</td>
</tr>
<tr>
<td><strong>SECOND WAVE</strong></td>
<td>67</td>
<td>2±2.2</td>
<td>13.1±10.4</td>
<td>10.1</td>
<td>11.6%</td>
</tr>
</tbody>
</table>

**Conclusions**

This study shows that **early administration of tocilizumab improves response to treatment**, with increased survival, decreased ICU income and shorter hospital stay time for patients given the drug in the second-COVID19-wave compared to the first. Inflammatory parameters, such as RCP wasn’t included and it might be into account as a limitation factor. Further studies were needed.