USE OF NON-SPECIFIC IMMUNOGLOBULINS IN BURNED PEDIATRIC PATIENTS: VALIDATION OF THE PROTOCOL OF A TERTIARY HOSPITAL

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Background
Serious burns produce plasma extravasation which develops an important loss of immunoglobulins (Ig). In patients with a burned surface area (BSA) >15% IgG plasmatic levels decrease until 40 hours post-burn.

Purpose
The aim of this study is to evaluate the use of non-specific Ig in burned pediatric patients based on the current protocol of the hospital.

Material and Methods

RETROSPECTIVE OBSERVATIONAL STUDY
- Population: Pediatric patients with ≥15% BSA
- Study period: Between August 2012 and July 2017.
- Variables registered:
  - Biodemographic data: sex, age and weight
  - BSA
  - Ig administration data: plasmatic levels dose and number of administrations

PROTOCOL: Use of Ig in burned pediatric patients
- Determination of IgG 24-48 hours post-burn
- Infusion of non-specific Ig if patients have below-normal levels
- Dose: 400mg/kg

Results

<table>
<thead>
<tr>
<th>BIODEMOGRAPHIC DATA AND BSA</th>
<th>Ig ADMINISTRATION DATA</th>
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<tbody>
<tr>
<td>Patients 31 (19♂/12♀)</td>
<td>26 PATIENTS (83.9%)</td>
</tr>
<tr>
<td><strong>Subgroup with BSA≥20%</strong></td>
<td>Below-normal levels: 18 patients (69.2%) with BSA 23.5% (15-55)</td>
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<td>Age (years, median) 2 (8 m -15 y)</td>
<td>Normal levels: 8 patients (30.8%) with BSA 15% (15-21)</td>
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<tr>
<td>Weight (Kg, median) 13 (7.5-67)</td>
<td>*Subgroup with BSA≥20%</td>
</tr>
<tr>
<td>BSA (% median) 20 (15-55)</td>
<td>Below-normal levels: 14 patients (93%)</td>
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18 patients (58%) accomplished the recommendations of the protocol.

12 PATIENTS (38.7%) with BSA 15.5% (15-30)
NO Ig administration

19 PATIENTS (61.3%) with BSA 23% (15-55)
Ig ADMINISTRATION

13 patients (68.4%) >1 dose administered

7 patients BSA 46% (16-55)

6 patients (31.6%)

19 patients (61.3%) with BSA 23% (15-55)

13 patients (68.4%) >1 dose administered

Proposal to improve the protocol:
To repeat IgG determination in all the patients who have received an infusion to corroborate the achievement of normal IgG levels.

Conclusion

58% of the patients complied all the recommendations specified in the protocol.

In patients with BSA≥20%, determination of plasmatic levels is essential: it was detected that more than 90% of the patients had below-normal levels of IgG.