EFFICIENCY OF PRECISION DOSING WITH INTRAVENOUS IMMUNOGLOBULINS IN PATIENTS WITH HEMATOLOGICAL MALIGNANCIES

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BACKGROUND AND IMPORTANCE: Intravenous immunoglobulins (IVIG) is relatively expensive therapy that requires a careful use. IVIG is dosing based on actual body weight (ABW), however its mainly distributed to extracelular and intravascular space and minimally to body fat. This would allow adjusting the dose by ideal body weight (IBW) or adjusted body weight (AdjBW), reducing the dose per patient.

AIM AND OBJECTIVES: To describe the efficiency of precision dosing (PD) compared to ABW dosing, in the initial dose of IVIG in patients with hematologic malignancies.

MATERIAL AND METHODS: retrospective, descriptive study from May 2008 to September 2019

•Patients with hematologic malignancies who had received at least one dose or more of IVIG were included.
•Exclusion criteria were: <18 years and absence of anthropometric and/or clinical data.

PD was defined as the use of IBW (Devine formula in men and Robinson formula in women) for dose calculation except:
• ABW<IBW, dosing with ABW
• BMI≥30 kg/m² or ABW≥20% IBW, dosing based on AdjBW (AdjBW = IBW + 0.5x(ABW - IBW)). Variables from the electronic medical record and records of the hospital pharmacy service were: sex, age, ABW, hematological pathology and initial dose of IVIG.

The efficiency was determined by the difference, in grams, between the initial mean dose (IMD) per ABW vs PD and the percentage of cost difference.

RESULTS

<table>
<thead>
<tr>
<th>HEMATOLOGIC MALIGNANCIES</th>
<th>PATIENTS</th>
<th>INITIAL MEAN DOSE (IMD) (g)</th>
<th>MEAN PRECISION DOSING (PD) (g)</th>
<th>IMD VS PD DIFFERENCE (g)</th>
<th>DMI VS PD COST DIFFERENCE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immunodeficiency</td>
<td>38</td>
<td>32±9</td>
<td>25±5</td>
<td>7±11</td>
<td>17±23</td>
</tr>
<tr>
<td>Autoimmune Hemolytic Anemia</td>
<td>1</td>
<td>22</td>
<td>17</td>
<td>5</td>
<td>23±10</td>
</tr>
<tr>
<td>Idiopathic Thrombocytopenic Purpura</td>
<td>10</td>
<td>33±11</td>
<td>28±4</td>
<td>5±13</td>
<td>7±35</td>
</tr>
<tr>
<td>TOTAL</td>
<td>49</td>
<td>32±10</td>
<td>26±5</td>
<td>6±11</td>
<td>15±26</td>
</tr>
</tbody>
</table>

CONCLUSION AND RELEVANCE

In our population, the use of PD means a lower consumption of grams compared to AWB. This dosing strategy can be an efficient and easy measure to implement for the routine IVIG prescription.