EVALUATING ANALOG VS HUMAN INSULIN EFFICACY IN REAL LIFE. OBSERVATIONAL STUDY IN TYPE 2 ALBANIAN DIABETIC PATIENTS, PREVIOUSLY INSULIN TREATED

F. Toti, B. Resulaj, M. Carcani, R. Tare, L. Bruka, Gj. Gjonçaj, V. Lile, A. Lapardhaja

1 Endocrinology & Metabolic diseases, UHCENTER "Mother Theresa", Tirana, Albania.
2 Faculty of Medicine, Medical University, Tirana, Albania

OBJECTIVES

Insulin therapy is an important part of diabetes treatment. In Albania, specialists still have to demonstrate at the institutions the treatment’s efficacy and cost-effectiveness for new insulin analogs. The aim of our study is to evaluate the efficacy of analogs vs human insulins and differences between various analog insulin, in type 2 diabetes patients, previously treated with human insulin.

METHODS

- This study is realized in real life patients.
- We retrospectively included 384 patients, previously treated ≥ 24 months with human insulins, switched to an analog insulin for ≥ 12 months.
- Treatment efficacy was evaluated by HbA1c levels, weight difference and changes in total daily dose (TDD) analog vs human.

RESULTS

- 384 pts (48.17%) males. Mean age 62.19 (SD 10.12) yrs, mean diabetes duration 10.8 (SD5.35) yrs. Mean duration on analog insulin therapy was 19.1 months.
- GLargine 194 (50.5%), DETemir 110 (28.6%), All Other Analogs (AOA) 80 (20.8%).
- Average Mean HbA1c was 8.86(SD1.06) vs 7.51(SD1.51) on analogs p<0.01. TDD was 54.9 UI (SD20.1) vs 62.56UI (SD27.95) on analogs p<0.05, but smaller basal doses 29.28 vs 28.1UI.
- 18% of the patients on human insulin has an HbA1c <7%, vs 55.1% on analogs (p<0.01).
- Patients on analogs had a slight weight increase + 3.18 kg during the study period (p 0.55), but DE/GL 1.48 vs 4.14 kg (p<0.05).

<table>
<thead>
<tr>
<th>PATIENTS</th>
<th>MEAN DIABETES DURATION (yrs)</th>
<th>MEAN TREATMENT TIME (months)</th>
<th>CHANGES OF HbA1c SINCE THE INITIATION OF ANALOGS</th>
<th>% OF PATIENTS WITH HbA1c &lt;7%</th>
<th>MEAN DAILY DOSE OF ANALOGS</th>
<th>WEIGHT CHANGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ins. GLARGINE</td>
<td>194</td>
<td>12.19</td>
<td>19.08</td>
<td>7.16/8.51 - 1.35%</td>
<td>56.5 vs 18.3%</td>
<td>30.89</td>
</tr>
<tr>
<td>Ins. DETEMIR</td>
<td>110</td>
<td>10.98</td>
<td>19.93</td>
<td>6.61/8.17 - 1.36%</td>
<td>63.4 vs 20.7%</td>
<td>27.95</td>
</tr>
<tr>
<td>ALL OTHER ANALOGS</td>
<td>80</td>
<td>11.72</td>
<td>15.22</td>
<td>7.16/8.57 - 1.38%</td>
<td>45.5 vs 15.2%</td>
<td>22.56</td>
</tr>
<tr>
<td>TOTAL</td>
<td>384</td>
<td>11.7</td>
<td>18.88</td>
<td>6.96/8.31 - 1.35%</td>
<td>55.1 vs 18.1%</td>
<td>29.28</td>
</tr>
</tbody>
</table>

CONCLUSIONS

- A better metabolic control was noted with analog vs human insulins, with smaller daily doses of basal insulin and minimal weight increase.
- Even in our study Detemir group had a smaller weight gain, making it preferable for obese type 2 diabetics.