**BACKGROUND**

Insulin pump (IP) is very popular and efficient mean for T1DM treatment in pediatric population. Delivery of basal insulin is automatically regulated by 24 hour basal set up. But, boluses must be delivered manually in meal time and their number and type are different.

**AIMS AND OBJECTIVES**

To evaluate number and type of boluses in T1DM children with IP treatment and to correlate them with clinical features of the patients and metabolic control of their T1DM.

**METHODS**

T1DM patients from Pediatric Clinic in Sarajevo with insulin pump treatment were participants in this study. We used two consecutive download data and data from corresponding two controls.

**RESULTS**

We analyse data from 41 patients (M24/F17), mean age 13,5 years, 15 prepubertal/26 pubertal, mean diabetes duration 7,1± 2,4 years, mean HbA1c 8,9 ±1,3 %, delivered mean 5,4±1,65 boluses daily. Lowest HbA1c (7,6± 1,0 %) was in patients delivered 8-10 boluses daily, and the worst HbA1c (11,1±2,1%) was in patients with 1-3 boluses daily. NS difference was between bolus number (5,6/5,3) in prepubertal and pubertal patients. Only 12 patients (29%) used Bolus Wizard (BW) calculation in everyday pump use, and they had significantly lower HbA1c than non BW users (8,22/8,99 %, p < 0,05). Patients who delivered more insulin of total daily insulin intake in bolus form had significantly lower HbA1c level (p<0, 05). There was no significant difference in correlation of number of delivered boluses and diabetes duration, and with duration of insulin pump treatment.

**CONCLUSIONS**

Frequent downloading and analysing data from IP memory especially bolus delivery evaluation are very important for better regulation of T1DM in pediatric patients with IP treatment.

**LITERATURE**


**Table 1** Distribution of mean HbA1C according boluses’ number in patients on insulin pump treatment

<table>
<thead>
<tr>
<th>N</th>
<th>X</th>
<th>S</th>
<th>Sx</th>
<th>Min</th>
<th>Max</th>
</tr>
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<tr>
<td>3-5 boluses</td>
<td>7</td>
<td>11,057</td>
<td>2,1493</td>
<td>.8124</td>
<td>8,2</td>
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<tr>
<td>6-7 boluses</td>
<td>27</td>
<td>8,585</td>
<td>3,3040</td>
<td>2510</td>
<td>6,6</td>
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<tr>
<td>8-10 boluses</td>
<td>5</td>
<td>7,620</td>
<td>2,0900</td>
<td>4,049</td>
<td>8,2</td>
</tr>
<tr>
<td>&gt;10 boluses</td>
<td>2</td>
<td>6,600</td>
<td>1,9791</td>
<td>1,2000</td>
<td>7,4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>41</td>
<td>8,890</td>
<td>2,7488</td>
<td>2,733</td>
<td>6,1</td>
</tr>
</tbody>
</table>

**Graph 1.** Distribution of mean daily insulin dose (U/kg/24h) according bolus number in patients with insulin pump treatment.

**Graph 2.** Correlation of mean daily insulin dose insulin U/kg/24h and quantity of total bolus intake (percents) in patients on insulin pump treatment.

**Picture 1, 2 and 3.** Bolus patterns in different patients

**Institute for Scientific Research and Development**

AUTOR'S E-MAIL ADDRESS: snijeza@gmail.com