THE CONTRIBUTION OF THE FREESTYLE LIBRE® SYSTEM IN THE MANAGEMENT OF DIABETIC PATIENTS:

EXPERIENCE AT LIÈGE UNIVERSITY HOSPITAL


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1.Introduction:
Diabetic patients included glycemic self-monitoring convention in Belgium can benefit from a device measuring subcutaneous glucose concentration (GC): FreeStyle Libre® (FSL) / Abbott. The main advantage of this technology is that it is less invasive (blood sampling not required). It also allows patients to obtain, in addition to the instantaneous value of GC, retrospective kinetic data, but also prospective trend of its kinetics. In this study, we evaluated the contribution of FSL on the equilibration of diabetes, on the time spent in hypoglycemia and on weight. We also asked patient’s satisfaction with this system. Data from 838 diabetic patients (type 1 or total insulin deficiency) were collected between May 2016 and October 2017, 645 patients with FSL system and 193 preferring to continue on the equilibration of diabetes, on the time spent in hypoglycemia and on weight. We also asked patient’s satisfaction with this system. Data from 838 diabetic patients included in the target, that is, the better the glycemic balance. A higher number of scans is also associated with a decrease in the average duration of hypoglycemia. Finally, the satisfaction survey shows a fairly high degree of patient satisfaction with the use of FSL.

2.Goals of the study:
- Contribution of FSL on the overall equilibration of diabetes.
- Contribution of FSL on the number of hypoglycemias.
- Contribution of FSL on body mass index (BMI).
- We also asked patients how satisfied they were with this system.

3.Subjects and methods:
Observational, retrospective study between July 2016 and October 2017.

4. Résults (1) :

<table>
<thead>
<tr>
<th>4. Result (1):</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration period (day)</td>
<td>6</td>
<td>92</td>
<td>64,6 ± 30,6</td>
</tr>
<tr>
<td>Number of scans/day</td>
<td>1</td>
<td>43</td>
<td>8,8 ± 4,8</td>
</tr>
<tr>
<td>Percentage of data</td>
<td>10</td>
<td>100</td>
<td>85,2 ± 18</td>
</tr>
<tr>
<td>HbA1c (%)</td>
<td>4,9</td>
<td>12,2</td>
<td>7,8 ± 1,17</td>
</tr>
<tr>
<td>Number of hypoglycemias</td>
<td>0</td>
<td>5,3</td>
<td>0,95 ± 0,04</td>
</tr>
<tr>
<td>Average duration of hypoglycemia (min)</td>
<td>0</td>
<td>273</td>
<td>116,1 ± 4,23</td>
</tr>
</tbody>
</table>

5. Conclusion:
In the FSL group, compared to the SBG group, there was a slight decrease in HbA1c values which appears mainly when the starting level is high. Patients perform an average of 8.8 checks per day and a higher number of scans is associated with a decrease in the average duration of hypoglycemia. Finally, the satisfaction survey shows a high degree of patient satisfaction with the use of FSL.