FreeStyle InsuLinx Blood Glucose Monitoring system, set-up according to each patient’s insulin dose calculation method: Easy mode for fixed doses of mealtime insulin plus correction doses based on pre-meal blood glucose levels, and Advanced mode for carbohydrate counting. Glycated hemoglobin (HbA1c) levels were determined at baseline, and at 3 and 6 months. Patients also completed opinion surveys.

**Results:** Average HbA1c levels declined from 8.28% at baseline to 8.08% at 6 months \((p=0.0333)\). In patients with baseline HbA1c \(\geq 7.5\%\), the HbA1c reduction was \(-0.19\% \quad (p=0.049)\) at 3 months and \(-0.36\% \quad (p=0.0003)\) at 6 months. Patients expressed greater confidence in their ability to correct blood glucose levels after 3 months \((p<0.0001)\).

**Conclusions:** Improved glycemic control and self-management, especially confidence in calculating accurate insulin doses was demonstrated in a population of insulin-using patients after introduction of the FreeStyle InsuLinx Blood Glucose Monitoring System. This may increase adherence and aid accurate calculation of mealtime correction doses.

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**EXPERT STUDY: A BOLUS CALCULATOR IMPROVES GLYCEMIC CONTROL AND QUALITY OF LIFE OF TYPE 1 DIABETIC PATIENTS (T1DM) (PRELIMINARY RESULTS)**

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**Aims:** To evaluate the impact on glycemic control and quality of life of a bolus calculator.

**Methods:** Multicentre randomized prospective cross-sectional study. Patients were randomized to control phase (3 months; calculation of prandial insulin according to insulin-to-carbohydrate ratio and insulin sensitivity factor using a single strip meter) or intervention phase (3 months; calculation of prandial insulin with a bolus advisor), with a washout period (3 months). Patients wore a continuous glucosensor (7 days) and answered a quality of life questionnaire at the beginning and at the end of each phase. A questionnaire of satisfaction was obtained at the end of both phases. Inclusion criteria: Adults; T1DM \(>1\) year, HbA1c \(>7.5\%\), basal-bolus therapy with insulin analogs, experience with carbohydrate counting.

**Results:** Data from the first 32 subjects with at least 1 ended phase (27 females, age 38 ± 11 years, diabetes duration 16.8 ± 7.5 years).

Basal characteristics were comparable independently of the starting phase. No differences were found between phases in terms of mean blood glucose, standard deviation (from meter neither from sensor) and satisfaction.

**Conclusions:** The use of a bolus calculator improves glycemic control and quality of life of T1DM subjects.

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**HEMORRHEOLOGICAL APPROACH FOR EARLY DETECTION OF DIABETIC MICROANGIOPATHY**

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Hemorheological parameters, such as erythrocyte deformability, erythrocyte aggregation are altered in patients with diabetes. These changes of erythrocyte make whole blood more viscous and play a role on the pathogenesis of vascular complications of diabetes. So in this study, we intended to discover the comprehensive hemorheological parameters which can early detect diabetic microangiopathic complications.

190 subjects were enrolled and their blood and urine samples were obtained. Also, they had a carotid IMT test and their eye’s examination. Erythrocyte deformability, Aggregation index, Critical shear stress were measured. All subjects were divided by five groups according to their past history and test results as follows: Healthy control (\(n=28\)), prediabetes (\(n=14\)), diabetes without vascular complications (\(n=89\)), diabetes with microvascular complications (\(n=43\)) and diabetes with macrovascular complications (\(n=15\)).

A significant reduction of erythrocyte deformability was observed in DM-no Cx and DM-microCx group compared with healthy control \((p<0.05)\). Whereas, Al does not show significant tendency \((p<0.05)\). And critical shear stress shows significant difference between DM-no Cx and DM-microCx group \((p<0.05)\). SS\(1/2/EImax\) that means the value of half shear stress devied by maximal Elongation Index shows significant reduction in DM-no Cx and DM-microCx group compared with healthy control \((p<0.05)\).

El is a sensitive parameter to detect impairment of erythrocyte in diabetic process. And critical shear stress is also a

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<table>
<thead>
<tr>
<th>Control phase</th>
<th>Intervention phase</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HbA1c (%)</strong></td>
<td><strong>Basal</strong></td>
</tr>
<tr>
<td>Basal</td>
<td>8.15 ± 0.4</td>
</tr>
<tr>
<td>N of glucose measurements</td>
<td>3.9 ± 1.2</td>
</tr>
<tr>
<td>Insulin(UI/kg/day)</td>
<td>0.40 ± 0.14</td>
</tr>
<tr>
<td>Basal</td>
<td>0.31 ± 0.09</td>
</tr>
<tr>
<td>Prandial</td>
<td>0.71 ± 0.13</td>
</tr>
<tr>
<td>Total</td>
<td>72.5 ± 17</td>
</tr>
<tr>
<td>Quality of life</td>
<td>95.7 ± 20</td>
</tr>
</tbody>
</table>