Phase I clinical trial to evaluate TOTUM-63, a botanical complex for managing prediabetes

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Phase I clinical trial to evaluate TOTUM-63, a botanical complex for managing prediabetes

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ABSTRACT

The clinical trial was a Phase I dose escalation study to evaluate the safety, tolerability and efficacy of TOTUM-63, a botanical complex for managing prediabetes. According to the ADA, 86 million Americans aged 20 years or over are prediabetic. We have developed an innovative botanical complex (BC) that aims to reverse prediabetes and to prevent each dysfunction and/or its consequences independently.

The ability of the BC to control fasting glycemia, HbA1c, insulin sensitivity, serum and hepatic triglycerides, and weight gain through a specific effect on fat mass has been demonstrated in different animal models (C57BL/6 high-fat diet, C57BL/6N and Syrian hamster normal diet). The Phase I single-blind trial included a first Phase Iopen label trial initiated on eighty overweight male volunteers (NCT07290449). The first Phase II clinical trial was initiated on seventy overweight male volunteers (NCT07290448). The study included an initial 2-week period of supplementation with 2.5g/day of the BC for 4 weeks (V1; V2: V1+4 weeks) followed by an intermediary analysis and a wash-out period of 2 weeks, then 4 weeks of supplementation with 5.0g/day (V3; V4: V2+4 weeks).

Subjects with abdominal obesity (NCT02868177).

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The primary evaluation criterion was the good tolerability of subjects to two doses of the botanical complex. TOTUM-63. Secondary evaluation criteria was blood glucose and insulin kinetics during an oral carbohydrate tolerance test.

RESULTS

ADVERSE EVENTS

None of the adverse event observed during the study in some patients (head ache, cold, low back pain, flatulence..) were classified as serious and related to the botanical complex TOTUM-63 could not be established.

BIOLOGICAL PARAMETERS

Some changes in biological measures were noticed and were considered by the investigators as being non clinically relevant (Table 1).

TABLE I: biological parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood glucose</td>
<td>108</td>
<td>109</td>
<td>108</td>
<td>109</td>
</tr>
<tr>
<td>Insulin</td>
<td>5.4</td>
<td>5.6</td>
<td>5.5</td>
<td>5.7</td>
</tr>
<tr>
<td>HbA1c</td>
<td>5.7</td>
<td>5.8</td>
<td>5.7</td>
<td>5.8</td>
</tr>
<tr>
<td>Fasting glycemia</td>
<td>6.1</td>
<td>6.1</td>
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</tr>
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</table>

CONCLUSION

The primary evaluation criterion was the good tolerability of subjects to two doses of the botanical complex TOTUM-63. This good tolerability was characterized by stable biological, hemodynamic and anthropometric parameters following administration of TOTUM-63. This good tolerance was characterized by stable biological, hemodynamic and anthropometric parameters following administration of TOTUM-63. No clinically relevant adverse event has been reported. Considering safety conclusions TOTUM-63 is a well-tolerated product. Moreover, the results observed at V4 (after the 4 weeks with 5g/day of TOTUM-63 supplementation) indicate that this dose of TOTUM-63 might improve insulin-sensitivity during oral carbohydrate tolerance test. Taken together, TOTUM-63 is a very promising candidate to pre-diabetes management. Well-conducted phase II clinical trial in targeted populations should be conducted to confirm the clear proof of concept brought by this first study in humans.

REFERENCES

1(2011; Lancet 378:31-40

Table 2: Other data related to safety

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<tr>
<td>Blood pressure</td>
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<td>120/80</td>
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</tr>
<tr>
<td>Heart rate</td>
<td>70</td>
<td>70</td>
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<td>Body weight</td>
<td>82 + 6.6 Kg; BMI: 27.7 + 1.9 Kg/cm².</td>
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Figure 1: Design of the study

Figure 2: Carbohydrate tolerance test. Before the tolerance test (t=-35'), the subjects were catheterized and given 2.5g of the botanical complex TOTUM-63. This good tolerance was characterized by stable biological, hemodynamic and anthropometric parameters following administration of TOTUM-63. No clinically relevant adverse event has been reported. Considering safety conclusions TOTUM-63 is a well-tolerated product. Moreover, the results observed at V4 (after the 4 weeks with 5g/day of TOTUM-63 supplementation) indicate that this dose of TOTUM-63 might improve insulin-sensitivity during oral carbohydrate tolerance test. Taken together, TOTUM-63 is a very promising candidate to pre-diabetes management. Well-conducted phase II clinical trial in targeted populations should be conducted to confirm the clear proof of concept brought by this first study in humans.

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