OP-03

Effect of *Trigonella foenum-graecum* Seed on Postprandial Hyperlipidaemia and Hyperglycaemia in Healthy Rats

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Postprandial hyperlipidaemia (PPHL) and postprandial hyperglycaemia (PPHG) are abnormal elevations of serum triglyceride and serum glucose level after a meal. *Trigonella foenum-graecum* (fenugreek) is widely used as a spice and medication in Asian countries. A study on the effect of *T. foenum-graecum* seed (TFS) on PPHL and PPHG in rodent model is presented.

Oral lipid loading test was conducted using methanol extract (ME) and aqueous fraction (AF) of TFS separately to identify effect on PPHL and oral starch tolerance test (OSTT) separately using ME and AF to identify effect on PPHG.

In the lipid loading test, ME showed a delay in peak time (240 min) compared to control (180 min). The ME showed a significant decrease ($p<0.05$) in the incremental area under the curve (iAUC) of lipaemic response over 120 -180 min. Furthermore, AF showed a significant reduction in iAUC of lipaemic response over 0-60 min ($p<0.01$), 60-120 min ($p<0.01$) and 120-180 min ($p<0.05$). This is the first reported lipid loading test conducted for TFS using coconut oil. In the starch tolerance test, AF (103.4 mg/dl) showed a significant decrease ($p<0.05$) in the mean blood glucose concentration compared to control (116.4 mg/dl) at 60 min, but ME did not exhibit a significant difference. The AF significantly lowered ($p<0.1$) iAUC of the glycaemic response during 60-90 min.

AF and ME of TFS had a significant PPHL lowering and AF a significant PPHG reducing effect in normal rats. Thus, *T. foenum-graecum* seed extracts can be beneficial in prevention and managing diabetic mellitus and its complications, due to this ability.