

## Effect of rich resistant starch snack on MCP- 1 promoter methylation and triglycerides levels in type 2 diabetes mellitus patients

<b>Title</b>	Effect of rich resistant starch snack on MCP- 1 promoter methylation and triglycerides levels in type 2 diabetes mellitus patients
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<b>Abstract</b>	<p>Type 2 diabetes mellitus (T2DM) is closely related to inflammation. One of inflammation marker in T2DM is monocyte chemoattractant protein-1 (MCP-1). Previous research suggests that MCP-1 promoter methylation correlated significantly with plasma triglycerides levels (TG) in T2DM. Some studies state that TG levels in T2DM can be controlled through consumption of diets containing resistant starch. This study aimed to investigate the effect of high resistant starch snack on MCP-1 promoter methylation and triglycerides levels in type 2 diabetes mellitus. This study was a cross-over trial. A total of 19 T2DM subjects have been selected with the criteria of fasting blood glucose levels (GDP)&gt;126 mg/dL, aged 40-60 years, and duration of DM at least 1 year. Subject consume snack as much as 32 g/day with the resistant starch content are 4.25 g for 4 weeks. Data collection and blood retrieval was doing before and after the intervention. The analysis of MCP-1 promoter methylation was performed by methylated specific-PCR (MS-PCR) using DNA samples extracted from mononuclear cells, whereas TG levels analysis performed by the enzymatic colorimetric method (DiaSys Kit) using blood plasma. Statistic analysis was performed by Fisher Exact test for methylation data, paired t-test and unpaired t test for TG levels, and Spearman correlation test for the correlation between variabels (<math>p &lt; 0.05</math>). Methylation result showed that frequency of "methylated" (52.6%) and "unmethylated" (47.4%) status before and after intervention were same, so there was no significant difference (<math>p &gt; 0.05</math>). Plasma triglyceride levels after intervention decreased, but not significant statistically. The correlation between MCP-1 promoter methylation and plasma triglyceride levels was significant. This study concludes that the giving of rich resistant starch snacks intervention does not affect MCP-1 promoter methylation changes significantly. This intervention can lead to decrease plasma triglyceride levels subjects, but not statistically significant.</p>
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