Introduction: Advanced glycation end products are produced endogenously, in association with hyperglycemia and oxidative stress. They can also be generated during cooking or food processing and, once absorbed, alter protein function and promote inflammation. Methods: We selected 40 healthy male subjects, 17 patients with type 2 diabetes of both sexes and 15 patients with type 1 diabetes of both sexes. Each participant underwent both a food frequency questionnaire (FFQ) and 24-hour dietary recall specially adapted for measuring CML intake, anthropometry, measurement of blood pressure and biochemical parameters in blood and urine. Results: Serum CML levels were significantly higher in patients with diabetes compared to healthy subjects (p 0.04), showing a direct relationship between dietary intake and serum levels of CML in T2D patients (r 0.53 p 0.03). sCML levels correlated positively with length of diabetes mellitus, and inversely with body mass index (BMI). The most important dietary factor contributing to raise CML levels in these patients with diabetes was the consumption of milk powder. Conclusion: Serum levels of CML were found to be higher among diabetic subjects, associated to length of diabetes as expected, but also with the ingestion of foods containing higher amounts of ML. The consumption of milk powder in this group is a major determinant of increased serum levels.

Keywords
Diabetes, Carboxymethyl-lysine (CML), Advanced glycation end products (AGES), Diet, Dietary intake.