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Atrophic gastritis and gastric cancer risk amongst diabetes mellitus type-2 subjects and controls in Yaounde, Cameroon using a panel of serum biomarkers (PGI, G-17)

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Introduction & Aim: Gastric inflammation is a precursor to many gastrointestinal disorders including, peptic ulcer disease, atrophic gastritis and gastric cancer. Gastritis is frequent and usually severe in patients with Diabetes Mellitus (DMT2), probably due to the impairment of their immune status. Atrophic gastritis is usually accompanied low pepsinogens and hypergastrinemia and is the most significant risk condition for gastric cancer. This study aimed at detection and comparison of Pepsinogen I (PGI) and Gastrin-17 (G-17) in serum of diabetes mellitus and non-diabetic subjects.

Method: This is a case control study of 82 patients (51 diabetics and 31 non-diabetic subjects) and was carried out in Cameroon from January-April 2017. Five (5) ml of blood was aseptically collected for PGI, PGII enzymes, and G-17 hormones. Assay parameters were analyzed using a software application GastroSoft. Data was analyzed using Epi info 7.0. All statistics were realized at 95% CI.

Results: Hypergastrinemia (G-17>7 pmol/l) was observed in subjects with atrophic corpus gastritis (21.2±24.0 pmol/l), in the diabetics (7.5±0 pmol/l) and the control group (25.70±26.0 pmol/l). In the diabetic subjects with atrophic corpus gastritis, pepsinogen I levels were significantly reduced (26.65±5.44) p=0003 and in the control group (18.6±10.3 pmol/l), p=004. Among the diabetic complications, neuropathy was associated with atrophic corpus gastritis (p=0.005).

Conclusion: The result indicates that diabetics are prone to atrophic corpus gastritis which is a risk factor for neurodegenerative disorders and gastric cancer and need continuous monitoring.

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