

## 2nd GLOBAL MEETING ONDIABETES AND ENDOCRINOLOGY

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### Electrolyte Imbalance in Type 2 Diabetic patients attending two hospitals in the West Region of Cameroon

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#### Abstract

Background: Diabetes mellitus remains a global public health challenge despite advances in medicine, with Cameroon harboring about half a million patients. Although kidney disease and failure belong to common complications of T2D, changes in electrolyte in diabetic individuals have not been well studied in cameroonian population. The aim of this study was to investigate electrolyte imbalance in type 2 diabetic patients under follow up in two health facilities of the West region of Cameroon.

**Methods:** A total of 200 type 2 diabetic patients and 50 non-diabetic control were recruited for this study, all from two hospital facilities (Dschang District Hospital and Bafoussam Regional Hospital), in the west region of Cameroon. Biochemical parameters including fasting plasma glucose (FPG), glycated haemoglobin, calcium, potassium, and sodium were determined in blood samples. Furthermore, a questionnaire was used to assess demographic, anthropometric, clinical and psychosocial data as well as medical care. The diabetic population was divided into groups according to their level of FPG, their glycated hemoglobin and their age of disease.

**Results:** Most of the study participants were Bamileke (229 (92%)), more than half of them were female (158 (63.2%)), and married (169 (68%)). The mean age of the participants was  $57.46 \pm 13.62$  years. Approximately, one third of diabetic patients were house keeper (72 (36%)). Approximately half (47.5%) of the diabetic patient group suffered from hypocalcemia. Hypernatremia and hyperkalemia were observed in 32.5% and 11.50% of the diabetic patients respectively. The mean levels of serum potassium, and sodium were elevated in all three

categories of the patient group compared to the control group. On contrary, the mean level of serum calcium was elevated in control group compared to the cases.

**Conclusion:** Electrolytes imbalance is common on diabetic patients of west region Cameroon. This is very correlated with the uncontrolled glycemia of diabetic patient.

**Keywords:** Diabetes, Electrolytes, Hypocalcemia, Hyperkalemia, hypernatremia

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