J Forensic Toxicol Pharmacol 2017, 6:2
DOI: 10.4172/2325-9841-C1-006

Role of adiponectin in menopausal women

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Adipogenesis refers to the differentiation of pre-adipocytes into mature fat cells, i.e., the development of adipose tissue, which varies according to sex and age. Adipocytes differentiate from stellate or fusiform precursor cells of mesenchymal origin. Adiponectin has been postulated to act an important role in the modulation of glucose and lipid metabolism in insulin-sensitive tissue in both humans and animals. The transition from pre to post menopause is associated with the emergency of many features of metabolic state. The intraabdominal body fat increases, low density lipoprotein and triglyceride levels increase while high density lipoprotein decreases. In our study, we aimed to study the changes in adiponectin and anthropometric parameters after menopause. For this purpose the ELISA methods was used in the study to evaluate the values of adiponectin. A total of 70 female in menopause and 90 control subjects were included in this study. The results showed that adiponectin, BMI and blood pressure increased with menopause and in order to investigate the effect of menopause on these parameters, further work must be carried out in the near future.

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Increased incidence of nuclear anomalies in buccal epithelial cell exfoliates: A non-invasive biomarker of chronic exposure of butchers in Nigeria to polycyclic aromatic hydrocarbons and volatile organic compounds from burning tyres

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Statement of the Problem: Butchers in Nigerian abattoirs in order to cut costs, utilize burning tyres to de-fur edible animal parts especially the skin. Fumes from the burning tyres are known to contain myriad of toxic compounds especially toxic particulate matter, volatile organic compounds (VOCs), hazardous air pollutants (HAPs) and metals, some of which are known or suspected human carcinogens. Hydroxy-PAHs and other metabolites remain the target biomarkers but the present work is suggesting the measurement of increased incidence in buccal epithelial cell nuclear abnormalities as a cheaper, faster and non-invasive test to determine exposure to these compounds.

Methodology: Light smears of buccal exfoliate from the butchers and control subjects were air dried and fixed in 4% formal saline. Incidence of nuclear abnormalities namely micronuclei, pyknosis, karyolysis, karyorrhexis, bi-nucleation, condensed chromatin and broken eggs were determined using Feulgen kits following standard methods and manufacturer's instructions. Slides were viewed and scored at ≥40x magnification by 3 independent assessors and results harmonized. Scoring was by counting the number of cells with phenomenon of interest per 1000 cells in the butchers compared to controls.

Findings: There was a positive correlation between statistically significant increases in urinary 1-Hydroxy pyrene, urinary phenol concentration and incidence of nuclear anomalies in butchers exposed to tyre fumes when compared to control subjects.

Conclusion: It is envisaged that the use of buccal swabs to determine the presence of nuclear anomalies will be adopted in occupational settings as a cheaper, quicker and non-invasive method in determination of chronic exposure to PAHs and other VOCs especially in Africa and other regions with limited resources and access to state of the art technologies.

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