

Cost Implications of Statins in Black Subjects with Diabetes.

P Rheeder, DG Van Zyl, R Khan, D Kekana, E Webb.
Division of Clinical Epidemiology and School of Health Systems and Public Health University of Pretoria.

Aims: To determine the proportion of black subjects with dyslipidemia seen at a secondary and tertiary diabetes clinic and the cost implications thereof.

Methods: Secondary clinic: As part of a cardiovascular screening project blood lipids were determined in a cross sectional convenience sample of diabetic subjects. Tertiary clinic: lipids were determined as part of routine care in diabetic subjects. Costs per month were calculated based on 10mg generic simvastatin at tender price to Gauteng assuming a clinic of 1000 patients.

Results:

	Secondary clinic n=123 patients Mean Age 62.8(9.5) yrs 66.7% female	Tertiary clinic n= 235 patients Mean Age 58.6(12.4) yrs 67.6% female
CatA: LDL>=3.0 mmol/l	59.3%(49.9-68.3%)	29.7%(22.9-37.1%)
CatB: LDL>=2.6 mmol/l	71.2%(62.1-79.2%)	72.7%(65.4-79.2%)
CatC: Tchol>=3.5 & age>40yrs	82.9% (75.1-89.1%)	89.9%(84.3-93.8%)
Costs/mo: Cat A	R14 071-R19 260	R 6 457-R10 462
Cat B	R17 512-R22 334	R18 442-R22 334
Cat C	R21 178-R25 126	R23 772-R26 451

Conclusions: Dependent on which lipid cut-off is used there are considerable cost implications for clinics starting lipid therapy. This should be offset downstream by reduced cardiovascular events.

The Efficacy of an Intervention Program aimed at Diabetes Care Physicians regarding Quality of Diabetes Care at a Tertiary Care Hospital.

DG Van Zyl, P Rheeder.
Faculty of Health Sciences CEU, University of Pretoria.

Objective: To determine efficacy of a physician education program and a structured consultation schedule on quality of out patient diabetes patient care.

Design: Two tertiary care diabetes clinics at Kalafong hospital. Setting: Quasi-experimental controlled before and after study.

Participants: 141 subjects from the intervention clinic, and 159 from the control clinic were randomly selected.

Interventions: Following a baseline clinical audit, a physician training program and a structured consultation schedule was introduced to the intervention clinic and maintained for a one-year period whilst the control clinic continued with usual care.

Outcome measures: Process and outcome measures were determined post-intervention.

Results: Post-intervention, the intervention group had significantly higher process scores than the control group ($p < 0.01$). Outcome measures did not significantly differ between the two groups, HbA1C ($p = 0.60$) and hospital admissions ($p = 0.38$).

Conclusions: The introduction of a physician education program and a structured consultation schedule improved the care of patients attending a tertiary care diabetes clinic.

Can Polyunsaturated Fatty Acids Modulate Insulin Sensitivity in Isolated Human Visceral Adipocytes?

M Haag*, R Laurie*, A Mouton** and MC Groot***,
Depts of Physiology*, Gynaecology & Obstetrics**, University of Pretoria, and Eugene Marais Hospital ***, Pretoria, South Africa.

Diets high in saturated fat lead to insulin resistance (decreased cellular glucose uptake) whereas inclusion of unsaturated fats in the diet prevents this effect. A large fraction (30-50%) of total body glucose uptake takes place in fat tissue (abdominal rather than femoral) of obese subjects.

In the insulin-resistant state lipolysis remains unchecked: the hypermetabolic visceral fat depot delivers high amounts of fatty acids into the circulation, further promoting the development of insulin resistance. The modulation of insulin sensitivity in visceral fat tissue thus is of paramount importance. This study reports rapid effects of polyunsaturated fatty acids on insulin-stimulated and basal glucose uptake in isolated human visceral adipocytes obtained during abdominal hysterectomy.

Adipocytes were liberated from fat tissue with collagenase treatment, washed with Krebs-Ringer buffer, and exposed to individual fatty acids for 10 min. Thereafter glucose uptake ± 40 nM insulin was quantified by measuring uptake of ^3H -deoxyglucose/mg adipocyte protein/min. The cyclo-oxygenase (COX) blocker indomethacin and protein kinase C (PKC) blocker calphostin were included in certain assays to determine whether these enzymes were involved in fatty acid effects.

Insulin increased basal glucose uptake (0.4-0.6 nM/mg protein/min) with $53 \pm 8\%$, whereas arachidonic, eicosapentaenoic and docosahexaenoic acids modulated basal uptake with $+107 \pm 4\%$, $-35 \pm 10\%$ and $-10 \pm 10\%$, respectively. In contrast with COX, PKC did not mediate any fatty acid effects. However, exposure to fatty acids did not significantly increase the reaction to insulin (which uses GLUT-4). Since glucose transport is already affected after 10 min of exposure, the intrinsic activity rather than expression of GLUT-1 may thus be increased by fatty acids in this model.

Performance of the CardiochekT PA and Cholestech LDX(r) Point of Care Analysers compared to Clinical Diagnostic Laboratory Methods for Measurement of Lipids.

VR Panz⁽¹⁾, FJ Raal⁽¹⁾, J Paiker⁽²⁾, R Immelman⁽²⁾, H Miles⁽²⁾
⁽¹⁾Carbohydrate and Lipid Metabolism Research Unit, Department of Medicine; ⁽²⁾National Health Laboratory Services and Department of Chemical Pathology, University of the Witwatersrand, Johannesburg.

Point of care (POC) blood testing is intended to provide results more rapidly than can be obtained from a central laboratory.

Objective: To assess the precision and accuracy of the CardioChek PA and Cholestech LDX POC analysers.

Methods: In 100 patients, total cholesterol (TC), triglyceride (TG), HDL-cholesterol (HDL-C) and LDL-cholesterol (LDL-C) levels were measured by both analysers and compared to those analysed by the National Health Laboratory Service (NHLS) laboratory. Data were evaluated for conformance with National Cholesterol Education Program (NCEP) guidelines.

Results: Results were grouped into low, middle and high ranges and were similar to those obtained by the NHLS, except in the high range where TC and LDL-C levels were under-read by both analysers. All analytes measured by both analysers correlated significantly with NHLS ($p < 0.0001$). With the exception of LDL-C, both analysers showed reasonable compliance with NCEP goals for coefficients of variation and bias measurements. NCEP guidelines were met by both analysers for all analytes at two clinical cut-off points.

Conclusion: Compared to NHLS methods, performance of the CardioChek PA and Cholestech LDX analysers is acceptable and they offer healthcare professionals a rapid, POC method for the measurement of lipids.

Thyroid Disease Profile in Geriatric Patients admitted to Universitas Hospital, Bloemfontein. Free State Province, South Africa.

GM Oosthuizen, AM van Staden*, FA Mahomed, WF Mollentze, DJV Weich**
Department of Internal Medicine, University of the Free State (UFS), Bloemfontein. Division of *Geriatrics and Endocrinology, Department of Internal Medicine, UFS. **St Mary's Hospital, Isle of Wight, England. UK.

Introduction and Aim: This study aims to describe the profile of thyroid disease in hospitalized geriatric patients and the spectrum of admission diagnosis. Previous studies have shown