

DataStar Web

Documents



Table of Contents

DataStar Documents.....	1
Hypertension in people with diabetes and the metabolic syndrome: pathophysiologic insights and therapeutic update.....	1
Prevention of type 2 diabetes: an update.....	1
Life course pathways to adult-onset diabetes.....	1
Pharmacological and lifestyle interventions to prevent or delay type 2 diabetes in people with impaired glucose tolerance: systematic review and meta-analysis.....	2
The hormone-sensitive lipase C-60G promoter polymorphism is associated with increased waist circumference in normal-weight subjects.....	3
Studies of the relationship between the ENPP1 K121Q polymorphism and type 2 diabetes, insulin resistance and obesity in 7,333 Danish white subjects.....	3
The development, implementation, and process evaluation of the REACH Detroit Partnership's Diabetes Lifestyle Intervention.....	4
An adaptation of the diabetes prevention program for use with high-risk, minority patients with type 2 diabetes.....	4
Which obesity index best explains prevalence differences in type 2 diabetes mellitus?.....	5
Effects of CB1 antagonist on the control of metabolic functions in obese type 2 diabetic patients.....	5
Preventing type 2 diabetes using combination therapy: design and methods of the CANadian Normoglycaemia Outcomes Evaluation (CANOE) trial.....	6
Pharmacologic and nonpharmacologic strategies for weight gain and metabolic disturbance in patients treated with antipsychotic medications.....	7
Metabolic monitoring for patients treated with antipsychotic medications.....	7
The metabolic effects of antipsychotic medications.....	8
Metformin for prevention of weight gain and insulin resistance with olanzapine: a double-blind placebo-controlled trial.....	8
The common C49620T polymorphism in the sulfonylurea receptor gene (ABCC8), pancreatic beta cell function and long-term diabetic complications in obese patients with long-lasting type 2 diabetes mellitus.....	9
Major developments in the endocrine and metabolic field between 2006 and 2007.....	10
Two year reduction in sleep apnea symptoms and associated diabetes incidence after weight loss in severe obesity.....	10
Acanthosis nigricans and diabetes risk factors: prevalence in young persons seen in southwestern US primary care practices.....	11
Cardiac substrate uptake and metabolism in obesity and type-2 diabetes: role of sarcolemmal substrate transporters.....	11
Cultural factors and patients' adherence to lifestyle measures.....	12
Socio-economic position at three points in life in association with type 2 diabetes and impaired glucose tolerance in middle-aged Swedish men and women.....	13
Whole body hyperthermia improves obesity-induced insulin resistance in diabetic mice.....	13
Quantitative image analysis in adipose tissue using an automated image analysis system: differential effects of peroxisome proliferator-activated receptor-alpha and -gamma agonist on white and brown adipose tissue morphology in AKR obese and db/db diabetic mice.....	14
Variants in the 5' region of the neuropeptide Y receptor Y2 gene (NPY2R) are associated with obesity in 5,971 white subjects.....	14
The K121Q polymorphism of the plasma cell glycoprotein-1 gene is not associated with diabetes mellitus type 2 in German Caucasians.....	15
Preliminary evidence of FABP2 A54T polymorphism associated with reduced risk of type 2 diabetes and obesity in women from a German cohort.....	15
GIP as a potential therapeutic agent?.....	16
Comparison of insulin sensitivity in patients with insulinoma and obese Type 2 diabetes mellitus.....	17
Effect of timely insulin administration on pancreatic B-cells of Otsuka-Long-Evans-Tokushima-Fatty (OLETF) strain rats. An animal model of non-insulin dependent diabetes mellitus (NIDDM).....	17
Glucose-induced insulin release by pancreatic islets is enhanced in rats with naturally occurring obese non-insulin-dependent diabetes.....	18
Mononuclear leukocytes from obese patients with type II diabetes have reduced activity of hexokinase, 6-phosphofructokinase and glucose-6-phosphate dehydrogenase.....	18

Table of Contents

DataStar Documents

Differences in adiponectin protein expression: effect of fat depots and type 2 diabetic status.....	18
Acute effects of valsartan on insulin sensitivity in obese, non– hypertensive subjects with and without type 2 diabetes.....	19
Visceral fat is a determinant of PAI–1 activity in diabetic and non– diabetic overweight and obese women.....	20
In Zucker diabetic fatty rats plasma leptin levels are correlated with plasma insulin levels rather than with body weight.....	20
Metabolic syndrome: recent prevalence in East and Southeast Asian populations.....	21
Downregulation of electron transport chain genes in visceral adipose tissue in type 2 diabetes independent of obesity and possibly involving tumor necrosis factor–alpha.....	21
The effects of a glucose load and sympathetic challenge on autonomic function in obese women with and without type 2 diabetes mellitus.....	22
Genotypes, obesity and type 2 diabetes—can genetic information motivate weight loss? A review.....	23
Evaluation of a patient education booklet (SimpleStart) effect on postprandial glucose control in type 2 diabetes.....	23
The prospective association of general and central obesity variables with incident type 2 diabetes in adults, Tehran lipid and glucose study.....	24
Recruiting high–risk individuals to a diabetes prevention program: how hard can it be?.....	24
Clinical efficacy of two hypocaloric diets that vary in overweight patients with type 2 diabetes: comparison of moderate fat versus carbohydrate reductions.....	24
Central obesity is an independent risk factor for albuminuria in nondiabetic South Asian subjects.....	25
Incretin levels and effect are markedly enhanced 1 month after Roux– en–Y gastric bypass surgery in obese patients with type 2 diabetes.....	25
Diabetes in the Torres Strait Islands of Australia: better clinical systems but significant increase in weight and other risk conditions among adults, 1999–2005.....	26
Metabolic syndrome in nondiabetic, obese, first–degree relatives of African American patients with type 2 diabetes: African American triglycerides–HDL–C and insulin resistance paradox.....	27
Relationship between casual blood sugar and body mass index in a suburban northern Nigerian population: a short communication.....	28
Diabetes is my companion: lifestyle and self–management among good and poor control Mexican diabetic patients.....	28
The effectiveness of adding cognitive behavioural therapy aimed at changing lifestyle to managed diabetes care for patients with type 2 diabetes: design of a randomised controlled trial.....	29
Lifestyle intervention in obese patients with type 2 diabetes: impact of the patient's educational background.....	30
Improvement of obesity and glucose tolerance by acetate in Type 2 diabetic Otsuka Long–Evans Tokushima Fatty (OLETF) rats.....	30
Treatment options for type 2 diabetes in adolescents and youth: a study of the comparative efficacy of metformin alone or in combination with rosiglitazone or lifestyle intervention in adolescents with type 2 diabetes.....	31
Metabolic complications of obesity: inflated or inflamed?.....	31
Insulin resistance, beta–cell function, and glucose tolerance in Brazilian adolescents with obesity or risk factors for type 2 diabetes mellitus.....	32
Insights into the emerging cardiometabolic prevention and management of diabetes mellitus.....	33
The metabolic syndrome in children and adolescents.....	33
Serum retinol–binding protein: a link between obesity, insulin resistance, and type 2 diabetes.....	33
Inuit anthropometry and insulin resistance.....	34
National type 2 diabetes prevention programme in Finland: FIN–D2D.....	34
The role of obesity and related metabolic disturbances in cancers of the colon, prostate, and pancreas.....	35
Descriptive data on lifestyle, anthropometric status and mental health in Italian elderly people.....	35
Abnormal HDL subclasses distribution in overweight children with insulin resistance or type 2 diabetes mellitus.....	36

Hypertension in people with diabetes and the metabolic syndrome: pathophysiologic insights and therapeutic update.

Source

Current diabetes reports, {Curr-Diab-Rep}, Jun 2007, vol. 7, no. 3, p. 208–17, 72 refs, ISSN: 1534–4827.

Author(s)

Ganne–Sudha, Arora–Surender–K, Dotsenko–Olena, McFarlane–Samy–I, Whaley–Connell–Adam.

Abstract

Hypertension (HTN) and type 2 diabetes mellitus (T2DM) are emerging as epidemics of the 21st century and are important components of the metabolic syndrome (MS). Evidence demonstrates a relationship between HTN, T2DM, and several vascular and metabolic abnormalities that are components of the MS. HTN affects nearly 70 million Americans and over one billion worldwide; likewise, the MS affects 44% of the US population above the age of 60 years and is rapidly increasing. HTN associated with the MS has certain pathophysiologic characteristics that provide clinical challenges. There is growing evidence that tissue activation of the renin–angiotensin system contributes to endothelial dysfunction, microalbuminuria, insulin resistance, and subsequent increased risk for cardiovascular and chronic kidney disease. The notion that HTN is a metabolic as well as a vascular disease provides a new treatment paradigm.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Prevention of type 2 diabetes: an update.

Source

Current diabetes reports, {Curr-Diab-Rep}, Jun 2007, vol. 7, no. 3, p. 200–7, 60 refs, ISSN: 1534–4827.

Author(s)

Farang–Amal, Karam–Jocelyne, Nicasio–John, McFarlane–Samy–I.

Abstract

With the rising tide of the diabetes epidemic leading to increased morbidity and mortality (primarily from cardiovascular disease), together with failure to control the disease and its associated complications, prevention of diabetes appears to be the logical option for curbing this epidemic. Several trials have been completed, and others ongoing, using various strategies for diabetes prevention. In this review, we provide an update on diabetes prevention strategies, highlighting the rationale behind such interventions, together with an outlook of the ongoing efforts that are likely to provide additional options for patients at risk for diabetes.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Life course pathways to adult-onset diabetes.

Dialog eLinks

Full text available at



Source

Social biology, {Soc-Biol}, 2005 Fall–Winter, vol. 52, no. 3–4, p. 94–111, ISSN: 0037–766X.

Author(s)

Best–Latrica–E, Hayward–Mark–D, Hidajat–Mira–M.

Abstract

Early life conditions, such as socioeconomic status (SES) and health, have the potential to set in motion multiple and reinforcing pathways that shape both the prevalence and onset of diabetes among older adults. Using data from the Health and Retirement Study (1998–2002) for persons age 51 years and older, we investigated the core mediating mechanisms linking early life conditions with diabetes prevalence in 1998 and onset over a 4–year follow–up period, focusing on adult achievement processes and **obesity** as key mechanisms. We found that father's education is negatively associated with diabetes prevalence for older men and women. However, no markers of early life SES are directly associated with older men's and women's onset of diabetes, and the negative effects of adult SES on diabetes onset pertain only to women. Early life health affects the onset of diabetes among women—but not the prevalence—and no evidence of this association was found for men. We found no evidence that **obesity** is an important mechanism connecting either early life or adult SES with diabetes development in men or women. We speculate that early life SES may accelerate the development of diabetes at younger ages, and that the pathways linking life course SES, early life health, and diabetes are partly gender–specific and biological in nature. Grant ID: 1 R55 AG19311, Acronym: AG, Agency: NIA.

Publication year

2005.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Pharmacological and lifestyle interventions to prevent or delay type 2 diabetes in people with impaired glucose tolerance: systematic review and meta–analysis.

Dialog eLinks

Paper copy available at [library holding](#) [library holding](#)

Source

BMJ (Clinical research ed.), {BMJ}, 10 Feb 2007 (epub: 19 Jan 2007), vol. 334, no. 7588, p. 299, 16 refs, ISSN: 1468–5833.

Author(s)

Gillies–Clare–L, Abrams–Keith–R, Lambert–Paul–C, Cooper–Nicola–J, Sutton–Alex–J, Hsu–Ron–T, Khunti–Kamlesh.

Abstract

OBJECTIVE: To quantify the effectiveness of pharmacological and lifestyle interventions to prevent or delay type 2 diabetes in people with impaired glucose tolerance. **DATA SOURCES:** Medline, Embase, and the Cochrane library searched up to July 2006. Expert opinions sought and reference lists of identified studies and any relevant published reviews checked. **STUDY SELECTION:** Randomised controlled trials that evaluated interventions to delay or prevent type 2 diabetes in individuals with impaired glucose tolerance. **RESULTS:** 21 trials met the inclusion criteria, of which 17, with 8084 participants with impaired glucose tolerance, reported results in enough detail for inclusion in the meta–analyses. From the meta–analyses the pooled hazard ratios were 0.51 (95% confidence interval 0.44 to 0.60) for lifestyle interventions v standard advice, 0.70 (0.62 to 0.79) for oral diabetes drugs v control, 0.44 (0.28 to 0.69) for orlistat v control, and 0.32 (0.03 to 3.07) for the herbal remedy jiangtang bushen recipe v standard diabetes advice. These correspond to numbers needed to treat for benefit (NNTB) and harm (NNTH) of 6.4 for lifestyle (95% credible interval, NNTB 5.0 to NNTB 8.4), 10.8 for oral diabetes drugs (NNTB 8.1 to NNTB 15.0), 5.4 for orlistat (NNTB 4.1 to NNTB 7.6), and 4.0 for jiangtang bushen (NNTH 16.9 to NNTB 24.8). **CONCLUSIONS:** Lifestyle and pharmacological interventions reduce the rate of progression to type 2 diabetes in people with impaired glucose tolerance. Lifestyle interventions seem to be at least as effective as drug treatment.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

The hormone-sensitive lipase C-60G promoter polymorphism is associated with increased waist circumference in normal-weight subjects.

Source

International journal of **obesity** (2005), {Int-J-Obes-Lond}, Sep 2006 (epub: 14 Mar 2006), vol. 30, no. 9, p. 1442-8, ISSN: 0307-0565.

Author(s)

Carlsson-E, Johansson-L-E, Ström-K, Hoffstedt-J, Groop-L, Holm-C, Ridderstråle-M.

Abstract

OBJECTIVE: Hormone-sensitive lipase (HSL) is a key enzyme in the mobilization of fatty acids from triglyceride stores in adipocytes. The aim of the present study was to investigate the role of the HSL gene promoter variant C-60G, a polymorphism which previously has been associated with reduced promoter activity in vitro, in **obesity** and type 2 diabetes. **DESIGN:** We genotyped two materials consisting of obese subjects and non-obese controls, one material with offspring-parents trios, where the offspring was abdominally obese and one material with trios, where the offspring had type 2 diabetes or impaired glucose homeostasis. HSL promoter containing the HSL C-60G G-allele was generated and tested against a construct with the C-allele in HeLa cells and primary rat adipocytes. HSL mRNA levels were quantified in subcutaneous and visceral fat from 33 obese subjects. **RESULTS:** We found that the common C-allele was associated with increased waist circumference and WHR in lean controls, but there was no difference in genotype frequency between obese and non-obese subjects. There was a significant increased transmission of C-alleles to the abdominally obese offspring but no increased transmission of C-alleles was observed to offspring with impaired glucose homeostasis. The G-allele showed reduced transcription in HeLa cells and primary rat adipocytes. HSL mRNA levels were significantly higher in subcutaneous compared to visceral fat from obese subjects. **CONCLUSION:** The HSL C-60G polymorphism is associated with increased waist circumference in non-obese subjects.

Publication year

2006.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Studies of the relationship between the ENPP1 K121Q polymorphism and type 2 diabetes, insulin resistance and obesity in 7,333 Danish white subjects.

Source

Diabetologia, {Diabetologia}, Sep 2006 (epub: 25 Jul 2006), vol. 49, no. 9, p. 2097-104, ISSN: 0012-186X.

Author(s)

Grarup-N, Urhammer-S-A, Ek-J, Albrechtsen-A, Glümer-C, Borch-Johnsen-K, Jørgensen-T, Hansen-T, Pedersen-O.

Abstract

AIMS/HYPOTHESIS: Plasma cell membrane glycoprotein 1 (PC-1) inhibits insulin signalling by direct interaction with the insulin receptor alpha subunit. This inhibition is enhanced by the minor Q allele of the K121Q polymorphism (rs1044498) in the gene (ENPP1) encoding PC-1. This polymorphism has been studied in relation to insulin resistance, type 2 diabetes and **obesity** in several populations with conflicting results. We assessed the impact of the ENPP1 K121Q polymorphism on type 2 diabetes, **obesity** and quantitative metabolic traits in 7,333 Danes. **SUBJECTS AND METHODS:** The K121Q polymorphism was genotyped in the population-based Inter99 study cohort (5,961 subjects) and in a group of 1,386 patients with type 2 diabetes. All subjects were Danish whites. **RESULTS:** No significant associations with type 2 diabetes or related quantitative metabolic traits, including measures of insulin resistance, were detected. However, a meta-analysis of the present and published studies revealed an association with type 2 diabetes (odds ratio per Q allele, 1.17 (95% CI 1.10-1.25), $p=1 \times 10^{-6}$). In case-control studies comparing subjects of different BMI strata, we observed a putative association of the codon 121 QQ genotype with being overweight (BMI > 25 kg/m²; odds ratio 1.63 (95% CI 1.09-2.46), $p=0.015$), an association not observed when comparing other levels of BMI or when analysing BMI as a quantitative

trait. CONCLUSIONS /INTERPRETATION: In a meta-analysis, the ENPP1 codon 121 Q allele associates with type 2 diabetes. However, a similar association was not found in the present study of Danish white subjects. The effect of this variant on **obesity** in Danish subjects is contentious and further study is needed.

Publication year

2006.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

The development, implementation, and process evaluation of the REACH Detroit Partnership's Diabetes Lifestyle Intervention.

Source

The Diabetes educator, {Diabetes-Educ}, May-Jun 2007, vol. 33, no. 3, p. 509-20, ISSN: 0145-7217.

Author(s)

Feathers-Jacqueline-Two, Kieffer-Edith-C, Palmisano-Gloria, Anderson- Mike, Janz-Nancy, Spencer-Michael-S, Guzman-Ricardo, James-Sherman-A.

Abstract

PURPOSE: The purpose of this article was to describe the development, implementation, and process evaluation findings of a culturally tailored diabetes lifestyle intervention for African Americans and Latinos. **METHODS:** African American and Latino adults with type 2 diabetes from 3 health care systems in Detroit, Michigan, participated in diabetes lifestyle intervention of the Racial and Ethnic Approaches to Community Health Detroit Partnership. The intervention curricula were culturally and linguistically tailored for each population. Trained community residents delivered the curricula in 5 group meetings aimed at improving dietary, physical activity, and diabetes self-care behaviors of study participants. The aims of the process evaluation were to assess participant satisfaction with the intervention, utility, and applicability of information and cultural relevance of intervention materials. Content analysis was used to analyze qualitative data. Matrices were developed along thematic lines, and common themes were determined by grouping responses by question. **RESULTS:** Ninety-eight percent of participants attended 1 or more intervention classes; 41% attended all 5 meetings. Attendance rates ranged from 59% to 88% for individual meetings. Participants reported that program information and activities were useful, culturally relevant, and applicable to diabetes self-management. Participants also appreciated the convenient community location for meetings and the social support received from other participants. **CONCLUSIONS:** A community-based, culturally tailored diabetes lifestyle intervention delivered by trained community residents was associated with high participant satisfaction and retention. Grant ID: R18 DK 062344, Acronym: DK, Agency: NIDDK Grant ID: U50/CCU517264-01, Agency: PHS.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

An adaptation of the diabetes prevention program for use with high-risk, minority patients with type 2 diabetes.

Source

The Diabetes educator, {Diabetes-Educ}, May-Jun 2007, vol. 33, no. 3, p. 503-8, ISSN: 0145-7217.

Author(s)

Cramer-J-Steven, Sibley-Ralph-F, Bartlett-Donald-P, Kahn-Linda-S, Loffredo-Lisa.

Abstract

PURPOSE: The purpose of this pilot study was to determine the effectiveness of an edited Diabetes Prevention Program (DPP) Lifestyle Resources Core Teaching Plan for managing patients with type 2 diabetes in an urban underserved setting. Modifications were made to attempt to cut to the bare essentials to work within the constrained budgets of safety net providers. The primary aim was to achieve

a mean absolute reduction in HbA1c level of 1 percentage point. **METHODS:** The authors conducted a randomized controlled trial of 9 months' duration for patients with type 2 diabetes with an HbA1c $\geq 8.0\%$. A total of 67 patients randomized into usual-care and case management groups were evaluated with an intention-to-treat analysis. A modified DPP workbook was used during 7 monthly visits with a nurse case manager. **RESULTS:** As compared with the usual-care group, those in the case management group experienced a greater reduction in HbA1c level (-1.87 vs -0.54 ; $P=.011$) and weight (-2.47 kg vs $+0.88$ kg; $P=.011$). **CONCLUSION:** Use of an edited version of the DPP workbook in an urban, low-income, minority population with type 2 diabetes produced a significant absolute reduction in HbA1c percentage and weight.

Publication year
2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Which obesity index best explains prevalence differences in type 2 diabetes mellitus?

Source

Obesity (Silver Spring Md.), {**Obesity**–Silver–Spring}, May 2007, vol. 15, no. 5, p. 1294–301, ISSN: 1930–7381.

Author(s)

Lorenzo–Carlos, Serrano–Ríos–Manuel, Martínez–Larrad–María–T, Gonzalez–Villalpando–Clicerio, Williams–Ken, Gabriel–Rafael, Stern–Michael–P, Haffner–Steven–M.

Abstract

OBJECTIVE: **Obesity** drives the diabetes epidemic. However, it is not known which **obesity** index best explains variations in type 2 diabetes mellitus prevalence across populations. **RESEARCH METHODS AND PROCEDURES:** We analyzed three cross-sectional studies from San Antonio, TX, (Mexican–Americans and non–Hispanic whites, $n = 2839$), Mexico City ($n = 2233$), and Spain ($n = 2161$) (age range, 35 to 64 years). We used the area under the receiver operating characteristic curve (AUC) to assess performance for identifying diabetic subjects and logistic regression analysis to examine differences in diabetes prevalence. **RESULTS:** AUCs for waist circumference and BMI were similar in white subjects, but the AUC for waist circumference was greater in Mexican–origin subjects (Mexican men, 0.594 vs 0.549 , $p = 0.008$; and women, 0.605 vs 0.557 , $p = 0.002$; Mexican–American men, 0.648 vs 0.600 , $p < 0.001$; and women, 0.744 vs 0.693 , $p < 0.001$). The AUC for waist–to–height ratio tended to be greater than that for waist circumference, but statistical significance was demonstrated only in Mexican women (0.628 vs 0.613 , $p = 0.044$), Mexican–American women (0.774 vs 0.758 , $p < 0.001$), and Spanish women (0.734 vs 0.715 , $p = 0.039$). No **obesity** index was consistently superior to the others for explaining differences in diabetes prevalence among populations. **CONCLUSIONS:** In white and Mexican–origin men, waist circumference may be the preferred marker for identifying diabetic subjects on account of its simplicity; in women, waist–to–height ratio may be better. Differences in diabetes prevalence among these populations cannot be attributed to a single measure of **obesity**. Grant ID: R01–HL24799, Acronym: HL, Agency: NHLBI Grant ID: R01–HL36820, Acronym: HL, Agency: NHLBI.

Publication year
2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Effects of CB1 antagonist on the control of metabolic functions in obese type 2 diabetic patients.

Source

Diabetes & metabolism, {Diabetes–Metab}, Apr 2007 (epub: 05 Apr 2007), vol. 33, no. 2, p. 85–95, 80 refs, ISSN: 1262–3636.

Author(s)

Lafontan–M, Piazza–P–V, Girard–J.

Abstract

Clinical reports (RIO trials) have shown that chronic administration of a CB–cannabinoid receptor antagonist (rimonabant) provides improvements of disturbed metabolic parameters observed in overweight and obese patients with type 2 diabetes. The production of endocannabinoid and the expression of CB1–cannabinoid receptors are largely distributed in the different organs aside from the brain. It is now clearly established that endocannabinoids act both through orexigenic effects and peripheral metabolic effects in various tissues involved in the control of metabolism and energy expenditure (i.e. adipose tissue, liver, gastrointestinal tract, skeletal muscle and pancreas). This review will consider: i) the disturbances of glucose and lipid metabolisms in obese type 2 diabetics; ii) an overview of the pharmacological properties of rimonabant and iii) the various mechanisms involved in tissues and organs to explain the therapeutic efficacy of rimonabant. A special attention will be paid to its utilization in obese type 2 diabetics. The emerging concept of endocannabinoids acting as metabolic regulators is the more likely explanation of the success of rimonabant treatments in phase III studies.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Preventing type 2 diabetes using combination therapy: design and methods of the Canadian Normoglycaemia Outcomes Evaluation (CANOE) trial.**Source**

Diabetes **obesity** & metabolism, {Diabetes–Obes–Metab}, Sep 2006, vol. 8, no. 5, p. 531–7, ISSN: 1462–8902.

Author(s)

Zinman–B, Harris–S–B, Gerstein–H–C, Young–T–K, Raboud–J–M, Neuman–J, Hanley–A–J–G.

Abstract

Several studies have demonstrated that type 2 diabetes mellitus (DM) can be prevented/delayed in subjects with impaired glucose tolerance (IGT) by using pharmacologic agents and/or lifestyle interventions. However, a number of challenges remain, including the translation of lifestyle programmes to the general population and the need to achieve greater risk reductions by using pharmacologic approaches. IGT, like DM, is characterized by insulin resistance, beta–cell dysfunction and increased hepatic glucose production. We believe that the use of combination diabetes therapy would be a particularly effective diabetes prevention strategy. In this context, we initiated the Canadian Normoglycemia Outcomes Evaluation (CANOE) study, a moderately sized, randomized, double–blind, controlled trial. The primary objective of CANOE is to determine whether treatment with metformin plus rosiglitazone, in addition to a healthy living lifestyle programme, will prevent the development of DM. The secondary objective of CANOE is to determine whether this treatment approach will improve cardiovascular risk factors associated with IGT. A total of 200 patients will be recruited in Toronto and London, Ontario, and followed for an average of 4 years (range 3–5 years). Active treatment with metformin (500 mg) plus rosiglitazone (2 mg), administered as one capsule twice daily, will be compared to matched placebo. Subjects will be eligible for randomization if they have IGT and are between the ages of 30–75 years. The primary outcome will be the development of new–onset DM, diagnosed by either two fasting plasma glucose values of ≥ 7 mmol/l or one positive oral glucose tolerance test with a 2–h plasma glucose value of >11.0 mmol/l during the active drug phase of the trial. With a sample size of 100 participants per group, we will be able to detect a relative risk reduction of 45%, with a two–sided log–rank test with a significance level of 0.05 and 80% power, assuming that the median time to progression is 8 years in the control group and that participants will be recruited over 2 years and followed for an average of 4 years. In conclusion, the CANOE study will determine whether combination pharmacological therapy combined with a lifestyle intervention programme can significantly modify the development of diabetes in high–risk Canadians.

Publication year

2006.

Pharmacologic and nonpharmacologic strategies for weight gain and metabolic disturbance in patients treated with antipsychotic medications.

Dialog eLinks

Full text available at



Source

Canadian journal of psychiatry. Revue canadienne de psychiatrie, {Can- J-Psychiatry}, Jul 2006, vol. 51, no. 8, p. 502-11, 56 refs, ISSN: 0706-7437.

Author(s)

Faulkner-Guy, Cohn-Tony-A.

Abstract

OBJECTIVES: To provide an overview of pharmacologic and nonpharmacologic strategies for antipsychotic-associated weight gain and metabolic disturbance, to identify important areas for future research, and to make practice recommendations based on current knowledge. **METHODS:** We undertook a selective review of interventions for weight gain and metabolic disturbance in the general population and in individuals treated with antipsychotic medications, focusing on randomized controlled trials in schizophrenia. **RESULTS:** Pharmacologic strategies include medication choice, medication dosage and formulation, choice of concomitant psychotropic medications, medication switching, medication addition to effect weight loss or prevent weight gain, and medications to increase insulin sensitivity. Medication choice and medication switching may have the most potent influence on weight and metabolic parameters. Modest short-term weight loss can occur with the addition of selective medications and (or) lifestyle interventions. However, more rigorous and longer-term studies are needed. **CONCLUSIONS:** Although difficult, the prevention of weight gain and the promotion of weight loss are possible for individuals treated with antipsychotic medications. Further research, including diabetes prevention studies, is required. We suggest a pathway for the management of weight gain and emerging metabolic disturbance.

Publication year

2006.

Metabolic monitoring for patients treated with antipsychotic medications.

Dialog eLinks

Full text available at



Source

Canadian journal of psychiatry. Revue canadienne de psychiatrie, {Can- J-Psychiatry}, Jul 2006, vol. 51, no. 8, p. 492-501, 37 refs, ISSN: 0706-7437.

Author(s)

Cohn-Tony-A, Sernyak-Michael-J.

Abstract

OBJECTIVES: Metabolic side effects of antipsychotic treatment include weight gain, dyslipidemia and increased susceptibility to diabetes. Patients with schizophrenia have increased coronary heart disease mortality and reduced life expectancy. There is an urgent clinical need to monitor antipsychotic-treated patients for metabolic disturbance. Our objectives were to review published international monitoring guidelines, establish goals for metabolic monitoring, and make recommendations for practice. **METHOD:** We reviewed the major published consensus guidelines for metabolic monitoring of patients treated with antipsychotic medications and selectively reviewed practice guidelines for the management of diabetes, dyslipidemia, and hypertension. **RESULTS:** Patients with serious mental illness have markedly elevated

rates of metabolic disturbance and limited access to general medical care. Monitoring, but not necessarily medical treatment of metabolic disorder, falls within the scope of psychiatric practice and should include screening for metabolic disturbance as well as tracking the effects of antipsychotic treatment. In addition, psychiatrists and psychiatric services should work toward facilitating patients' access to medical care. There is considerable consensus in the published guidelines. Areas of dissent include which patients to monitor, the utility of glucose tolerance testing, and the point at which to consider switching antipsychotics. **CONCLUSION:** We encourage clinicians to adopt a structured system for conducting and recording metabolic monitoring and to develop collaborations with family physicians, diabetes specialists, dieticians, and recreation therapists to facilitate appropriate medical care for antipsychotic-treated patients.

Publication year
2006.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

The metabolic effects of antipsychotic medications.

Dialog eLinks

Full text available at



Source

Canadian journal of psychiatry. Revue canadienne de psychiatrie, {Can- J-Psychiatry}, Jul 2006, vol. 51, no. 8, p. 480-91, 115 refs, ISSN: 0706-7437.

Author(s)

Newcomer-John-W, Haupt-Dan-W.

Abstract

OBJECTIVES: To review current evidence for the hypothesis that treatment with antipsychotic medications may be associated with increased risks for weight gain, insulin resistance, hyperglycemia, dyslipidemia, and type 2 diabetes mellitus (T2DM) and to examine the relation of adiposity to medical risk. **METHODS:** We identified relevant publications through a search of MEDLINE from the years 1975 to 2006, using the following primary search parameters: diabetes or hyperglycemia or glucose or insulin or lipids and antipsychotic. Meeting abstracts and earlier nonindexed articles were also reviewed. We summarized key studies in this emerging literature, including case reports, observational studies, retrospective database analyses, and controlled experimental studies. **RESULTS:** Treatment with different antipsychotic medications is associated with variable effects on body weight, ranging from modest increases (for example, less than 2 kg) experienced with amisulpride, ziprasidone, and aripiprazole to larger increases during treatment with agents such as olanzapine and clozapine (for example, 4 to 10 kg). Substantial evidence indicates that increases in adiposity are associated with decreases in insulin sensitivity in individuals both with and without psychiatric disease. The effects of increasing adiposity, as well as other effects, may contribute to increases in plasma glucose and lipids observed during treatment with certain antipsychotics. **CONCLUSION:** Treatment with certain antipsychotic medications is associated with metabolic adverse events that can increase the risk for metabolic syndrome and related conditions such as prediabetes, T2DM, and cardiovascular disease.

Publication year
2006.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Metformin for prevention of weight gain and insulin resistance with olanzapine: a double-blind placebo-controlled trial.

Dialog eLinks

Full text available at

**Source**

Canadian journal of psychiatry. Revue canadienne de psychiatrie, {Can- J-Psychiatry}, Mar 2006, vol. 51, no. 3, p. 192-6, ISSN: 0706-7437.

Author(s)

Baptista-Trino, Martínez-Jessan, Lacruz-Anny, Rangel-Nairy, Beaulieu-Serge, Serrano-Ana, Arapé-Yinet, Martínez-Maritza, de-Mendoza-Soaira, Teneud-Luis, Hernández-Luis.

Abstract

OBJECTIVE: To assess whether metformin prevents body weight gain (BWG) and metabolic dysfunction in patients with schizophrenia who are treated with olanzapine. **METHOD:** Forty patients taking olanzapine (10 mg daily) were randomly allocated to a metformin (n = 20; 850 to 1700 mg daily) or placebo (n = 20) group in a 14-week double-blind study. Waist circumference (WC), BWG, body mass index (BMI) fasting glucose, insulin, and lipids were evaluated at baseline and at Weeks 7 and 14 of treatment. **RESULTS:** At Week 14, BWG (kg) was similar in the metformin group (5.5 kg) and the placebo group (6.3 kg), P = 0.4. There were no differences between the changes in BMI, WC, glucose, insulin, insulin resistance index (HOMA-IR), and plasma lipid levels observed in the treatment group and the placebo group; however, glucose levels decreased significantly after metformin administration (P = 0.02). The HOMA-IR decreased significantly in both groups, but 3 subjects from the placebo group developed fasting glucose levels greater than 5 mmol/L. After taking metformin, triglyceride levels increased, but the cholesterol profile improved significantly. **CONCLUSIONS:** Metformin did not prevent olanzapine-induced BWG. While some lipid parameters worsened during placebo, the HOMA-IR improved in both the placebo and the metformin groups. Carbohydrate metabolism impairment was not systematically observed during short-term olanzapine administration.

Publication year

2006.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

The common C49620T polymorphism in the sulfonylurea receptor gene (ABCC8), pancreatic beta cell function and long-term diabetic complications in obese patients with long-lasting type 2 diabetes mellitus.

Source

Experimental and clinical endocrinology & diabetes : official journal German Society of Endocrinology (and) German Diabetes Association, {Exp-Clin-Endocrinol-Diabetes}, May 2007, vol. 115, no. 5, p. 317-21, ISSN: 0947-7349.

Author(s)

Stefanski-A, Majkowska-L, Ciechanowicz-A, Frankow-M, Safranow-K, Parczewski-M, Pilarska-K.

Abstract

HYPOTHESIS: A gene polymorphism associated with accelerated beta-cell failure may lead to a more rapid development of long-term complications of type 2 diabetes (T2DM) due to a worse metabolic control of the disease. **AIM OF THE STUDY:** Evaluation of an association between the intronic C49620T (exon 16 -3c-->t) polymorphism in the ABCC8 (SUR1) gene and beta-cell function, as well as the prevalence of long-term diabetic complications in obese patients with long-lasting type 2 diabetes. **METHODS:** Two hundred and fifteen obese patients with at least a 10-year history of T2DM were thoroughly characterized clinically. In all the patients the intravenous glucagon test was performed and the C49620T ABCC8 polymorphism was assessed. Subgroups of patients, classified either according to genotype or to allele carriage, were compared. **RESULTS:** No difference was found between the groups in variables describing beta-cell function and the prevalence of chronic diabetic complications, with the exception of a significantly lower incidence of brain stroke in CC homozygotes than in patients carrying T allele (CT+TT). Body mass index was higher in patients carrying C allele than in TT homozygotes. HDL-cholesterol was higher in CT heterozygous than in homozygous CC or TT patients. **CONCLUSIONS:** There is no association between the ABCC8 polymorphism gene and the beta-cell

function or the prevalence of chronic diabetic complications in obese patients with long-term T2DM, except for brain stroke. The results might suggest that the homozygous CC subjects are at lower risk of the complication, but additional studies are warranted to test this finding.

Publication year
2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Major developments in the endocrine and metabolic field between 2006 and 2007.

Source

Current opinion in investigational drugs (London England : 2000), {Curr-Opin-Investig-Drugs}, Apr 2007, vol. 8, no. 4, p. 281-4, ISSN: 1472-4472.

Author(s)

Norman-Peter.

Publication year
2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Two year reduction in sleep apnea symptoms and associated diabetes incidence after weight loss in severe obesity.

Source

Sleep, {Sleep}, 1 Jun 2007, vol. 30, no. 6, p. 703-10, ISSN: 0161-8105.

Author(s)

Grunstein-Ronald-R, Stenlöf-Kaj, Hedner-Jan-A, Peltonen-Markku, Karason-Kristjan, Sjöström-Lars.

Abstract

STUDY OBJECTIVES: To evaluate the effect of bariatric surgery on sleep apnea symptoms and **obesity**-associated morbidity in patients with severe **obesity**. **DESIGN:** Prospective study. **SETTING:** University hospitals and community centers in Sweden. **Intervention:** We investigated the influence of weight loss surgery (n=1729) on sleep apnea symptoms and **obesity**-related morbidity using a conservatively treated group (n=1748) as a control. **MEASUREMENTS AND RESULTS:** Baseline BMI in surgical group (42.2+/-4.4 kg/m(2)) and control group (40.1+/-4.6 kg/m(2)) changed -9.7+/-5 kg/m(2) and 0+/-3 kg/m(2), respectively, at 2-year follow-up. In the surgery group, there was a marked improvement in all obstructive sleep apnea (OSA) symptoms compared with the control group (P <0.001). Persistence of snoring (21.6 vs 65.5%, adjusted OR 0.14, 95% CI 0.10-0.19) and apnea (27.9 vs 71.3%, adjusted OR 0.16, 95% CI 0.10-0.23) were much less in the surgery group compared with controls. Compared with subjects with no observed apnea at follow-up (n=2453), subjects who continued to have or developed observed apnea (n=404) had a higher incidence of diabetes (adjusted OR 2.03, 95% CI 1.19-3.47) and hypertriglyceridemia (adjusted OR 1.86, 95% CI 1.07-3.25) but not hypertension (adjusted OR 1.09, 95% CI 0.65-1.83) or hypercholesterolemia (adjusted OR 0.91, 95% CI 0.53-1.58). **CONCLUSION:** Bariatric surgery results in a marked improvement in sleep apnea symptoms at 2 years. Despite adjustment for weight change and baseline central **obesity**, subjects reporting loss of OSA symptoms had a lower 2-year incidence of diabetes and hypertriglyceridemia. Improvement in OSA in patients losing weight may provide health benefits in addition to weight loss alone.

Publication year
2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Acanthosis nigricans and diabetes risk factors: prevalence in young persons seen in southwestern US primary care practices.

Dialog eLinks

Full text available at



Source

Annals of family medicine, {Ann-Fam-Med}, May-Jun 2007, vol. 5, no. 3, p. 202-8, ISSN: 1544-1717.

Author(s)

Kong-Alberta-S, Williams-Robert-L, Smith-Melissa, Sussman-Andrew-L, Skipper-Betty, Hsi-Andrew-C, Rhyne-Robert-L.

Abstract

PURPOSE: Evidence shows acanthosis nigricans is often associated with hyperinsulinemia and may indicate increased risk of type 2 diabetes mellitus. The purpose of this study was to determine the association of acanthosis nigricans with type 2 diabetes risk factors and disease in young persons. **METHODS:** We conducted a cross-sectional study in the Research in Outpatient Settings Network, a practice-based research network in southwestern US communities. Participating clinicians (N = 96) collected data on children and young adults aged 7 to 39 years seen during a 2-week sampling period. The main outcomes were the prevalence of acanthosis nigricans, type 2 diabetes risk factors (ethnicity, family history of type 2 diabetes, hypertension, **overweight/obesity**), type 2 diabetes, and the relationships among these. **RESULTS:** Among 1,133 patients sampled, risk factors for type 2 diabetes were common: 69% had a family history of the disease; 3% of children (aged 7 to 19 years) and 12% of adults had hypertension; 43% of children and 73% of adults were overweight or obese; and 80% were members of ethnic minorities. Acanthosis nigricans was found in 17% of children and 21% of adults. Among children and adults alike, the more type 2 diabetes risk factors that were present, the higher the prevalence of acanthosis nigricans ($P < .001$). The prevalence ratio for type 2 diabetes in patients with acanthosis nigricans was 1.97 (95% confidence interval, 1.18-3.27; $P = .01$) after controlling for age, body mass index, and the number of type 2 diabetes risk factors. Clinicians reported that the identification of acanthosis nigricans frequently led to discussions about lifestyle modification for decreasing the risk of type 2 diabetes. **CONCLUSIONS:** Patients with acanthosis nigricans are likely to have multiple risk factors for type 2 diabetes. Acanthosis nigricans may be an independent risk factor for this disease. Detection of acanthosis nigricans may help clinicians more rapidly identify high-risk individuals for diabetes counseling. Grant ID: R21 HS13496, Acronym: HS, Agency: AHCPR.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Cardiac substrate uptake and metabolism in obesity and type-2 diabetes: role of sarcolemmal substrate transporters.

Source

Molecular and cellular biochemistry, {Mol-Cell-Biochem}, May 2007, vol. 299, no. 1-2, p. 5-18, 150 refs, ISSN: 0300-8177.

Author(s)

Coort-Susan-L-M, Bonen-Arend, van-der-Vusse-Ger-J, Glatz-Jan-F-C, Luiken-Joost-J-F-P.

Abstract


Cardiovascular disease is the primary cause of death in **obesity** and type-2 diabetes mellitus (T2DM). Alterations in substrate metabolism are believed to be involved in the development of both cardiac dysfunction and insulin resistance in these conditions. Under physiological circumstances the heart utilizes predominantly long-chain fatty acids (LCFAs) (60-70%), with the remainder covered by carbohydrates, i.e., glucose (20%) and lactate (10%). The cellular uptake of both LCFA and glucose is regulated by the sarcolemmal amount of specific transport proteins, i.e., fatty acid translocase (FAT)/CD36 and GLUT4, respectively. These transport proteins are not only present at the sarcolemma, but

also in intracellular storage compartments. Both an increased workload and the hormone insulin induce translocation of FAT/CD36 and GLUT4 to the sarcolemma. In this review, recent findings on the insulin and contraction signalling pathways involved in substrate uptake and utilization by cardiac myocytes under physiological conditions are discussed. New insights in alterations in substrate uptake and utilization during insulin resistance and its progression towards T2DM suggest a pivotal role for substrate transporters. During the development of **obesity** towards T2DM alterations in cardiac lipid homeostasis were found to precede alterations in glucose homeostasis. In the early stages of T2DM, relocation of FAT/CD36 to the sarcolemma is associated with the myocardial accumulation of triacylglycerols (TAGs) eventually leading to an impaired insulin-stimulated GLUT4-translocation. These novel insights may result in new strategies for the prevention of development of cardiac dysfunction and insulin resistance in **obesity** and T2DM.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Cultural factors and patients' adherence to lifestyle measures.**Dialog eLinks**Paper copy available at **Source**

The British journal of general practice : the journal of the Royal College of General Practitioners, {Br-J-Gen-Pract}, Apr 2007, vol. 57, no. 537, p. 291-5, ISSN: 0960-1643.

Author(s)

Serour-Maleka, Alqhenaei-Hanadi, Al-Saqabi-Sawsan, Mustafa-Abdel- Rahman, Ben-Nakhi-Abdulla.

Abstract

BACKGROUND: Non-adherence to preventive and therapeutic lifestyle recommendations among patients at high risk of cardiovascular disease is more prevalent and varied than previously thought. The problem needs to be addressed by those who are involved in the care of these patients. **AIM:** To measure adherence and barriers of complying with lifestyle recommendations among patients with high cardiovascular risk factors. **DESIGN OF STUDY:** Prospective study. **SETTING:** Six family-practice health centres in Kuwait. **METHOD:** Data are from 334 Kuwaiti adult males and females with hypertension, type 2 diabetes, or both, who completed a routine clinic visit in one of six family practice centres. Trained staff used a structured questionnaire to obtain a detailed medical history regarding exercise habits and barriers to compliance with diet and exercise programmes. Clinical criteria assessed were height, weight, and the control of blood pressure and blood sugar. **RESULTS:** From the study sample, 63.5% of patients reported that they were not adhering to any diet regimen, 64.4% were not participating in regular exercise, and 90.4% were overweight and obese. The main barriers to adherence to diet were unwillingness (48.6%), difficulty adhering to a diet different from that of the rest of the family (30.2%), and social gatherings (13.7%). The main barriers to adherence to exercise were lack of time (39.0%), coexisting diseases (35.6%), and adverse weather conditions (27.8%). Factors interfering with adherence to lifestyle measures among the total sample were traditional Kuwaiti food, which is high in fat and calories (79.9%), stress (70.7%), a high consumption of fast food (54.5%), high frequency of social gatherings (59.6%), abundance of maids (54.1%), and excessive use of cars (83.8%). **CONCLUSION:** The majority of individuals in the sample were overweight, did not engage in recommended levels of physical activity, and did not follow dietary recommendations. Additional cultural and demographic variables need to be considered to improve adherence to lifestyle measures.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Socio-economic position at three points in life in association with type 2 diabetes and impaired glucose tolerance in middle-aged Swedish men and women.

Source

International journal of epidemiology, {Int-J-Epidemiol}, Feb 2007, vol. 36, no. 1, p. 84–92, ISSN: 0300–5771.

Author(s)

Agardh–E–E, Ahlbom–A, Andersson–T, Efendic–S, Grill–V, Hallqvist–J, Ostenson–C–G.

Abstract

BACKGROUND: It has been suggested that low socio-economic position (SEP) during childhood and adolescence predicts risk of adult type 2 diabetes. We investigated the associations between type 2 diabetes and childhood SEP (fathers' occupational position), participants' education and adult SEP (participants' occupational position). To determine possible independent associations between early SEP (fathers' occupational position and participants' education) and disease, we adjusted for adult SEP and factors present in adult life associated with type 2 diabetes. **METHODS:** This cross-sectional study comprised 3128 men and 4821 women aged 35–56 years. All subjects have gone through a health examination and answered a questionnaire on lifestyle factors. At the health centre, an oral glucose tolerance test was administered and identified 55 men and 52 women with previously undiagnosed type 2 diabetes. Relative risks (RRs) with 95% CIs were calculated in multiple logistic regression analyses. **RESULTS:** The age-adjusted RRs of type 2 diabetes if having a father with middle occupational position were 2.3 (Confidence interval (CI):1.0–5.1) for women and, 2.0 (CI:0.7–5.6) for men). Moreover, low education was associated with type 2 diabetes in women, RR = 2.5 (CI:1.2–4.9). Low occupational position in adulthood was associated with type 2 diabetes in women, RR = 2.7 (CI:1.3–5.9) and men, RR = 2.9 (CI:1.5–5.7). The associations between early SEP and type 2 diabetes disappeared after adjustment for adult SEP and factors associated with type 2 diabetes. **CONCLUSION:** The association between type 2 diabetes and low SEP during childhood and adolescence in middle-aged Swedish subjects disappeared after adjustment for adult SEP and adult risk factors of diabetes.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Whole body hyperthermia improves obesity-induced insulin resistance in diabetic mice.

Source

International journal of hyperthermia : the official journal of European Society for Hyperthermic Oncology North American Hyperthermia Group, {Int-J-Hyperthermia}, May 2007, vol. 23, no. 3, p. 259–65, ISSN: 0265–6736.

Author(s)

Kokura–Satoshi, Adachi–Satoko, Manabe–Emiko, Mizushima–Katsura, Hattori–Takeshi, Okuda–Toshimitsu, Nakabe–Nami, Handa–Osamu, Takagi–Tomohisa, Naito–Yuji, Yoshida–Norimasa, Yoshikawa–Toshikazu.

Abstract

AIM: In this study, we examined the efficacy of whole body hyperthermia (WBH) on **obesity**-induced insulin resistance in diabetic mice. **METHODS:** Male db/db mice were treated with WBH 3 times per week for 12 weeks. The rectal temperature of mice reached 38.0 degrees C 5 min after heating, and was kept at 38.0 degrees C for 30 min. At the end of each week, tail snip glucose levels were determined under fasting conditions. The GLUT-4 gene expression of muscle tissue was analyzed by real-time PCR. **RESULTS:** (1) WBH-treated db/db mice showed a significant decrease in fasting blood glucose level as compared with untreated db/db mice ($p < 0.01$). (2) Plasma insulin levels in untreated db/db mice at the age of 10 weeks were significantly increased compared with those of db/+ mice ($p < 0.0001$). On the other hand, the reduction (31%) in insulin levels in WBH-treated mice indicated improved insulin sensitivity. (3) The ability of WBH to increase insulin sensitivity was further established in glucose

tolerance tests and insulin tolerance tests. (4) Urine albumin of db/db mice significantly increased compared with those of db/+ mice at 18 weeks of age ($p < 0.001$). This increase in urinary albumin was significantly inhibited by WBH ($p < 0.01$). (5) WBH up-regulated the expression of GLUT4 mRNA in skeletal muscle. CONCLUSION: Although the mechanisms have not yet been completely investigated, WBH may provide a new therapeutic or preventive modality against **obesity**-related diseases such as T2DM and metabolic or insulin resistance syndrome.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Quantitative image analysis in adipose tissue using an automated image analysis system: differential effects of peroxisome proliferator-activated receptor-alpha and -gamma agonist on white and brown adipose tissue morphology in AKR obese and db/db diabetic mice.

Source

Pathology international, {Pathol-Int}, Jun 2007, vol. 57, no. 6, p. 369-77, ISSN: 1320-5463.

Author(s)

Okamoto-Yuji, Higashiyama-Hiroyuki, Inoue-Hiroki, Kanematsu-Masahiro, Kinoshita-Mine, Asano-Satoshi.

Abstract

Morphometric analysis of adipocytes is widely used to demonstrate the effects of antiobesity drugs or anti-diabetic drugs on adipose tissues. However, adipocyte morphometry has been quantitatively performed by manual object extraction using conventional image analysis systems. The authors have developed an automated quantitative image analysis method for adipose tissues using an innovative object-based quantitative image analysis system (eCognition). Using this system, it has been shown quantitatively that morphological features of adipose tissues of mice treated with peroxisome proliferator-activated receptor (PPAR) agonists differ dramatically depending on the type of PPAR agonist. Marked alteration of morphological characteristics of brown adipose tissue (BAT) treated with G1259578A, a PPAR-alpha agonist, was observed in AKR/J (AKR) obese mice. Furthermore, there was a 22.8% decrease in the mean size of adipocytes in white adipose tissue (WAT) compared with vehicle. In diabetic db/db mice, the PPAR-gamma agonist GW347845X decreased the mean size of adipocytes in WAT by 15.4% compared with vehicle. In contrast to changes in WAT, GW347845X increased the mean size of adipocytes in BAT greatly by 96.1% compared with vehicle. These findings suggest that G1259578A may activate fatty acid oxidation in BAT and that GW347845X may cause adipocyte differentiation in WAT and enhancement of lipid storage in BAT.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Variants in the 5' region of the neuropeptide Y receptor Y2 gene (NPY2R) are associated with obesity in 5,971 white subjects.

Source

Diabetologia, {Diabetologia}, Nov 2006 (epub: 22 Sep 2006), vol. 49, no. 11, p. 2653-8, ISSN: 0012-186X.

Author(s)

Torekov-S-S, Larsen-L-H, Andersen-G, Albrechtsen-A, Glümer-C, Borch-Johnsen-K, Jørgensen-T, Hansen-T, Pedersen-O.

Abstract

AIMS/HYPOTHESIS: The gene encoding neuropeptide Y receptor Y2 (NPY2R) is widely expressed in the central nervous system, with particularly high abundance in the hypothalamus, which is known to be important for appetite regulation. We tested whether variations in NPY2R are associated with **obesity**.
METHODS: The coding region of NPY2R was analysed for mutations in 48 obese Danish white subjects and two silent substitutions were identified: SNPs 1 and 2 (rs1047214 and rs2880415). SNP1 and additional reported variants (SNPs 3–6 (rs11099992, rs12649641, rs2342676 and rs6857530)) located in the 5' region were examined in 5,971 Danish white subjects. Since SNPs 1–2 and 4–6, respectively, were in tight linkage disequilibrium large-scale analyses of genetic epidemiology were restricted to SNPs 1, 3 and 4. **RESULTS:** Homozygous carriers of the minor A allele of SNP4 were more common among obese subjects; the AA frequency was 15.9 (95% CI 15.2–16.6) among 4,837 non-obese subjects (BMI <30 kg/m²) vs 19.0 (95% CI 17.2–20.8) among 960 obese subjects (BMI > or =30 kg/m²), odds ratio 1.24 (95% CI 1.04–1.48), p=0.02. SNPs 1–3 were not associated with **obesity**.
CONCLUSIONS/INTERPRETATION: Common variants rs12649641, rs2342676 and rs6857530 in the 5' region of NPY2R are associated with **obesity** in Danish white subjects.

Publication year
2006.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

The K121Q polymorphism of the plasma cell glycoprotein–1 gene is not associated with diabetes mellitus type 2 in German Caucasians.

Source

Hormone and metabolic research. Hormon- und Stoffwechselforschung. Hormones et métabolisme, {Horm-Metab-Res}, Aug 2006, vol. 38, no. 8, p. 524–9, ISSN: 0018–5043.

Author(s)

Gouni-Berthold-I, Giannakidou-E, Faust-M, Berthold-H-K, Krone-W.

Abstract

The K121Q polymorphism of the human plasma cell membrane glycoprotein 1 (PC–1) gene is known to be associated with diabetes mellitus type 2 in some populations studied, with contradictory results. The purpose of the present study was to examine a possible association between the presence of diabetes and the PC–1 K121Q polymorphism in a German Caucasian population. Associations between the polymorphism and various metabolic and anthropometric parameters were also examined. The presence of the K121Q variant was investigated using polymerase chain reaction restriction fragment–length polymorphism in 402 subjects with diabetes (231 men, 171 women, age 63+/-11 yrs, body mass index 28.7+/-5.1 kg/m²) and in 432 age- and sex-matched controls (247 men, 185 women, age 64+/-7 yrs, BMI 26.5+/-3.7 kg/m²). Ninety-seven subjects were carriers of the K121Q polymorphism in the control and 110 in the diabetic group (allelic frequency 11.9% and 14.7%, respectively, P=0.25). The polymorphism had no significant influence on the presence of atherosclerotic disease, body mass index, and blood pressure, both, in diabetics and in non-diabetic controls. Our data suggest that the K121Q polymorphism of the PC–1 gene is not associated with diabetes, **obesity**, hypertension or atherosclerosis in a German Caucasian population.

Publication year
2006.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Preliminary evidence of FABP2 A54T polymorphism associated with reduced risk of type 2 diabetes and obesity in women from a German cohort.

Source

Hormone and metabolic research. Hormon- und Stoffwechselforschung. Hormones et métabolisme, {Horm-Metab-Res}, May 2006, vol. 38, no. 5, p. 341–5, ISSN: 0018–5043.

Author(s)

Fisher–E, Li–Y, Burwinkel–B, Kühr–V, Hoffmann–K, Möhlig–M, Spranger–J, Pfeiffer–A, Boeing–H, Schrezenmeir–J, Döring–F.

Abstract

The T54 variant of the FABP2 gene has shown an association with the insulin resistance syndrome in some, but not all, studies. Here, we tested the hypothesis that the association between FABP2 A54T genotype and type 2 diabetes (T2DM) is confounded by body mass index (BMI) and is different between the two genders. 192 incident cases of T2DM and 384 sex- and age-matched controls were taken from the EPIC–Potsdam study cohort. Logistic regression analyses revealed that BMI was a strong confounder for diabetes risk association among women. When adjusted for BMI, the homozygous T54 variant was significantly associated with reduced risk of T2DM in women (OR = 0.24, 95 %CI: 0.07 – 0.82), but not in men in the co-dominant inheritance model. Accordingly, HbA (1c) values were significantly lower in women carrying two T54 alleles with BMI regarded as covariate. While accounting for potentially confounding effects, linear trends of increased BMI and leptin values were observed in women according to the presence of T54 alleles. The interaction term ($p = 0.04$) of continuous BMI and T54-coding genotypes suggested that the T54 variant is an effect-modifier for BMI in females. We conclude that the T54 allele of FABP2 A54T is associated both with higher BMI and reduced risk of T2DM in women from the German EPIC–Potsdam study.

Publication year

2006.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

GIP as a potential therapeutic agent?**Source**

Hormone and metabolic research. Hormon- und Stoffwechselforschung. Hormones et métabolisme, {Horm–Metab–Res}, Nov–Dec 2004, vol. 36, no. 11–12, p. 859–66, 118 refs, ISSN: 0018–5043.

Author(s)

Meier–J–J, Nauck–M–A.

Abstract

Glucose-dependent insulintropic polypeptide (GIP) is released from K- cells in the gut after meal ingestion, and acts in concert with glucagon-like peptide 1 (GLP-1) to augment glucose-stimulated insulin secretion. While derivatives of GLP-1 are under active investigation for the treatment of type 2 diabetes, the case is different for GIP. Indeed, the insulintropic effect of GIP is almost absent in patients with type 2 diabetes. In addition, the unfavourable pharmacokinetic profile of native GIP obviates its clinical application. Different analogues of GIP exhibiting prolonged stability and enhanced biological potency have been generated in order improve the anti-diabetic properties of GIP. However, glucose-normalisation, as is typically observed during the intravenous administration of GLP-1 in patients with type 2 diabetes, has not yet been achieved with GIP or its derivatives. Since GIP appears to play a role in lipid physiology and elevated levels of GIP have been associated with **obesity**, antagonising GIP action has been proposed as a therapeutic strategy for **obesity**. This concept has recently been reinforced by the observation that GIP receptor knock-out mice are protected from high-fat diet-induced **obesity**. However, eliminating the effect of endogenous GIP may at the same time impair postprandial insulin secretion, thereby severely disturbing glucose homeostasis. Therefore, therapeutic strategies based on either augmenting or antagonising GIP action are far from being established alternatives for the future therapy of type 2 diabetes or **obesity**.

Publication year

2004.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Comparison of insulin sensitivity in patients with insulinoma and obese Type 2 diabetes mellitus.

Source

Hormone and metabolic research. Hormon- und Stoffwechselforschung. Hormones et métabolisme, {Horm-Metab-Res}, Nov 1996, vol. 28, no. 11, p. 595-8, ISSN: 0018-5043.

Author(s)

Skrha-J, Sindelka-G, Haas-T, Hilgertová-J, Justová-V.

Abstract

Insulin sensitivity was evaluated in 16 insulinoma patients and in 15 obese persons with Type 2 diabetes mellitus by using hyperinsulinaemic clamps and analysis of insulin receptor characteristics on erythrocytes. Significantly decreased insulin sensitivity index (M/I) was found in both insulinoma and obese Type 2 diabetic patients as compared with healthy non-obese controls (21.2 +/- 2.2 and 19.5 +/- 2.6 vs 40.3 +/- 3.7 $\mu\text{mol.kg}^{-1}.\text{min}^{-1}$ per $\text{mU.l}^{-1} \times 100$, $p < 0.001$). No difference was observed between both groups of patients. Metabolic clearance rate of glucose was strongly reduced in obese diabetic patients but it was normal in insulinoma patients in comparison with healthy persons (2.7 +/- 0.4 vs 8.7 +/- 0.6 or 7.9 +/- 0.7 $\text{ml.kg}^{-1}.\text{min}^{-1}$, $p < 0.001$). A decreased insulin binding on specific receptors caused by reduced binding capacity was observed only in insulinoma patients but not in obese Type 2 diabetic patients. A significant negative correlation was proved between body mass index (BMI) and insulin sensitivity index ($r = -0.82$, $p < 0.001$) indicating that BMI is the main determining factor of insulin resistance in the total cohort of examined patients. We conclude that insulin resistance was caused by postreceptor changes in obese Type 2 diabetes, whereas a decreased insulin binding capacity together with post-receptor defect was present in insulinoma patients.

Publication year

1996.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Effect of timely insulin administration on pancreatic B-cells of Otsuka-Long-Evans-Tokushima-Fatty (OLETF) strain rats. An animal model of non-insulin dependent diabetes mellitus (NIDDM).

Source

Hormone and metabolic research. Hormon- und Stoffwechselforschung. Hormones et métabolisme, {Horm-Metab-Res}, Sep 1995, vol. 27, no. 9, p. 398-402, ISSN: 0018-5043.

Author(s)

Ishida-K, Mizuno-A, Sano-T, Noma-Y, Shima-K.

Abstract

Morphological changes of the pancreas and impairment of pancreatic B-cell function in a model rat (Otsuka Long Evans Tokushima Fatty (OLETF)) with non-insulin dependent diabetes mellitus might be the result of over-activity of B-cells to compensate for insulin insensitivity. To test this possibility, we studied whether the histological and functional alterations in the pancreas of male OLETF rats were improved by treatment with insulin for a certain period, which might reduce the burden to B-cells. Groups of 6 male OLETF rats and 5 or 4 male non-diabetic control Long Evans Tokushima Otsuka (LETO) rats received injections of insulin (Ultralente MC; 10 U/kg/day to OLETF rats, 5 U/kg/day to LETO rats) or saline subcutaneously, once a day for 3 weeks from 24 weeks of age. Then their insulin responses to glucose (200 mg/dl) and arginine (10 mmol/l) were examined by perfusion of the pancreas. The morphological features of their pancreata were also examined. The insulin response to glucose in OLETF rats treated with insulin was significantly higher than that of OLETF rats treated with saline (sigma IRI 142.5 +/- 27.0 vs. 37.4 +/- 6.3 ng/ml.20 min, $p < 0.05$) and unlike in the latter showed the normal two phases. The morphological changes of the pancreas in the insulin-treated OLETF rats were remarkably ameliorated, animals showing no enlargement and only slight fibrosis of islets. Thus treatment with insulin was effective for preventing B-cell dysfunction and morphological changes of the pancreas in NIDDM model rats.

Publication year

1995.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Glucose-induced insulin release by pancreatic islets is enhanced in rats with naturally occurring obese non-insulin-dependent diabetes.

Source

Hormone and metabolic research. Hormon- und Stoffwechselforschung. Hormones et métabolisme, {Horm-Metab-Res}, Jun 1995, vol. 27, no. 6, p. 300-2, ISSN: 0018-5043.

Author(s)

Sato-Y, Aizawa-T, Taguchi-N, Ishihara-F, Hashizume-K.

Publication year

1995.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Mononuclear leukocytes from obese patients with type II diabetes have reduced activity of hexokinase, 6-phosphofructokinase and glucose-6-phosphate dehydrogenase.

Source

Hormone and metabolic research. Hormon- und Stoffwechselforschung. Hormones et métabolisme, {Horm-Metab-Res}, Mar 1993, vol. 25, no. 3, p. 160-4, ISSN: 0018-5043.

Author(s)

Muggeo-M, Moghetti-P, Querena-M, Cacciatori-V, Zoppini-G, Zenere-M, Tosi-F, Travia-D, Bonora-E.

Abstract

In the present study we measured the activity of some cytosolic enzymes involved in intracellular glucose metabolism in mononuclear leukocytes from 77 obese subjects of which 39 were nondiabetic and 38 had newly-diagnosed untreated type II diabetes mellitus. 28 subjects (19 nondiabetic and 18 diabetic) had also a study of insulin binding to monocytes. 35 subjects (14 nondiabetic, 21 diabetic) underwent an insulin tolerance test for the evaluation of in vivo insulin action. Mononuclear leukocytes from diabetic obese patients showed significantly lower activities of hexokinase (HK), 6-phosphofructokinase (PFK) and glucose-6-phosphate dehydrogenase (G6PDH), while pyruvate kinase (PK) and 6-phosphogluconate dehydrogenase (6PGDH) activities were similar in the two groups. In the whole population HK and G6PDH activities inversely correlated with fasting and 2-h OGTT plasma glucose levels. Neither plasma insulin levels nor maximal specific insulin binding to monocytes were significantly correlated with any of the enzyme activities measured. Conversely, the parameter of insulin action generated by insulin tolerance test significantly correlated with HK, G6PDH and 6PGDH. These results indicate that in obese subjects the presence of diabetes is associated with a reduced activity of some enzymes of glucose metabolism in mononuclear leukocytes. This multiple enzymatic defect is correlated with the impairment of in vivo insulin action.

Publication year

1993.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Differences in adiponectin protein expression: effect of fat depots and type 2 diabetic status.

Source

Hormone and metabolic research. Hormon- und Stoffwechselforschung. Hormones et métabolisme, {Horm-Metab-Res}, Nov-Dec 2002, vol. 34, no. 11-12, p. 650-4, ISSN: 0018-5043.

Author(s)

Fisher-F-M, McTernan-P-G, Valsamakis-G, Chetty-R, Harte-A-L, Anwar-A-J, Starcynski-J, Crocker-J, Barnett-A-H, McTernan-C-L, Kumar-S.

Abstract

Adiponectin is an adipocyte-derived hormone associated with insulin sensitivity and atherosclerotic risk. As central rather than gluteofemoral fat is known to increase the risk of type 2 diabetes and cardiovascular disease, we investigated the mRNA and protein expression of adiponectin in human adipose tissue depots. RNA was extracted from 46 human adipose tissue samples from non-diabetic subjects aged 44.33 +/- 12.4 with a BMI of 28.3 +/- 6.0 (mean +/- SD). The samples were as follows: 21 abdominal subcutaneous, 13 omentum, 6 thigh; samples were also taken from diabetic subjects aged 66.6 +/- 7.5 with BMI 28.9 +/- 3.17; samples were: 6 abdominal subcutaneous; 3 thigh. Quantitative PCR and Western analysis was used to determine adiponectin content. Protein content studies determined that when compared with non-diabetic abdominal subcutaneous adipose tissue (Abd Sc AT) (values expressed as percentage relative to Abd Sc AT -100 %). Adiponectin protein content was significantly lower in non-diabetic omental AT (25 +/- 1.6 %; p < 0.0001, n = 6) and in Abd Sc AT from diabetic subjects (36 +/- 1.5 %; p < 0.0001, n = 4). In contrast, gluteal fat maintained high adiponectin protein content from non-diabetic patients compared with diabetic patients. An increase in BMI was associated with lower adiponectin protein content in obese ND Abd Sc AT (25 +/- 0.4 %; p < 0.0001). These findings were in agreement with the mRNA expression data. In summary, this study indicates that adiponectin protein content in non-diabetic subjects remains high in abdominal subcutaneous fat, including gluteal fat, explaining the high serum adiponectin levels in these subjects. Omental fat, however, expresses little adiponectin. Furthermore, abdominal and gluteal subcutaneous fat appears to express significantly less adiponectin once diabetic status is reached. In conclusion, the adipose tissue depot-specific expression of adiponectin may influence the pattern of serum adiponectin concentrations and subsequent disease risk.

Publication year

2002.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Acute effects of valsartan on insulin sensitivity in obese, non-hypertensive subjects with and without type 2 diabetes.

Source

Hormone and metabolic research. Hormon- und Stoffwechselforschung. Hormones et métabolisme, {Horm-Metab-Res}, May 2002, vol. 34, no. 5, p. 271-4, ISSN: 0018-5043.

Author(s)

Luzio-S-D, Dunseath-G, Owens-D-R.

Abstract

BACKGROUND: Two studies were designed to determine whether a single dose (80 mg) of the angiotensin II receptor blocker (ARB), valsartan, alters insulin sensitivity in obese, non-hypertensive subjects with and without Type 2 diabetes. **METHODS:** Insulin sensitivity (S(I)), glucose effectiveness (S(G)), and acute insulin response (AIR(0-10 min)) were measured by means of a 3-hour insulin-modified frequently sampled intravenous glucose tolerance test (FSIVGTT) before and after a single dose of valsartan. Study 1: obese, normotensive non-diabetic male subjects (n = 12), mean (SD) age 37.2 +/- 11.2 years, BMI 32.8 +/- 6.8 kg/m (2); Study 2: obese, normotensive Type 2 diabetic patients (n = 12), mean age 55.7 +/- 6.9 years, BMI 35.0 +/- 6.8 kg/m (2)/l. Both studies were randomised, double-blind, placebo-controlled, single-dose crossover group studies involving subjects in two study days, two weeks apart. After fasting samples were taken, a 300 mg/kg iv glucose bolus was injected at 0 min, and 0.05 U/kg iv insulin was given 20 min later. Blood samples for analysis of glucose and insulin were taken throughout the 3-hour study period. **RESULTS:** Study 1 (non-diabetic subjects) S(I) 2.81 vs. 2.63 x 10 (-4) min (-1) per microU/ml (p = 0.54), S(G) 0.020 vs. 0.020 min (-1) (p = 0.90), AIR(0-10) min 3305 vs. 3450 microU/min/ml (p = 0.71); Study 2 (patients with type 2 diabetes) S(I) 0.59

vs. 0.85×10^{-4} min⁻¹ per microU/ml ($p = 0.15$), S(G) 0.013 vs. 0.014 min⁻¹ ($p = 0.71$), AIR(0–10) min⁻¹ 65 vs. 119 microU/min/ml ($p = 0.14$), placebo vs. valsartan, respectively. **CONCLUSION:** In obese, non-hypertensive non-diabetic and Type 2 diabetic subjects a single dose of valsartan does not alter insulin sensitivity.

Publication year

2002.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Visceral fat is a determinant of PAI-1 activity in diabetic and non-diabetic overweight and obese women.

Source

Hormone and metabolic research. Hormon- und Stoffwechselforschung. Hormones et métabolisme, {Horm-Metab-Res}, Oct 2001, vol. 33, no. 10, p. 602–7, ISSN: 0018–5043.

Author(s)

Mertens-I, Van-der-Planken-M, Corthouts-B, Wauters-M, Peiffer-F, De-Leeuw-I, Van-Gaal-L.

Abstract

Plasminogen activator inhibitor type 1 (PAI-1), an inhibitor of fibrinolysis and an important and independent cardiovascular risk factor, has been shown to be elevated in **obesity** and type 2 diabetes. Recent study results have suggested that adipose tissue—visceral fat in particular—could play an important role in the fibrinolytic process. In order to assess the specific role of this fat distribution, we measured PAI-1 activity (AU/ml) and visceral fat (CT-scan at level L4–L5) in 2 groups of 30 overweight and obese diabetic and overweight and obese non-diabetic women. Subjects were matched for age, weight, body mass index, fat mass and total abdominal fat. Visceral adipose tissue and PAI-1 were significantly higher in diabetic women ($p = 0.022$ and $p = 0.004$ respectively) than in non-diabetic patients. Visceral fat correlated significantly with PAI-1 activity, even after correction for insulin and triglycerides ($r = 0.28$, $p = 0.034$). Stepwise regression analysis showed visceral fat as the most important determinant factor for PAI-1 in the whole group and in the non-diabetic group. In the diabetic group, fasting insulin was the most important determinant. These results show that visceral fat is more important than BMI or total body fat in the determination of PAI-1 levels. Furthermore, the increased amount of visceral fat in type 2 diabetics may contribute to the increase of PAI-1 activity levels and the subsequent increased risk for thrombovascular disease, regardless of BMI and total fatness.

Publication year

2001.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

In Zucker diabetic fatty rats plasma leptin levels are correlated with plasma insulin levels rather than with body weight.

Source

Hormone and metabolic research. Hormon- und Stoffwechselforschung. Hormones et métabolisme, {Horm-Metab-Res}, Nov 1999, vol. 31, no. 11, p. 610–5, ISSN: 0018–5043.

Author(s)

Janssen-S-W, Martens-G-J, Sweep-C-G, Ross-H-A, Hermus-A-R.

Abstract

The obese (ob) gene product leptin, secreted from adipose tissue, acts in the hypothalamus to regulate body energy stores. In vitro experiments showed that insulin increases both leptin mRNA expression and leptin secretion by adipocytes. Here, we report on the relationship between plasma insulin and plasma leptin in a longitudinal in vivo study. In Zucker diabetic fatty (ZDF) rats, an animal model for non-insulin-dependent diabetes mellitus (NIDDM), and in ZDF control rats, blood glucose, body weight, plasma insulin and plasma leptin levels were measured from 10 to 25 weeks of age. In ZDF control rats,

body weight, plasma leptin and plasma insulin levels increased gradually during the study period. In ZDF rats, the time course of plasma leptin was similar to that of plasma insulin, but did not parallel that of body weight. Calculation of partial correlation coefficients revealed that in ZDF control rats plasma leptin correlated with body weight rather than with plasma insulin. However, in ZDF rats, plasma leptin correlated with plasma insulin rather than with body weight, suggesting an important role for insulin in the modulation of leptin secretion in this animal model for NIDDM.

Publication year

1999.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Metabolic syndrome: recent prevalence in East and Southeast Asian populations.

Source

Asia Pacific journal of clinical nutrition, {Asia-Pac-J-Clin-Nutr}, 2007, vol. 16, no. 2, p. 362-7, ISSN: 0964-7058.

Author(s)

Nestel-Paul, Lyu-Ramon, Low-Lip-Ping, Sheu-Wayne-Huey-Hernig, Nitiyanant-Wanee, Saito-Ikuo, Tan-Chee-Eng.

Abstract

BACKGROUND: The prevalence of the metabolic syndrome among a number of Asian populations as defined by several current criteria has been increasing rapidly and appears to resemble that among Western populations. **METHODS:** We review 25 surveys of the metabolic syndrome in Asian populations (PR China, Hong Kong, Taiwan, Japan, Philippines, Singapore) that report adequate information published during the last 5 years. **RESULTS:** Using Asian-adapted definitions of **obesity** (BMI > or = 25 kg/m²) and increased waist circumference (for male > or = 90 cm; for female > or = 80 cm) prevalence appears to be between 10 to 30%. Those with the syndrome are more likely to have a history of diabetes and cardiovascular disease. The risk of developing Type 2 diabetes is 10 times higher among middle-aged Japanese men with the metabolic syndrome compared to healthy subjects. In Chinese and Japanese populations, people who have the metabolic syndrome are 3 to 10 times more likely to develop cardiovascular disease. Variance in prevalence estimates of the metabolic syndrome even within the same country result from differences in sampling and possibly from definitions. **CONCLUSIONS:** The outstanding conclusion from recent surveys across the Asian-Pacific region is that of a consistent increase in the prevalence of the metabolic derangements associated with abdominal adiposity that lead to high risk of morbidity and mortality.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Downregulation of electron transport chain genes in visceral adipose tissue in type 2 diabetes independent of obesity and possibly involving tumor necrosis factor- α .

Dialog eLinks

Full text available at



Source

Diabetes, {Diabetes}, Jun 2006, vol. 55, no. 6, p. 1792-9, ISSN: 0012-1797.

Author(s)

Dahlman-Ingrid, Forsgren-Margaretha, Sjögren-Annelie, Nordström-Elisabet-Arvidsson, Kaaman-Maria, Näslund-Erik, Attersand-Anneli, Arner-Peter.

Abstract

Impaired oxidative phosphorylation is suggested as a factor behind insulin resistance of skeletal muscle in type 2 diabetes. The role of oxidative phosphorylation in adipose tissue was elucidated from results of Affymetrix gene profiling in subcutaneous and visceral adipose tissue of eight nonobese healthy, eight obese healthy, and eight obese type 2 diabetic women. Downregulation of several genes in the electron transport chain was the most prominent finding in visceral fat of type 2 diabetic women independent of **obesity**, but the gene pattern was distinct from that previously reported in skeletal muscle in type 2 diabetes. A similar but much weaker effect was observed in subcutaneous fat. Tumor necrosis factor- α (TNF- α) is a major factor behind inflammation and insulin resistance in adipose tissue. TNF- α treatment decreased mRNA expression of electron transport chain genes and also inhibited fatty acid oxidation when differentiated human preadipocytes were treated with the cytokine for 48 h. Thus, type 2 diabetes is associated with a tissue- and region-specific downregulation of oxidative phosphorylation genes that is independent of **obesity** and at least in part mediated by TNF- α , suggesting that impaired oxidative phosphorylation of visceral adipose tissue has pathogenic importance for development of type 2 diabetes.

Publication year

2006.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

The effects of a glucose load and sympathetic challenge on autonomic function in obese women with and without type 2 diabetes mellitus.**Source**

Metabolism: clinical and experimental, {Metab-Clin-Exp}, Jun 2007, vol. 56, no. 6, p. 778-85, ISSN: 0026-0495.

Author(s)

Kanaley-Jill-A, Baynard-Tracy, Franklin-Ruth-M, Weinstock-Ruth-S, Goulopoulou-Styliani, Carhart-Robert-Jr, Ploutz-Snyder-Robert, Figueroa-Arturo, Fernhall-Bo.

Abstract

This study examined the effect of glucose ingestion on cardiac autonomic function in nonobese women and obese women with and without type 2 diabetes mellitus. Heart rate variability was measured via continuous electrocardiogram, and beat-by-beat blood pressure was recorded using finger photoplethysmography (Portapres, TNO Biomedical Instrumentation, Amsterdam, The Netherlands) in a fasted state and in response to a 75-g glucose load in 42 middle-aged women (40-60 years). Upright tilt was also used as an orthostatic stress to provide a clinically relevant challenge to the cardiovascular system. Significant main effects for log-transformed (Ln) total power (TP, square milliseconds) were observed with upright tilt ($P < .01$) and glucose challenge ($P < .05$). LnTP decreased in all groups in both the fasted and fed state with upright tilt ($P < .01$), but glucose ingestion resulted in higher LnTP in the supine position only ($P = .008$). Tilt resulted in a significant main effect for low-frequency (LFnu, calculated in normalized units) and high-frequency (HFnu, calculated in normalized units) power ($P < .000$), whereas the glucose challenge had no effect on LFnu or HFnu power. LFnu approached significance for group differences ($P = .07$), such that the nonobese had lower LF power than either of the obese groups. Sympathovagal balance (LnLF/HF ratio) was affected by position ($P < .000$) and group ($P < .05$), with a lower LnLF/HF in the nonobese than in the obese women. Baroreceptor sensitivity decreased ($P < .01$) during upright tilt but was not changed by the glucose challenge. In conclusion, basal sympathovagal balance is higher in obese individuals with and without type 2 diabetes mellitus. Women with type 2 diabetes mellitus showed no differences in autonomic function with an orthostatic challenge or glucose load than nondiabetic, obese women. The glucose load did alter total spectral power in all of these middle-aged women but had no impact on baroreceptor sensitivity. Grant ID: R21 DK063179, Acronym: DK, Agency: NIDDK.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Genotypes, obesity and type 2 diabetes--can genetic information motivate weight loss? A review.

Source

Clinical chemistry and laboratory medicine : CCLM / FESCC, {Clin-Chem-Lab-Med}, 2007, vol. 45, no. 3, p. 301-8, 79 refs, ISSN: 1434-6621.

Author(s)

Gable-David, Sanderson-Saskia-C, Humphries-Steve-E.

Abstract

The current worldwide prevalence of type 2 diabetes (T2D) was estimated to be 2.8% in 2000, but it is predicted to increase to epidemic proportions in the coming decades, primarily due to lifestyle changes, particularly **obesity**. In the United Kingdom there are over 1.4 million men and women with T2D. In addition to a strong environmental element, the existence of an underlying genetic component to T2D risk is supported by twin studies, family studies and the widely different T2D prevalence across ethnic groups. Here we review data showing that several common genetic risk variants for T2D have now been successfully identified, with modest, but meta-analytical robust effects on risk (in the region of 1.1-1.5-fold risk per allele). Use of these in combination may have clinical utility in identifying subjects at high risk. Whether this information will be motivating to make the type of lifestyle changes that have been shown to reduce the rate of progression from the pre-diabetes state to overt T2D is discussed.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Evaluation of a patient education booklet (SimpleStart) effect on postprandial glucose control in type 2 diabetes.

Source

Diabetes technology & therapeutics, {Diabetes-Technol-Ther}, Jun 2007, vol. 9, no. 3, p. 241-5, ISSN: 1520-9156.

Author(s)

King-Allen-B, Wolfe-Gary-S, Armstrong-Dana-U.

Abstract

BACKGROUND: Post-meal hyperglycemia is emerging as a cardiovascular risk factor and may be elevated despite a hemoglobin A1C (A1C) of <7%. The Simple Start DVD (LifeScan, Milpitas, CA) was developed to educate patients about glycemic targets and dietary changes that could lessen glycemic excursions. We evaluated SimpleStart in a controlled, randomized, prospective trial using continuous glucose monitoring (CGM). **METHODS:** Thirty subjects with type 2 diabetes mellitus having an A1C of <7.0% (mean 6.0%) were recruited from the Center's population. Subjects were randomized to either Simple Start DVD presentation and a 30-min diet education course (SS Group) or just the latter (Control Group). Subjects were seen at baseline and during weeks 6 and 12 by an investigator. **Life-style** and medication changes were advised based on history and self-monitored blood glucose downloaded meter data. CGM and A1C were done at baseline and during weeks 6 and 12. **RESULTS:** Twenty-eight subjects completed the 12-week study with 14 subjects in the SS Group and Control Group being compared. There was no significant difference in the baseline or subsequent A1C levels or overall CGM glucose values between groups or over time. SMBG frequency was significantly increased in the SS Group from <1.0 per day to 2.0 per day (P < 0.001). At week 12, the mean glucose for the 4-h after-meal period was significantly lower in the SS Group than in the Control Group at breakfast and lunch in those subjects with adequate CGM tracings (P < 0.05). **CONCLUSION:** An educational program incorporating Simple Start facilitates patient behavioral changes, decreasing post-meal hyperglycemia.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

The prospective association of general and central obesity variables with incident type 2 diabetes in adults, Tehran lipid and glucose study.

Source

Diabetes research and clinical practice, {Diabetes-Res-Clin-Pract}, Jun 2007 (epub: 04 Dec 2006), vol. 76, no. 3, p. 449-54, ISSN: 0168-8227.

Author(s)

Hadaegh-Farzad, Zabetian-Azadeh, Harati-Hadi, Azizi-Fereidoun.

Abstract

OBJECTIVE: To investigate which anthropometric index is the best predictor of diabetes in relation to age. **METHODS:** In this longitudinal study 4479 non-diabetic men and women aged > or =20 years were followed for 3.6 years. Diabetes with its risk factors and **obesity** were defined according to the ADA and the WHO criteria, respectively. Logistic regression analysis was used to estimate the odds ratio (OR) of developing diabetes in model 1 including only the anthropometric measure and in model 2 adjusted for common diabetes risk factors and in model 3 adjusted for other anthropometric indices plus all the variables in model 2. **RESULTS:** A total of 166 new cases of type 2 diabetes were diagnosed. In subjects aged <60 years general **obesity** and high waist-to-hip ratio (WHR) predicted diabetes in all three models with OR of 2.4 and 2.6 in model 3, respectively, while high waist circumference (WC) lost its association with diabetes in the full model. In subjects aged > or =60 years, however, high WC was the only independent predictor of diabetes in model 3 with OR of 3.8 while high WHR and general **obesity** predicted diabetes in models 1 and 2, respectively. **CONCLUSION:** General **obesity** and high WHR in Iranian subjects aged <60 years and high WC in older ones are the important predictors of type 2 diabetes.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Recruiting high-risk individuals to a diabetes prevention program: how hard can it be?

Dialog eLinks

Full text available at



Source

Diabetes care, {Diabetes-Care}, Jul 2007, vol. 30, no. 7, p. e61, ISSN: 1935-5548.

Author(s)

Ruge-Toralph, Nyström-Lennarth, Lindahl-Bernt, Hallmans-Göran, Norberg-Margareta, Weinehall-Lars, Rolandsson-Olov.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Clinical efficacy of two hypocaloric diets that vary in overweight patients with type 2 diabetes: comparison of moderate fat versus carbohydrate reductions.

Dialog eLinks

Full text available at



Source

Diabetes care, {Diabetes–Care}, Jul 2007 (epub: 02 May 2007), vol. 30, no. 7, p. 1877–9, ISSN: 1935–5548.

Author(s)

McLaughlin–Tracey, Carter–Susan, Lamendola–Cindy, Abbasi–Fahim, Schaaf–Patricia, Basina–Marina, Reaven–Gerald.

Abstract

Grant ID: RR 00070, Acronym: RR, Agency: NCRR Grant ID: RR2HLL406, Acronym: RR, Agency: NCRR.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Central obesity is an independent risk factor for albuminuria in nondiabetic South Asian subjects.

Dialog eLinks

Full text available at



Source

Diabetes care, {Diabetes–Care}, Jul 2007 (epub: 24 Apr 2007), vol. 30, no. 7, p. 1840–4, ISSN: 1935–5548.

Author(s)

Chandie–Shaw–Prataap–K, Berger–Stefan–P, Mallat–Marko, Frölich– Marijke, Dekker–Friedo–W, Rabelink–Ton–J.

Abstract

OBJECTIVE: South Asians have a high prevalence of central **obesity**. When the diagnosis of diabetes is made, they have a very high risk of developing renal failure. In the current study, we explored the hypothesis that central **obesity** is associated with the development of renal injury, before the manifestation of diabetes. **RESEARCH DESIGN AND METHODS:** We invited first–degree nondiabetic relatives of South Asian type 2 diabetic patients for investigation of microalbuminuria and diabetes. Subjects who used antihypertensive or antidiabetic medication were excluded. We performed a glucose tolerance test according to the classic World Health Organization criteria. A total of 205 subjects were normoglycemic; we excluded 25 subjects because of impaired glucose tolerance, and 30 subjects were excluded because of de novo diabetes. Central **obesity** was measured by waist–to–hip ratio (WHR). Albuminuria was measured as albumin–to–creatinine ratio (ACR) in the early–morning urine. **RESULTS:** Central **obesity** was independently related with albuminuria in the 205 normoglycemic subjects. We found no relation of fasting blood glucose or systolic blood pressure with albuminuria. Multivariate analysis for the presence of increased albuminuria (median ACR >0.31 mg/mmol) showed a relative risk of 4.1 for the highest versus the lowest tertile of WHR (P = 0.002). **CONCLUSIONS:** Central **obesity** is an early and independent risk factor for increased albuminuria in normoglycemic South Asian subjects. This could explain the high incidence of diabetic renal disease in South Asians, probably by the mechanism of insulin resistance and endothelial dysfunction in the pre–diabetic state.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Incretin levels and effect are markedly enhanced 1 month after Roux– en–Y gastric bypass surgery in obese patients with type 2 diabetes.

Dialog eLinks

Full text available at

**Source**

Diabetes care, {Diabetes-Care}, Jul 2007 (epub: 06 Apr 2007), vol. 30, no. 7, p. 1709–16, ISSN: 1935–5548.

Author(s)

Laferrère–Blandine, Heshka–Stanley, Wang–Krystle, Khan–Yasmin, Mc Ginty–James, Teixeira–Julio, Hart–Allison–B, Olivan–Blanca.

Abstract

OBJECTIVE: Limited data on patients undergoing Roux–en–Y gastric bypass surgery (RY–GBP) suggest that an improvement in insulin secretion after surgery occurs rapidly and thus may not be wholly accounted for by weight loss. We hypothesized that in obese patients with type 2 diabetes the impaired levels and effect of incretins changed as a consequence of RY–GBP. **RESEARCH DESIGN AND METHODS:** Incretin (gastric inhibitory peptide (GIP) and glucagon–like peptide–1 (GLP–1)) levels and their effect on insulin secretion were measured before and 1 month after RY–GBP in eight obese women with type 2 diabetes and in seven obese nondiabetic control subjects. The incretin effect was measured as the difference in insulin secretion (area under the curve (AUC)) in response to an oral glucose tolerance test (OGTT) and to an isoglycemic intravenous glucose test. **RESULTS:** Fasting and stimulated levels of GLP–1 and GIP were not different between control subjects and patients with type 2 diabetes before the surgery. One month after RY–GBP, body weight decreased by 9.2 +/- 7.0 kg, oral glucose–stimulated GLP–1 (AUC) and GIP peak levels increased significantly by 24.3 +/- 7.9 pmol x l(-1) x min(-1) (P < 0.0001) and 131 +/- 85 pg/ml (P = 0.007), respectively. The blunted incretin effect markedly increased from 7.6 +/- 28.7 to 42.5 +/- 11.3 (P = 0.005) after RY–GBP, at which it time was not different from that for the control subjects (53.6 +/- 23.5%, P = 0.284). **CONCLUSIONS:** These data suggest that early after RY–GBP, greater GLP–1 and GIP release could be a potential mediator of improved insulin secretion. Grant ID: DK–26687, Acronym: DK, Agency: NIDDK Grant ID: DK–63068–05, Acronym: DK, Agency: NIDDK Grant ID: R01–DK67561, Acronym: DK, Agency: NIDDK Grant ID: RR00645, Acronym: RR, Agency: NCRR.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Diabetes in the Torres Strait Islands of Australia: better clinical systems but significant increase in weight and other risk conditions among adults, 1999–2005.

Dialog eLinks

Full text available at

**Source**

The Medical journal of Australia, {Med–J–Aust}, 21 May 2007, vol. 186, no. 10, p. 505–8, ISSN: 0025–729X.

Author(s)

McDermott–Robyn–A, McCulloch–Bradley–G, Campbell–Sandra–K, Young–Dallas–M.

Abstract

OBJECTIVES: To (i) assess changes in clinical indicators of adults diagnosed with diabetes and (ii) estimate changes in risk factors and incidence of diabetes among adults without diabetes living in the Torres Strait and Northern Peninsula Area Health Service District in Queensland from 1999 to 2005. **DESIGN AND PARTICIPANTS:** (i) Annual audit of clinical records of Torres Strait Islander adults on diabetes registers in 21 primary care clinics, and (ii) a 5–year follow up of a community cohort of 207 Torres Strait Islander adults without diabetes who participated in the Well Person's Health Check in 2000–01 and 2005–06. **MAIN OUTCOME MEASURES:** Weight, height, waist circumference, fasting blood sugar (those without diabetes) and glycated haemoglobin (HbA1c; those with diabetes) levels, blood pressure (BP), fasting triglyceride and high–density lipoprotein cholesterol levels, urinary

albumin-to-creatinine ratio and smoking status. **RESULTS:** The number of adults included on the diabetes register increased from 555 in 1999 to 1024 in 2005. The mean age of patients diagnosed with diabetes decreased from 53.3 to 51.5 years, and their mean weight increased from 86.8 kg to 95.6 kg. Mean HbA1c level remained unchanged at about 9%, but the proportion with HbA1c level < 7% increased from 18.4% to 26.1%, and the proportion prescribed insulin increased from 14% in 2002 to 22% in 2005. The proportion with BP < 140/90 mmHg increased from 40.3% in 1999 to 66.8% in 2005. In the sample of 207 adults without diabetes, from 2000 to 2006, there was a weight gain of about 1 kg per person per year, and an annual increase in waist circumference of 0.8 cm in men and 1.2 cm in women. Crude incidence of diabetes was 29 (95% CI, 19–41) per 1000 person-years. There was a significant increase in diastolic blood pressure and fasting blood sugar levels, and no change in smoking habits. **CONCLUSIONS:** Clinical care of adults with diabetes has improved and more people with diabetes are being diagnosed. However, weight gain and high rates of glycaemia remain a challenge and will result in a large burden of complications, including renal failure. Incidence data from this sample extrapolate to 120 (95% CI, 103–147) new cases of diabetes in the District each year. Urgent action to improve nutrition, decrease smoking and increase physical activity is required to improve metabolic fitness in younger people.

Publication year
2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Metabolic syndrome in nondiabetic, obese, first-degree relatives of African American patients with type 2 diabetes: African American triglycerides-HDL-C and insulin resistance paradox.

Source

Ethnicity & disease, {Ethn-Dis}, Autumn 2006, vol. 16, no. 4, p. 830–6, ISSN: 1049–510X.

Author(s)

Meis-Sophia-Boudoulas, Schuster-Dara, Gaillard-Trudy, Osei-Kwame.

Abstract

OBJECTIVE: Metabolic syndrome (MetS) defines cardiovascular disease (CVD) risks. Despite higher rates of **obesity**, type 2 diabetes, and hypertension, African Americans have lower rates of MetS when compared to Caucasians, which is paradoxical, since African Americans are more insulin resistant and have higher rates of cardiovascular morbidity and mortality when compared to White Americans. We hypothesized that genetic inheritance predisposes African Americans to the greater cardiovascular risk and the associated morbidity and mortality. Therefore, we investigated the prevalence of components of MetS in obese, glucose-tolerant, first degree relatives of African American patients with type 2 diabetes. **METHODS:** We examined the clinical and metabolic characteristics of 201 first-degree relatives (159 females and 42 males, mean age 41 +/- 8 years, and mean body mass index (BMI) of 32 +/- 8 (kg/m²). The subjects were categorized with MetS according to the Adult Treatment Panel (ATP) III criteria. Insulin sensitivity (Bergman minimal model method) and insulin resistance (homeostasis model assessment (HOMA)) were determined. We compared the clinical and metabolic characteristics in the relatives with and without MetS. Where appropriate, we compared the prevalence of the components of Met S in our African American sample with those of African American data in the National Health and Nutrition Evaluation Survey (NHANES) III. **RESULTS:** Comparing the MetS group (n=65) vs control subjects (n=136), the mean age, BMI, and percent body fat were greater in the MetS group. Mean fasting serum glucose, insulin and C-peptide levels were also greater in the MetS group. Insulin resistance index (HOMA-IR) was higher in the MetS group (HOMA-IR: 3.7 +/- 2.7 vs 2.2 +/- 1.7, P=.0002). Mean insulin sensitivity tended to be lower in the MetS group (2.16 +/- 2.64 vs 2.82 +/- 2.31, P=.08). In addition, despite the moderately severe insulin resistance, the MetS group had very low serum triglyceride levels and was the parameter least likely to meet the ATP criteria. The metabolic cutoff points for ATP III criteria were much lower in African American first-degree relatives with MetS. Of the five components of the ATP III criteria, waist circumference was the single most common parameter to likely meet the MetS criteria. We found that the prevalence of MetS was 29% in women and 40% in men when compared with 20.9% in African American women and 13.9% for African American men in the NHANES III. **CONCLUSION:** We

found that: 1) the prevalence of MetS is higher in a subgroup of African Americans who were first-degree relatives of patients with type 2 diabetes than that of African Americans in the NHANES III; and 2) waist circumference rather than metabolic parameters was the single most important parameter and was more likely to meet the MetS criteria in African American relatives.

Publication year

2006.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Relationship between casual blood sugar and body mass index in a suburban northern Nigerian population: a short communication.

Source

Nigerian journal of medicine : journal of the National Association of Resident Doctors of Nigeria, {Niger-J-Med}, Jan-Mar 2007, vol. 16, no. 1, p. 77-8, ISSN: 1115-2613.

Author(s)

Bakari-A-G, Onyemelukwe-C, Sani-B-G, Aliyu-S, Hassan-S-S, Aliyu-T-M.

Abstract

BACKGROUND: **Obesity** is the most important modifiable risk factor in the pathogenesis of type-2 diabetes reported in most cross sectional studies. However, racial factors seem to be important in the relationship between body mass index (BMI) and glucose intolerance. This study aims at defining the relationship between these variables in two suburban populations in Nigeria. **METHOD:** A prospective survey of Adults aged 55 years or younger who gave informed consent, in two communities (Makarfi and Giwa) near Zaria, northern Nigeria was done. The BMI and casual blood sugar using capillary blood assessed with the Ames glucometer were determined for all the subjects. Students t-test was used to compare continuous variables while Pearson's correlation coefficient was used for continuous variables; the level of significance was $p < 0.05$ in each case. **RESULT:** Three-hundred and seventeen subjects participated in the study Mean age of subjects was 35.03 ± 9.79 years (33.0 ± 9.64 among females and 36.18 ± 9.59 among males $p = 0.1007$). **CONCLUSION:** Female subjects had significantly higher BMI than their male counter parts, (26.61 ± 7.19 KgM2 versus 24.01 ± 5.39 , KgM2 $p = 0.0341$.) Casual blood sugar levels were however similar between males and females 85.21 ± 27.04 mg/dl versus 85.88 ± 14.74 mg/dl, $p = 0.8868$. There was a positive but non-significant correlation between casual blood sugar and BMI among female subjects ($r = +0.1520$, $p > 0.05$) in the males however, the correlation between these variables was not significant ($r = -0.0395$, $p > 0.5$).

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Diabetes is my companion: lifestyle and self-management among good and poor control Mexican diabetic patients.

Source

Social science & medicine (1982), {Soc-Sci-Med}, Jun 2007 (epub: 26 Mar 2007), vol. 64, no. 11, p. 2223-35, ISSN: 0277-9536.

Author(s)

de-Alba-Garcia-Javier-Garcia, Rocha-Ana-L-Salcedo, Lopez-Ivette, Baer-Roberta-D, Dressler-William, Weller-Susan-C.

Abstract

This paper identifies naturally occurring lifestyle and self-care practices in managing type 2 diabetes mellitus that are associated with good glycemic control. In-depth, qualitative interviews were conducted in Guadalajara, Mexico, with 31 matched pairs of good and poor control diabetic patients ($n=62$), who were matched on their duration of disease and use of medications. While many themes were listed by

both groups, a comparison of the responses indicated that themes of daily exercise with a preference for walking, eating beef and milk rather than chicken and fish, economic issues, and emotional issues distinguished poor-control patients. Good-control patients were more likely to have a negative reaction to their initial diagnosis, take a more comprehensive approach to control, eat only two meals a day (plus snacks), use noncaloric beverages to satisfy desires for more food, and know what their blood sugar levels should be.

Publication year
2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

The effectiveness of adding cognitive behavioural therapy aimed at changing lifestyle to managed diabetes care for patients with type 2 diabetes: design of a randomised controlled trial.

Source

BMC public health, {BMC-Public-Health}, 2007 (epub), vol. 7, p. 74, ISSN: 1471-2458.

Author(s)

Welschen-Laura-M-C, van-Oppen-Patricia, Dekker-Jacqueline-M, Bouter-Lex-M, Stalman-Wim-A-B, Nijpels-Giel.

Abstract

BACKGROUND: In patients with type 2 diabetes, the risk for cardiovascular disease is substantial. To achieve a more favourable risk profile, lifestyle changes on diet, physical activity and smoking status are needed. This will involve changes in behaviour, which is difficult to achieve. Cognitive behavioural therapies focussing on self-management have been shown to be effective. We have developed an intervention combining techniques of Motivational Interviewing (MI) and Problem Solving Treatment (PST). The aim of our study is to investigate if adding a combined behavioural intervention to managed care, is effective in achieving changes in lifestyle and cardiovascular risk profile. **METHODS:** Patients with type 2 diabetes will be selected from general practices (n = 13), who are participating in a managed diabetes care system. Patients will be randomised into an intervention group receiving cognitive behaviour therapy (CBT) in addition to managed care, and a control group that will receive managed care only. The CBT consists of three to six individual sessions of 30 minutes to increase the patient's motivation, by using principles of MI, and ability to change their lifestyle, by using PST. The first session will start with a risk assessment of diabetes complications that will be used to focus the intervention. The primary outcome measure is the difference between intervention and control group in change in cardiovascular risk score. For this purpose blood pressure, HbA1c, total and HDL-cholesterol and smoking status will be assessed. Secondary outcome measures are quality of life, patient satisfaction, physical activity, eating behaviour, smoking status, depression and determinants of behaviour change. Differences between changes in the two groups will be analysed according to the intention-to-treat principle, with 95% confidence intervals. The power calculation is based on the risk for cardiovascular disease and we calculated that 97 patients should be included in every group. **DISCUSSION:** Cognitive behavioural therapy may improve self-management and thus strengthen managed diabetes care. This should result in changes in lifestyle and cardiovascular risk profile. In addition, we also expect an improvement of quality of life and patient satisfaction. **TRIAL REGISTRATION:** Current Controlled Trials ISRCTN12666286.

Publication year
2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Lifestyle intervention in obese patients with type 2 diabetes: impact of the patient's educational background.

Source

Obesity (Silver Spring Md.), {**Obesity**–Silver–Spring}, Jun 2006, vol. 14, no. 6, p. 1085–92, ISSN: 1930–7381.

Author(s)

Gurka–Matthew–J, Wolf–Anne–M, Conaway–Mark–R, Crowther–Jayne–Q, Nadler–Jerry–L, Bovbjerg–Viktor–E.

Abstract

OBJECTIVE: To determine whether people with different educational backgrounds respond differently to a lifestyle intervention program for obese patients with type 2 diabetes. **RESEARCH METHODS AND PROCEDURES:** The study consisted of a 12–month randomized controlled trial of 147 health plan members with type 2 diabetes who were overweight or obese (BMI > or = 27 kg/m²). Participants were randomized to lifestyle case management or usual care. Case management (CM) involved group and individual education, support, and referral by registered dietitians. Usual care (UC) participants received educational material. Both groups received ongoing primary care. A post hoc analysis was performed, evaluating the impact of education level on intervention group differences with respect to change in weight and waist circumference. **RESULTS:** There was a significant education by group interaction for both changes in weight ($p = 0.02$) and waist circumference ($p = 0.01$) during the study period. Contrary to expectations, CM participants with less formal education had greater risk reductions compared with more educated participants. Models predicted that, by 12 months, those with less education in the UC group gained 1.71 kg more in weight and 3.67 cm more in waist circumference than those with greater education. However, by 12 months, those in the CM group with less education lost a model– predicted 3.30 kg more in weight and 4.95 cm more in waist circumference than those with more formal education. **DISCUSSION:** People with varied educational backgrounds may respond differently to a lifestyle intervention for weight management and diabetes control. Grant ID: M01–RR–00847, Acronym: RR, Agency: NCRG Grant ID: R18–DK–062942, Acronym: DK, Agency: NIDDK.

Publication year

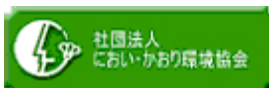
2006.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Improvement of obesity and glucose tolerance by acetate in Type 2 diabetic Otsuka Long–Evans Tokushima Fatty (OLETF) rats.

Dialog eLinks

Full text available at



Source

Bioscience biotechnology and biochemistry, {Biosci–Biotechnol–Biochem }, May 2007 (epub: 07 May 2007), vol. 71, no. 5, p. 1236–43, ISSN: 0916–8451.

Author(s)

Yamashita–Hiromi, Fujisawa–Katsuhiko, Ito–Erina, Idei–Seika, Kawaguchi–Nobuyo, Kimoto–Masumi, Hiemori–Miki, Tsuji–Hideaki.

Abstract

Acetate has been found to have an inhibitory effect on the activity of carbohydrate–responsive element–binding protein (ChREBP) in cultured hepatocytes, this being a transcription factor that regulates several genes required for the conversion of glucose to fatty acids in the liver. The aim of this study was to investigate whether an oral administration of acetate would contribute to reducing lipogenic genes and protecting against **obesity**. We orally injected 5.2 mg/kg BW of acetate to **obesity**–linked type 2 diabetic Otsuka Long–Evans Tokushima Fatty (OLETF) rats. The treatment with acetate showed a marked reduction in lipid accumulation in the adipose tissue, protection against accumulation of fat in the liver, and improved glucose tolerance. An analysis by Northern blotting revealed that the transcripts of

several lipogenic genes in the liver of OLETF rats were decreased by the acetate treatment. On the basis of those results, it was indicated that acetate was a potential compound to improve **obesity** and **obesity**-linked type 2 diabetes.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Treatment options for type 2 diabetes in adolescents and youth: a study of the comparative efficacy of metformin alone or in combination with rosiglitazone or lifestyle intervention in adolescents with type 2 diabetes.

Source

Pediatric diabetes, {Pediatr-Diabetes}, Apr 2007, vol. 8, no. 2, p. 74-87, ISSN: 1399-543X.

Author(s)

Zeitler-P, Epstein-L, Grey-M, Hirst-K, Kaufman-F, Tamborlane-W, Wilfley-D.

Abstract

Despite the increased prevalence of type 2 diabetes mellitus (T2DM) in the pediatric population, there is limited information about the relative effectiveness of treatment approaches. This article describes the rationale and design of a National Institutes of Health-sponsored multi-site, randomized, parallel group clinical trial designed to test the hypothesis that aggressive reduction in insulin resistance early in the course of T2DM is beneficial for prolongation of glycemic control, as well as improvement in associated abnormalities and risk factors. Specifically, the trial compares treatment with metformin with two alternate approaches, one pharmacologic (combining metformin treatment with rosiglitazone) and one combining metformin with an intensive lifestyle intervention program. The Treatment Options for Type 2 Diabetes in Adolescents and Youth (TODAY) study recruits 800 patients over a 4-yr period and follows them for a minimum of 2 yr and maximum of 6 yr. Patients are 10-17 yr of age, within 2 yr of diagnosis of diabetes at the time of randomization, lack evidence of autoimmunity, and have sustained C-peptide secretion. The primary outcome is time to loss of glycemic control, defined as a hemoglobin A1c >8% for 6 consecutive months. Secondary outcomes include the effect of the alternative treatments on insulin secretion and resistance, body composition, nutrition, physical activity and fitness, cardiovascular risk monitoring, microvascular complications, quality of life, depression, eating pathology, and resource utilization. TODAY is the first large-scale, systematic study of treatment effectiveness for T2DM in youth. When successfully completed, this study will provide critical new information regarding the natural history of T2DM in youth, the benefits of initiating early aggressive treatment in these patients, and the efficacy of delivering an intensive and sustained lifestyle intervention to children with T2DM. Grant ID: M01-RR00036, Acronym: RR, Agency: NCRR Grant ID: M01-RR00043-45, Acronym: RR, Agency: NCRR Grant ID: M01-RR00069, Acronym: RR, Agency: NCRR Grant ID: M01-RR00084, Acronym: RR, Agency: NCRR Grant ID: M01-RR00125, Acronym: RR, Agency: NCRR Grant ID: M01-RR01066, Acronym: RR, Agency: NCRR Grant ID: M01-RR14467, Acronym: RR, Agency: NCRR Grant ID: U01-DK61212, Acronym: DK, Agency: NIDDK Grant ID: U01-DK61230, Acronym: DK, Agency: NIDDK Grant ID: U01-DK61239, Acronym: DK, Agency: NIDDK Grant ID: U01-DK61242, Acronym: DK, Agency: NIDDK Grant ID: U01-DK61254, Acronym: DK, Agency: NIDDK.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Metabolic complications of obesity: inflated or inflamed?

Source

Journal of diabetes and its complications, {J-Diabetes-Complicat}, Mar-Apr 2007, vol. 21, no. 2, p. 128-36, 71 refs, ISSN: 1056-8727.

Author(s)

Chandalia–Manisha, Abate–Nicola.

Abstract

Adipose tissue dysfunction rather than excess adipose tissue mass (defined as **obesity**) is mechanistically related to development of metabolic diseases traditionally linked to **obesity**: metabolic syndrome, type 2 diabetes and cardiovascular disease. Inflammation of adipose tissue seems to be an important manifestation of adipose tissue dysfunction and closely relates to insulin resistance, the mediator of **obesity**–related morbidity. However, it is not completely clear whether inflammation in adipose tissue leads to first, local, and then systemic insulin resistance or insulin resistance leads to adipose tissue inflammation, which, in turn, increases insulin resistance. These questions can only be answered by studying models of insulin resistance, independent of **obesity**. The conceptual shift from adipose tissue mass to adipose tissue function will have significant diagnostic and therapeutic implications. Our efforts in establishing markers to identify at risk population and finding newer therapeutic agents must focus on adipose tissue dysfunction and not on **obesity** alone.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Insulin resistance, beta–cell function, and glucose tolerance in Brazilian adolescents with obesity or risk factors for type 2 diabetes mellitus.

Source

Journal of diabetes and its complications, {J–Diabetes–Complicat}, Mar–Apr 2007, vol. 21, no. 2, p. 84–92, ISSN: 1056–8727.

Author(s)

da–Silva–Regina–Cintra–Querino, Miranda–Walkiria–Lopes, Chacra– Antonio–Roberto, Dib–Sérgio–Atala.

Abstract

OBJECTIVE: To evaluate insulin resistance (IR), beta–cell function, and glucose tolerance in 119 Brazilian adolescents with **obesity** or risk factors (RF) for type 2 diabetes mellitus (T2DM). **STUDY DESIGN:** We analyzed weight (kg), height (m), body mass index (BMI; kg/m²), waist (W; cm), acanthosis nigricans (AN), systolic and diastolic blood pressure (SBP and DBP; mm Hg), fasting plasma glucose (FPG), and 2–h plasma glucose (2hPG) on oral glucose tolerance test (OGTT; 1.75 g of glucose/weight), lipid profile (total cholesterol (TC), fractions, and triglycerides (TGs)), fasting insulin (FI) and 2–h insulin on OGTT (2h I–RIA), HOMA–B (%; beta–cell function–HOMA program), HOMA–S (%; insulin sensitivity–HOMA program) and HOMA–IR (fasting plasma insulin (mU/ml)xfasting plasma glucose (mmol/L)/22.5). Division according to number of RF–family history of T2DM (FHT2DM), **obesity**, hypertension, dyslipidemia, polycystic ovary syndrome (PCOS), and AN. G1: subjects with no or one RF; G2: subjects with two or more RFs. Statistical data were nonparametrical. **RESULTS:** Fasting plasma glucose (G2: 81.6+/-10.2 vs. G1: 79.8+/-9.9 mg/dl) and 2hPG (88.1+/-18.0 vs. 87.0+/-19.9 mg/dl) were not different between G2 (n=67) and G1 (n=52), and all adolescents had normal glucose tolerance (NGT). Fasting insulin (13.0+/-7.9 vs. 7.6+/-3.9 microIU/ml; P<.001) and 2hI (60.2+/-39.1 vs. 38.3+/-40.0 microIU/ml; P<.001), HOMA–B (169.1+/-131.6% vs. 106.1+/-39.9%; P<.001), and HOMA–IR (2.62+/-1.7 vs. 1.52+/-0.8; P<.001) were higher in G2. HOMA–S (92.5+/-59.5% vs. 152.2+/-100.5%; P<.001) was also lower in this latter group. **CONCLUSION:** Brazilian adolescents with two or more RFs for the development of T2DM have higher IR and beta–cell function and lower insulin sensitivity. However, adolescents with impaired glucose tolerance (IGT) or DM have not been found, differently from similar studies. Differences in ethnic background, environment, and lifestyle factors may account for this disparity.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Insights into the emerging cardiometabolic prevention and management of diabetes mellitus.

Source

Expert opinion on pharmacotherapy, {Expert-Opin-Pharmacother}, Oct 2005, vol. 6, no. 13, p. 2209–21, 88 refs, ISSN: 1744–7666.

Author(s)

Lastra–Gonzalez–Guido, Manrique–Camila–Margarita, Govindarajan–Gurushankar, Whaley–Connell–Adam, Sowers–James–R.

Abstract

Cardiovascular disease (CVD) and Type 2 diabetes mellitus (DM2), once conceived as different entities, share common origins and pathways. Increased activity of the renin–angiotensin–aldosterone–system, insulin resistance, chronic low–grade inflammation and oxidative stress collectively contribute to endothelial dysfunction and atherosclerosis, which manifest clinically as CVD. Nowadays, it is possible to identify and intervene in high–risk populations even before the clinical diagnosis of DM2. The control of dietary patterns and increased physical activity is completely feasible, as well as the management of hypertension and dyslipidaemia. Pharmacological interventions targeted at blocking renin–angiotensin–aldosterone–system and sensitising to insulin have a role in the prevention of DM2 and CVD, and are avidly explored worldwide. In the near future, ongoing trials should provide data that will allow us to better treat patients with the cardiometabolic syndrome and diabetes in order to reduce CVD morbidity and mortality.

Publication year

2005.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

The metabolic syndrome in children and adolescents.

Dialog eLinks

Paper copy available at  

Source

Lancet, {Lancet}, 23 Jun 2007, vol. 369, no. 9579, p. 2059–61, ISSN: 1474–547X.

Author(s)

Zimmet–Paul, Alberti–George, Kaufman–Francine, Tajima–Naoko, Silink–Martin, Arslanian–Silva, Wong–Gary, Bennett–Peter, Shaw–Jonathan, Caprio–Sonia.


Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Serum retinol–binding protein: a link between obesity, insulin resistance, and type 2 diabetes.

Dialog eLinks

Full text available at 

Source

Nutrition reviews, {Nutr-Rev}, May 2007, vol. 65, no. 5, p. 251–6, 13 refs, ISSN: 0029–6643.

Author(s)

Wolf–George.

Abstract

Insulin resistance occurs under conditions of **obesity**, metabolic syndrome, and type 2 diabetes. It was found to be accompanied by down-regulation of the insulin-responsive glucose transporter GLUT4. Decreased adipocyte GLUT4 caused secretion by adipocytes of the serum retinol-binding protein RBP4. Enhanced levels of serum RBP4 appeared to be the signal for the development of systemic insulin resistance both in experimental animals and in humans. In mice, increased levels of serum RBP4 led to impaired glucose uptake into skeletal muscle and increased glucose production by liver, whereas lowered serum RBP4 levels greatly enhanced insulin sensitivity. Thus, a link has been established between **obesity** and insulin resistance: RBP4, the vitamin A-transport protein secreted into the circulation by adipocytes.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Inuit anthropometry and insulin resistance.

Source

International journal of circumpolar health, {Int-J-Circumpolar-Health }, Apr 2007, vol. 66, no. 2, p. 129-34, ISSN: 1239-9736.

Author(s)

Charbonneau-Roberts-Guylaine, Young-T-Kue, Egeland-Grace-M.

Abstract

OBJECTIVES: Due to the increasing prevalence of **obesity** among Inuit, a study was conducted in an Inuit community to evaluate the anthropometric correlates of indices of insulin resistance using the homeostasis model assessment index (IR(HOMA)) and the insulin sensitivity index (ISI(0,120)). **STUDY DESIGN:** Data were collected as part of a health screening in a Baffin community in Nunavut, Canada, among adults 18 years of age and above. **METHODS:** A total of 52 Inuit participated in the health screening of which 46 completed both the fasting and the 2-hour blood tests. Insulin sensitivity indices could be calculated on 45 participants. **RESULTS:** Results for women indicated that in age-adjusted linear regression analyses, body mass index, waist circumference (WC) and percent body fat (%BF) predicted IR(HOMA), and ISI(0,120) ($p < 0.05$). For men, %BF predicted IR(HOMA), and WC and %BF predicted ISI(0,120) ($p < 0.05$). **CONCLUSIONS:** The present study suggests that increasing rates of **obesity** among Inuit will have health consequences and that anthropometry is a useful tool to indirectly assess insulin resistance/sensitivity.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

National type 2 diabetes prevention programme in Finland: FIN-D2D.

Source

International journal of circumpolar health, {Int-J-Circumpolar-Health }, Apr 2007, vol. 66, no. 2, p. 101-12, ISSN: 1239-9736.

Author(s)

Saaristo-Timo, Peltonen-Markku, Keinänen-Kiukaanniemi-Sirkka, Vanhala-Mauno, Saltevo-Juha, Niskanen-Leo, Oksa-Heikki, Korpi-Hyövälti-Eeva, Tuomilehto-Jaakko.

Abstract


OBJECTIVES: Current evidence shows that type 2 diabetes (T2D) can be prevented by **life**-style changes and medication. To meet the menacing diabetes epidemic, there is an urgent need to translate the scientific evidence regarding prevention of T2D into daily clinical practice and public health. In Finland, a national programme for the prevention of T2D has been launched. The programme comprises 3 concurrent strategies for prevention: the population strategy, the high-risk strategy and the strategy of early diagnosis and management. The article describes the implementation strategy for the prevention

programme for T2D. **METHODS:** The implementation project, FIN–D2D, is being conducted in 5 hospital districts, covering a population of 1.5 million, during the years 2003–2007. The main actors in the FIN–D2D are primary and occupational health care providers. **RESULTS:** The goals of the project are (1) to reduce the incidence and prevalence of T2D and prevalence of cardiovascular risk factor levels; (2) to identify individuals who are unaware of their T2D; (3) to generate regional and local models and programmes for the prevention of T2D; (4) to evaluate the effectiveness, feasibility and costs of the programme; and (5) to increase the awareness of T2D and its risk factors in the population and to support the population strategy of the diabetes prevention programme. The feasibility, effectiveness and costs of the programme will be evaluated according to a specific evaluation plan. **CONCLUSIONS:** Current research evidence shows that the type 2 diabetes can be effectively prevented in high–risk subjects by **life–style** changes, which include increased physical activity and weight reduction. FIN–D2D explores ways to implement these methods on a national level.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

The role of obesity and related metabolic disturbances in cancers of the colon, prostate, and pancreas.**Dialog eLinks**Paper copy available at **Source**

Gastroenterology, {Gastroenterology}, May 2007, vol. 132, no. 6, p. 2208–25, 200 refs, ISSN: 0016–5085.

Author(s)

Giovannucci–Edward, Michaud–Dominique.

Abstract

Recent evidence indicates that **obesity** and related metabolic abnormalities are associated with increased incidence or mortality for a number of cancers, including those of the colon, prostate, and pancreas. **Obesity**, physical inactivity, visceral adiposity, hyperglycemia, and hyperinsulinemia are relatively consistent risk factors for colon cancer and adenoma. Also, patients with type 2 diabetes mellitus have a higher risk of colon cancer. For prostate cancer, the relationship to **obesity** appears more complex. **Obesity** seems to contribute to a greater risk of aggressive or fatal prostate cancer but perhaps to a lower risk of nonaggressive prostate cancer. Furthermore, men with type 2 diabetes mellitus are at lower risk of developing prostate cancer. Long–standing type 2 diabetes increases the risk of pancreatic cancer by approximately 50%. Furthermore, over the past 6 years, a large number of cohort studies have reported positive associations between **obesity** and pancreatic cancer. Together with data from prediagnostic blood specimens showing positive associations between glucose levels and pancreatic cancer up to 25 years later, sufficient evidence now supports a strong role for diabetes and **obesity** in pancreatic cancer etiology. The mechanisms for these associations, however, remain speculative and deserve further study. Hyperinsulinemia may be important, but the role of oxidative stress initiated by hyperglycemia also deserves further attention.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Descriptive data on lifestyle, anthropometric status and mental health in italian elderly people.**Dialog eLinks**

Full text available at

**Source**

The journal of nutrition health & aging, {J–Nutr–Health–Aging}, Mar– Apr 2007, vol. 11, no. 2, p. 165–74, ISSN: 1279–7707.

Author(s)

Intorre–F, Maiani–G, Cuzzolaro–M, Simpson–E–E–A, Catasta–G, Ciarapica– D, Mauro–B, Toti–E, Zaccaria–M, Coudray–C, Corelli–S, Palomba–L, Polito–A.

Abstract

OBJECTIVE: The objective of this paper is to provide descriptive information on anthropometric status, pathological conditions, cognitive impairment and lifestyle in apparently healthy elderly Italian people. **DESIGN, SETTING AND SUBJECTS:** In order to recruit the volunteers for the ZENITH study, 359 Italian participants (167 men and 192 women), aged between 70 and 85 years, free living in Rome, were selected. Volunteers underwent a full clinical examination, anthropometric measurements (height, weight), a lifestyle questionnaire and mental health assessment (cognitive impairment and depression). **RESULTS:** The prevalence of overweight and **obesity** was high (57% and 22% in men; 43% and 27% in women). **Obesity** was associated with low socio–economic profile in about 40% of participants. Although the sample was selected by family doctors and was apparently healthy, after medical screening the presence of several pathologies, particularly diabetes in 21% of participants was observed. There was a low prevalence of cognitive impairment in 4% of men and 7% of women and possible depression in 9% of men and 19% of women. The lifestyle questionnaire showed that most of their time was spent in light activities such as reading, watching TV or playing cards and significant differences between sex and BMI categories were observed ($P=0.000$). **CONCLUSION:** The results confirm the increasingly sedentary lifestyle of modern populations and demonstrate the need for sensitive and individualised strategies to design appropriate health promotion and disease prevention programs for older adults.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)

Abnormal HDL subclasses distribution in overweight children with insulin resistance or type 2 diabetes mellitus.

Source

Clinica chimica acta; international journal of clinical chemistry, {Clin–Chim–Acta}, Feb 2007 (epub: 14 Jul 2006), vol. 376, no. 1–2, p. 17–22, ISSN: 0009–8981.

Author(s)

Pérez–Méndez–Oscar, Torres–Tamayo–Margarita, Posadas–Romero–Carlos, Vidaure–Garcés–Vladimir, Carreón–Torres–Elizabeth, Mendoza–Pérez– Enrique, Medina–Urrutia–Aida, Huesca–Gómez–Claudia, Zamora–González– José, Aguilar–Herrera–Blanca.

Abstract

BACKGROUND: Small HDL particles have emerged as significant predictors of incident type 2 diabetes mellitus (T2DM) in adults with impaired glucose tolerance (IGT). However, no previous study has investigated HDL size in pediatric subjects with these clinical conditions. **METHODS:** We studied the HDL size distribution by native polyacrilamide gradient gel electrophoresis in 106 overweight children, 47 with T2DM, 43 with normal glucose tolerance (NGT), 16 with IGT, and 39 healthy weight controls. **RESULTS:** Diabetic children had significantly lower proportions of HDL2b and HDL2a, and higher proportions of HDL3b and HDL3c than the other 3 groups. Overweight subjects showed HDL size distributions similar to those of controls. However, insulin–resistant children had lower proportions of HDL2b, and HDL2a, and higher proportions of HDL3b when compared with the insulin–sensitive overweight subjects. Multiple linear regression analyses showed that homeostasis model assessment correlated inversely with HDL2b and HDL2a, and directly with HDL3b, while BMI was independently associated only with HDL3a. **CONCLUSIONS:** This study showed that HDL size distribution was shifted toward smaller particles in T2DM pediatric patients and in overweight children with insulin resistance, independent of their glucose

tolerance status. Insulin resistance was the main factor associated with these HDL size abnormalities. This parameter could be useful as an early risk marker of incident diabetes and, probably, of coronary heart disease.

Publication year

2007.

(COPYRIGHT BY National Library of Medicine, Bethesda MD, USA)