Association of British Clinical Diabetologists,
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POSTERS

POSTER 1

The effects of garlic upon modifiable cardiovascular risk factors and insulin resistance in patients with type 2 diabetes at high cardiovascular risk.

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Background
Endothelial dysfunction, vascular inflammation and oxidative stress have been integrally linked to the pathogenesis of both type 2 diabetes and cardiovascular disease. Aged Garlic Extract (AGE), a potent antioxidant, has been shown in previous studies to reduce blood pressure and improve the lipid profile of a non-diabetic population possibly by its attenuation of endothelial dysfunction, vascular inflammation and oxidative stress.

Aims
This study tested the hypothesis that AGE may improve modifiable cardiovascular risk factors (lipid profile and blood pressure) and insulin resistance in high risk cardiovascular subjects with type 2 diabetes (defined as >30% CV risk over 10 yrs).

Methods
A double blind, placebo controlled cross-over study was performed in 26 subjects with type 2 diabetes who received 1200mg of AGE or placebo daily for 4 weeks with a 4 week washout period. Blood pressure, lipid profile, fructosamine and insulin resistance were measured at baseline and following treatment with AGE or placebo. Insulin resistance was measured using the HOMA-IR method.

Results
The mean age of the participants was 61 ± 8 years. 17 were male and 9 female. 7 were current smokers. The mean BMI was 32.2±5.1. The pre-study HbA1c was 7.2 ±1.1%. The majority of patients were being treated with metformin (59%), aspirin (50%) and statin (96%) therapy. 36% were treated with an ACEI. There were no changes in these therapies throughout the study.

There were no significant effects of AGE treatment on blood pressure (pre AGE: BP 130/75 ±15.9/9.8 mmHg, post AGE: 130.8±14.6mmHg). In addition, there was no

significant effect on plasma total cholesterol (pre AGE: 4.2 ±0.81mmol/l, post AGE: 4.23±0.80mmol/l), triglyceride (pre AGE: 1.78 ± 1.12mmol/l, post AGE: 1.75±0.97mmol/l) or HDL-cholesterol (pre AGE 1.01 ±0.28mmol/l, post AGE: 1.01±0.27mmo/l). The change in insulin resistance (pre AGE: 2.1 ±1.1 units, post AGE: 1.7±0.9 units.) showed a trend towards significance (p=0.05) but this was not supported by post hoc analysis. There was no significant change in plasma fructosamine (pre AGE: 274±33µmol/l, post AGE: 273±36µmol/l.) following treatment with AGE.

Conclusion
In this group of type 2 diabetic patients at high CV risk, 4 weeks treatment with AGE did not significantly improve blood pressure, lipid profile or insulin resistance.

POSTER 2

Initial experiences with Sitagliptin in a specialist diabetes service.

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Aim: To study the metabolic and clinical impact of Sitagliptin usage in patients with T2DM, attending a specialist diabetes service.

Method: We reviewed our clinical information database to ascertain pattern of Sitagliptin initiation in patients attending diabetes clinics at The Leicester Royal Infirmary and Glenfield Hospital.

Results: Sixty-six patients were initiated on Sitagliptin (dual therapy in 26 patients, triple therapy in 39 patients and quadruple therapy in 1 patient) over the year post formulary acceptance, being discontinued in 10 patients due to either poor control or side-effects. Mean age was 57.1 years and mean duration of T2DM was 7.35 years. Initiation HbA1c was 8.66%. Sitagliptin was additional therapy to the existing oral hypoglycaemic agents (OHAs) in 54 (82%) patients, and substitution therapy for an existing OHA in 12 (18%) patients.

After 3 months, HbA1c improved by 0.53% (n=37), and after 6 months in patients with additional therapy, HbA1c had improved by 0.54% (n=16). In contrast, after 3 months in patients with substitution therapy, HbA1c had risen 0.21% (n=4), although there was accompanying weight loss of 3.76kg.

Sixty percent of patients achieved either HbA1c reduction of 0.5% or HbA1c <7.5% at 6 months. Of the 4 patients who reported mild hypoglycaemic episodes, 3 were on intercurrent sulphonylurea therapy. Resolution of mild hypoglycaemia occurred in 7 patients on Sitagliptin.

Conclusions: Sitagliptin improves glycaemic control in patients with T2DM, with best efficacy when introduced as additional therapy. It appears to be weight neutral, but associated with weight loss when used as substitution therapy.

POSTER 3

Rhabdomyolysis secondary to concomittant use of fusidic acid and simvastatin.

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A 67 year old man was admitted to hospital with a 6 week history of progressive pain and weakness in his arms and legs and a two day history of dark brown urine.
PMH- type 2 diabetes, atrial fibrillation and psoriasis.
3 weeks previously he had been started on fusidic acid and flucloxacillin for a non healing foot ulcer.
DH: basal bolus insulin regime, Ramipril, Aspirin, Atorvastatin, Metformin, Omeprazole, Digoxin and Irbesartan.
FH- Nil
On examination, he was haemodynamically stable. Neurological examination confirmed proximal muscle weakness with power reduced to MRC grade 2/5. Significant blood results included CK>20000(NR 38-190)IU/L, CRP 100mg/L, ALT 472(NR 10-50)IU/L, creatinine 283(NR 66-112)umol/l (normal baseline), potassium 4.7(3.5-5.1)mmol/l, Base excess -4.4.
He was initially treated with intravenous fluids and an insulin sliding scale, however the following day he had to be transferred to the intensive care unit for renal replacement therapy, as he developed unresponsive hyperkalaemia and acidosis.
He remained in hospital for three weeks over which time his renal function stabilised and he managed to remain dialysis free.
Discussion
It is felt that he had a statin-induced myopathy precipitated by co-administration with fusidic acid.
In fact ~60% of statin-induced rhabdomyolysis may be associated with the concomitant use of medications interacting with statin metabolism(1). The myotoxicity of statins metabolised by cytochrome P450 subset- CYP3A4 (atorvastatin, lovastatin, simvastatin) may increase tenfold when given concomitantly with inhibitors of this pathway (2). Drugs metabolized by CYP 3A4, increasing the risk of myotoxicity include macrolide antibiotics, cyclosporine, protease inhibitors, SSRIs, diltiazem, corticosteroids, azole antifungals, PPIs, and grapefruit juice. Fusidic acid may be an inhibitor of CYP 3A4, the P450 enzyme subgroup responsible for metabolism of simvastatin, although this is not a widely publicised finding (3). There have only been a handful of reported cases of rhabdomyolysis secondary to a drug interaction between fusidic acid and statin therapy (4-8). As the use of high dose statins becomes more ubiquitous among this high risk population with concomitant polypharmacy, it wi
ll become increasingly important to be aware of the potential for less common but serious drug interactions such as this.

1. Thompson PD, Clarkson P, Karas RH. Statin associated myopathy.JAMA2003;289:1681–90
2. Maron DJ, Fazio S, Linton MF. Current perspectives on statins. Circulation 2000;101:207-13
3. Yuen SL, McGarity B. Rhabdomyolysis secondary to interaction of fusidic acid and simvastatin Med J Aust. 2003 Aug 4;179(3):172
4. Kotanko P, Kirisits W, Skrabal F. Rhabdomyolysis and acute renal graft impairment in a patient treated with simvastatin, tacrolimus, and fusidic acid. Nephron 2002; 90: 234-235. <PubMed>
5. Dromer C, Vedrenne C, Billey T, et al. Rhabdomyolysis due to simvastatin. Apropros of a case with review of the literature [review]. Rev Rhum Mal Osteoartic 1992; 59: 281-283. <PubMed>

6. Wenisch C, Krause R, Fladerer P, et al. Acute rhabdomyolysis after atorvastatin and fusidic acid therapy. Am J Med 2000; 109: 78. <PubMed>
7. A. J. Burtenshaw 1 , G. Sellors 2 and R. Downing 3 Presumed interaction of fusidic acid with simvastatin Volume 63, Issue 6, Pages 656-658 9 May 2008 Anaesthesia
8. Yasmin Khaliq,1,3 Keith Gallicano,1,2,3 Roland Leger,4 Brian Foster,5 and Andrew Badley2,3 A drug interaction between fusidic acid and a combination of ritonavir and saquinavir Br J Clin Pharmacol. 2000 July; 50(1): 82–83.

POSTER 4

Eat what you like; Myth or Method? Dose Adjustment For Normal Eating: One year on.

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St Bartholomews and the London School of Medicine.

Introduction
The DAFNE structured education aims to provide patients with Type 1 diabetes with the necessary skills to manage a flexible insulin regime, and to improve glycaemic control. The DAFNE trial data demonstrated a fall in HbA1c levels by 1% at 6 months post-course in comparison to the control group. Are these results being reproduced in the secondary care trusts?

Methods
A retrospective analysis of all case notes of patients having attended the DAFNE training course from a single district general hospital was conducted. Glycaemic control assessed by HbA1c, was compared pre-course and a minimum of 6 months post-course.

Results
22 patients were identified (15 female, 7 male). 20 of the 22 participants were documented as completing the course. The average baseline HbA1c was 8.7% and post-course average HbA1c was 8.6%. On analysis of HbA1c levels pre- and post-course, there was no significant change ($p=0.46$), despite 11 participants showing a mean improvement of 0.76%. Only 2 patients demonstrated a fall of > or = 1% in HbA1c levels at 6 months. Following the course only 2 patients had attended the emergency department, on both occasions with diabetic ketoacidosis.

Conclusion
It appears that a reduction of 1% in HbA1c levels at 6 months in DAFNE graduates is not being reproduced in this secondary healthcare trust. Although the DAFNE training course provides improved lifestyle flexibility it may not provide the glycaemic control required. Consequently, further analysis of the entry characteristics of participants is required to recognise those most likely to benefit from this initiative.

POSTER 5

Lower 25OH-Vitamin D levels in an audit of GDM women.

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Introduction; Several studies have demonstrated an association between hypovitaminosis D and impairment of glucose tolerance. This has specifically been described in Gestational Diabetes Mellitus (GDM). We hypothesized that a greater proportion of women with GDM would have low 25OHvitamin D concentrations compared to ethnic matched controls.

Subjects and Methods; As part of an audit 50 GDM women were compared to 44 glucose tolerant pregnant controls (Arab Mediterranean GDM 10/controls 12; Afro-Caribbean 15/11; Asian 14/10, Caucasian 11/11). 25OHvitamin D levels measured at term or within 6 weeks post delivery were compared in pregnant women with GDM (diagnosed with 75g OGTT in the current pregnancy or previous pregnancies) to ethnic matched glucose tolerant controls. Vitamin D deficiency was defined as a 25OHvitamin D level less than 25nmol/l; levels less than15nmol/l were reported undetectable.

Results: The proportion of women with vitamin D deficiency was greater in non-Caucasian GDM women (76.9%) compared to non-Caucasian glucose tolerant controls (57.6%) collectively and when compared within each ethnic minority (Chi-square 44.5; $P<0.001$). Median 25OHvitamin D levels were lower in GDM women compared to controls in non-Caucasian (median (IQR), 14.0mnol/l (14.0-20.7nmol/l) vs 24nmol/l (19.8-30.0nmol/l;$p=0.002$), Afro-Carribean (14.0nmol/l vs 29.0nmol/l;$p=0.005$), Arab Mediterranean (14.0 vs 21.5nmol/l $p<0.001$) and Asian women (20.5nmol/l vs 24.0nmol/l;ns). No difference was observed between Caucasian GDM and controls median 25OHvitamin D levels (48.0nmol/l vs 39.0nmol/l; ns).

Conclusion; Vitamin D concentration has been found to be lower in non-Caucasian GDM women compared to ethnic matched controls. Further work is needed on the mechanism of the association.

POSTER 6

Benefit of Switching From Rosiglitazone to Pioglitazone on Cardiovascular Markers in Routine Clinical Practice.

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Background and Aims:
Since their introduction, Thiazolidinediones have been extensively used as second line agents or part of triple therapy in the management of type 2 diabetes. Rosiglitazone had most prevalent use until a meta-analysis of pooled studies suggested a small increased incidence of ischaemic heart disease, worsening of oedema and heart failure is recognised for the class as a whole. The combination of these factors questioned the future of these agents; however, similar meta-analysis of Pioglitazone did not show adverse cardiovascular outcomes. This may be due to improvement in lipid profiles demonstrated with Pioglitazone in some studies. Therefore many units including ours have converted patients from Rosiglitazone to Pioglitazone.

Our aim was to objectively evaluate the changes in glycaemic and lipid control in a controlled conversion from Rosiglitazone to Pioglitazone.

Materials and Methods:
Data was collected from clinics in Primary and Secondary care on patients who were converted from Rosiglitazone (4mg or 8mg) to equivalent dose Pioglitazone (30mg or 45mg). Blood tests were taken at baseline and between 3 to 6 months for fasting plasma glucose, glycated haemoglobin, liver function tests, full lipid profile and creatinine. Apolipoprotein-B total cholesterol:HDL and non-HDL were measured as additional markers of cardiovascular risk. Patients requiring additional treatment changes for their glycaemic or lipid control during this period were excluded from the analysis. A total of 35 patients filled the criteria for analysis.

Results:
Age range of the cohort was 48-86 years (median 68 years), 22 were male and 13 female. 1 patient experienced side-effects from conversion and was excluded from the analysis. Duration of diabetes was known for 24 people, 63% of whom had diabetes for more than 7 years. Using paired Wilcoxon two-tailed, conversion from Rosiglitazone to Pioglitazone resulted in a significant improvement in mean fasting plasma glucose from median of 7.8 to 6.3mmol/L ($p=0.005$) and median glycated haemoglobin from 7.2% to 6.8% ($p=0.0001$). Lipid parameters also showed a significant improvement with median total cholesterol falling from 4.1 to 3.9mmol/L ($p=0.0013$), and HDL cholesterol from 1.0 to 1.2mmol/L ($p=0.0008$) with non-HDL levels falling from 3.1 to 2.6mmol/L ($p<0.0001$). Overall total cholesterol:HDL cholesterol fell from 3.9 to 3.4 with $p<0.0001$. ApoB levels (20 cases) improved from 0.7 to 0.6g/L ($p=0.0023$). Improvement in triglycerides was also significant (1.6 to 1.1mmol/L, $p=0.0179$).

Conclusions:
Previous comparative studies conducted in controlled environments have shown favourable lipid profiles with Pioglitazone. Our data in a real clinical setting suggests that Pioglitazone is more effective than Rosiglitazone at reducing fasting plasma glucose and glycated haemoglobin. More importantly, Pioglitazone has shown improvement in both lipid profile and other markers of cardiovascular risk.

This data shows there is clinical merit in converting patients from Rosiglitazone

POSTER 7

Making fasting during Ramadan safer for Muslims with type 2 diabetes - Impact of the READ (Ramadan focused Education and Awareness in Diabetes) programme.

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Introduction
Type2 Diabetes (T2D) patients who fast during Ramadan have a four-fold increase in hypoglycaemic events (HE) and gain weight. In 2007, we conducted a small pilot study, which demonstrated that the READ (Ramadan focused Education and Awareness in Diabetes) programme reduced the risk of HE and prevented weight gain.

Aim
To compare the impact of READ on weight, Hba1c and HE before and after Ramadan in a large cohort of Muslim patients with T2D.

Method
We audited two groups: Group 1 attended READ (n=126). This covered physical activity, meal planning, glucose monitoring, hypoglycaemia management, medications. Group 2 did not attend (n=120). We retrospectively analysed mean weight, HbA1c and HE pre and post Ramadan.

Results
The two groups were comparable in gender distribution, mean age, and pre-Ramadan HbA1c. Group 1 had mean weight decrease of 1.52kg (p=0.07, 95%CI -3.41 to 0.37) and mean HbA1c decrease of 0.7% (p<0.001, 95%CI -0.83 to -0.57). In group 2, there was mean weight gain of 0.94kg (p<0.001, 95%CI -0.76 to 2.64) and mean HbA1c increase of 0.1% (p<0.001, 95%CI 0 to 0.2). There was a relative risk reduction in HE of 0.2 with education.

Conclusions
The READ programme created an opportunity to study the outcomes of fasting in the UK among Muslims. It led to better metabolic control, through weight loss and significant decrease in HbA1c and decreased the risk of hypoglycaemia, therefore ensuring safer fasting. The benefit of patient education appears to be very relevant to T2D patients who fast during Ramadan.

POSTER 8

Provision of a dedicated diabetes psychiatry service is associated with significant improvements in glycaemic control and psychological outcome among attendees.

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Background: There is a high prevalence of psychiatric co-morbidity among patients with diabetes, but this often receives scant attention in routine care. Within our service, we have established a dedicated psychiatry clinic to facilitate the diagnosis and management of patients identified by diabetes clinicians.

Aims: To determine the impact of this service on glycaemic control or mental health of users over 12 months follow-up.

Methods: Retrospective cohort study including all patients referred by diabetes clinicians to the psychiatry service, comparing outcomes for attenders and non-attenders. Baseline socio-demographic variables, HbA1c and psychiatric diagnosis together with 12 month HbA1c and change in mental health status were collected from case records.

Results: 104 patients (65% type 1 DM) were referred during the observation period with mean age 43 years (SD 14.0) and mean HbA1c of 9.5% (SD 2.55). 78% of referred patients attended the psychiatry appointment and did not differ in baseline HbA1c from non-attenders. 96% had evidence of a formal psychiatric disorder, the most common being depression (57%) and anxiety disorder (23%). At 12 months, attendance was associated with a significant fall in HbA1c, while non-attendance was associated with a rise in HbA1c (mean difference -1.90% (95% CI -3.10 to -0.70). Improvement in mental state or remission was observed in 65% of attendees.

Conclusions: Establishment of a dedicated diabetes psychiatry clinic has had a major impact on patient management, attendance being associated with clinically relevant and statistically significant improvements in both glycaemic control and mental health.

POSTER 9

DISC (Diet and Insulin Self adjustment at the Countess): An innovative resource-optimised carbohydrate-counting and insulin dose adjustment programme for patients with type 1 diabetes.

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Background: Educational programmes for type 1 diabetes have established the benefit of carbohydrate-counting to advise insulin dose adjustment. These courses can be resource-intensive (DAFNE = 35 hours over 5 consecutive days and BERTIE = 20 hours over 4 weeks).

Methods: DISC (Diet and Insulin Self adjustment at Countess) is a locally developed resource-friendly carbohydrate-counting and insulin dose adjustment education programme. The course takes 6 hours and is delivered flexibly over 2 weeks. After one year the results of this innovative education programme were audited.

Results: Data is presented as mean±SEM. Data was available from baseline (pre-course), and 10-14 months after course. 56 patients with type 1 diabetes completed the DISC course from Aug07 - Sep08. Mean age of the patients was 40 ± 2.1 years (range 16-67 years), with a mean duration of diabetes of 15.6 ± 1.5 years (range 1-40 years) and an initial HbA1c of 9.3±0.3%
There was a significant reduction in HbA1c at 10-14 months compared to baseline (9.3±0.3% to 8.5±0.5%, p=0.04). There were also non-significant reductions in total insulin doses (55.6 ± 2.9 units to 51.3 ± 2.9 units, p=0.3) and weight (72 ± 3.3 kg to 71.6 ± 3.2 kg, p = 0.7).
Post-course feedback revealed that all patients rated the information provided as “excellent” and the speed of delivery to be “very satisfactory”. 96% of patients felt confident enough to dose adjust their insulin.

Conclusions: Participants in DISC demonstrate improvements in glycaemic control comparable to programmes such as DAFNE, however the course is far less resource-intensive. DISC provides a useful option for patients with type 1 diabetes who may be unable or unwilling to attend a more time intensive course.

POSTER 10

Audit of the management of osteomyelitis in patients with diabetes.

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Introduction
Foot complications in patients with diabetes are the most common cause for amputations in the NHS excluding traumatic injuries. Optimal care requires a multidisciplinary approach with input from various specialities including diabetes&endocrinology, orthopaedics, vascular surgery, podiatry and microbiology. Despite the huge socio-economic burden on the NHS there remains limited guidance on the management of osteomyelitis.

The aim of the audit was to assess various aspects of management of osteomyelitis in patients with diabetes and measure clinical outcome, and to use this information to formulate a set of local trust guidelines.

Method
Data was collected both retrospectively and prospectively using a proforma based on set standards. Cohort: all patients presenting with osteomyelitis between June 2006 and February 2009. The follow-up period was 6 months from diagnosis. We also looked at the impact of the outpatient intravenous (IV) antibiotics programme on the length of hospital admission.

Results
There were 34 cases of confirmed osteomyelitis. 85 % of these patients were admitted to hospital and treated with IV antibiotics. Overall, 85 % were treated conservatively and 15% required surgical intervention. The external lesion healed in 71% of all patients. 6 patients were entered into the outpatient IV antibiotics programme and within this sub-cohort it reduced the inpatient stay by 28days/patient.

Conclusion
The healing rate of osteomyelitis is acceptable within current practice; however there is a definite need for clear guidelines. Provision of outpatient IV antibiotics plays a role in preventing lengthy admissions in cases of resistant osteomyelitis. The plan is to re-audit 1 year after our proposed guidelines become available to all clinicians at our Trust.

POSTER 11

Use of Metformin in gestational diabetes mellitus.

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Introduction:
Metformin use in Gestational Diabetes Mellitus (GDM) varies nationally according to local experience and preferences.

Method:
We retrospectively identified 15 GDM patients treated with Metformin during their pregnancy, median age 30 (range 23-41), 73% White European and 27% other ethnic origin. GDM was diagnosed at median 27 weeks (range 13-30) and Metformin initiated at median 28 weeks (range 15-37). Median Metformin dose necessary to achieve glycaemic targets was 1500mg daily, with supplemental Insulin used if glycaemic targets not reached. We use higher thresholds for initiation and titration of Metformin (according to NICE recommended targets) compared to the well-described Metformin in GDM Trial (MIG) protocol.

Results:
Of the 15 women assigned to Metformin, 86.6% continued to receive Metformin until delivery and 42.3% received supplemental Insulin, but later initiation after Metformin was noted (0-56 days after, compared to 12.4-27.5 days delay in MIG). No maternal side effects were noted. 53.4% of patients had normal vaginal delivery and 46.6% went for cesarean section (CS). Neonatal outcomes: 6.0% prematurity, 6.0% neonatal intensive care admissions due to hypoglycaemia, 6.0% phototherapy requirement. There was no neonatal mortality. Average baby weight was 3.4kg, head circumference 35cm and crown-heel length 50cm. Data on maternal B12

deficiency, known association with Metformin, was available in only 33% of patients.

Conclusion:
In women with GDM, Metformin (alone or with supplemental Insulin) is not associated with increased serious adverse outcomes or perinatal complications. We are reassured by lack of side effects in our subjects. The women preferred Metformin to Insulin treatment.

POSTER 12

Factors accounting for variability in weight and HbA1c response to exenatide in the Association of British Clinical Diabetologists (ABCD) nationwide exenatide audit.

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