Association of British Clinical Diabetologists

Association of British Clinical Diabetologists
Autumn Meeting
Hotel Russell, London
27th & 28th November 2008.

ABSTRACTS

ABSTRACT 1

AUDIT OF INPATIENT DIABETES CARE.

R K Rao, J Reid & J Sidhu
Dept of Diabetes & Endocrinology, Warwick General Hospital.

Background
Diabetes patients are admitted twice as often and stay twice longer than those without diabetes. They often experience poor inpatient care due to inadequate knowledge of diabetes among the hospital staff. We describe the audit undertaken to identify these problems, the education programme and other measures instituted to improve the care.

Aims
To assess the management problems and clinical outcomes

Methods
Case records of all the adult inpatients were audited on a single day in a district general hospital and patients with diabetes were identified. Retrospectively we reviewed the notes, discharge summaries and information regarding the management of diabetes and analysed.

Results
On the day there were 320 adult inpatients and 41 (12.8%) had a diagnosis of diabetes. The notes for 37 diabetes patients were reviewed and details of their blood sugar recordings, diabetes treatment, referral to diabetes team, nursing notes and final outcome were recorded. Primary reason for admission was non diabetes related illness in all cases. Average length of stay in patients with diabetes was 31 against 24 days in nondiabetics. Diabetes management was found to be inappropriate in 20 %.Commonest problem was lack of or inadequate action with regards to hyper/hypoglycaemia. Referral to diabetes team was not made or delayed by a mean of 5days. Recording of diabetes on the discharge summary was extremely poor.

Conclusions
In order to improve the patient care and to reduce the length of stay, a designated diabetes ward was organised. Diabetes link nurse programme was initiated which evolved into education programme for staff. Diabetes guidelines have been updated and were made available on the trust intranet.

ABSTRACT 2

EXCLUDING PATIENTS WITH DIABETES FROM TREATMENT TARGETS IN GENERAL PRACTICE.

Dr Paula Chattington, Mark Spye and Dr Simon Redfearn.
Consultant Diabetologist North Cheshire NHS Hospital Trust, IT Specialist Warrington PCT, Warrington PCT Diabetes Lead

Introduction: Routine diabetes care is mainly provided by GPs. The national standards and payments for diabetic management are defined by Quality Outcomes Framework (QOF). Practices can exempt individual patients from QOF by coding them as either declining or unsuitable for treatment. Excluded patients varied from 0-16%, across 27 local practices. Exempted patients are a concern as future opportunities to manage their diabetes, complications and screening may be lost as automated computer reminders cease.
Method: Audit of patients excluded from all or part of the diabetes care package April 07-March 08.
Results: Overall 371 (5%) of diabetics were coded as declining (3.1%) or unsuitable (1.9%) for some aspect of treatment. Exception reporting was highest for lipids (4.1%) and lowest for HbA1c (0.6%). More of those >65 were coded as unsuitable whilst those age 25-64 declined most. Of those declining 75% didn't receive an annual review. One practice exempted 41% of patients for lipids by entering an incorrect code. 146 patients had no type of diabetes coded.
Summary: We are generating district wide guidance for exception reporting, encouraging this to be postponed until the end of the QOF year, to increase number patients offered annual reviews. Data quality issues are being addressed.

ABSTRACT 3

SIGNIFICANTLY BETTER GLYCAEMIC CONTROL AND WEIGHT REDUCTION WITH LIRAGLUTIDE, A ONCE DAILY HUMAN GLP-1 ANALOGUE, COMPARED WITH INSULIN GLARGINE: ALL AS ADD-ONS TO METFORMIN AND A SULPHONYLUREA IN TYPE 2 DIABETES.

D Russell-Jones (1), A Vaag (2), O Schmitz (3), B K Sethi (4), N Lalic (5), S S Antic (6), M Zdravkovic (7), G M Ravn (7), R Simó (8)
(1) Dept of Endocrinology & Metabolism, Royal Surrey County Hospital, Guildford, UK; (2) Dept of Endocrinology, Steno Diabetes Centre, Gentofte, Denmark; (3) Dept of Endocrinology & Diabetes, University of Aarhus, Aarhus, Denmark; (4) Hyderabad, India; (5) Faculty of Medicine, Belgrade University, Belgrade, Serbia; (6) Clinic of Endocrinology, University of Nis, Nis, Serbia; (7) Novo Nordisk A/S, Bagsvaerd, Denmark; (8) Diabetes Research Unit, Hospital Universitari Vall D'Hebron, Barcelona, Spain.

Aim

To compare the efficacy and safety of liraglutide (1.8mg, once daily), liraglutide placebo and open-label insulin glargine, all as add-ons to metformin (1mg, twice daily) and glimepiride (2-4mg, once daily) in a 26-week, randomised trial.

Method

In total, 581 subjects were randomised (mean age 57.5±9.9 years; mean body mass index 30.5±5.3kg/m2; mean HbA1c 8.2%±0.9%).

Results

Liraglutide+metformin+glimepiride reduced HbA1c more than glargine or placebo in combination with metformin and glimepiride (-1.33, -1.09 and -0.24%, respectively, ANCOVA, $p=0.0015$ and $p<0.0001$) and more of the subjects in the liraglutide group reached HbA1c ≤6.5% (37.1% vs 10.9% with placebo+metformin+glimepiride and 23.6% with glargine+metformin+glimepiride, both $p<0.0001$). Estimated weight difference between the liraglutide and glargine groups was -3.4kg ($p<0.0001$) and -1.4kg between the liraglutide and placebo groups ($p=0.0001$). Liraglutide+metformin+glimepiride reduced weight significantly more than placebo+metformin+glimepiride ($p=0.0001$) or glargine+metformin+glimepiride ($p<0.0001$) (-1.81, -0.42 and -1.62kg, respectively). The most common adverse events in the liraglutide group were gastrointestinal disorders (mainly nausea). Nausea occurred in approximately 15% of subjects in the liraglutide group, but was transient. Frequency of minor hypoglycaemic episodes (blood glucose <3.1mmol/L) was similar for the liraglutide and glargine groups and more frequent than in the placebo group.

Conclusion

Liraglutide added to metformin and glimepiride was generally well tolerated and statistically significantly improved glycaemic control and reduced body weight in comparison to metformin+glimepiride and to glargine+metformin+glimepiride.

ABSTRACT 4

EARLY PROGRESSION OF DIABETIC RETINOPATHY IN PATIENTS WHO COMMENCE INSULIN PUMP TREATMENT - AN OBSERVATIONAL STUDY.

Dr Kota Kojima, Dr Umar Raja, Dr Shirine Boardman.
Warwick General Hospital.

Aims:

To document the frequency and risk factors for early progression of diabetic retinopathy in patients with diabetes mellitus type 1 who have been started on insulin pumps.

Methods:

Twenty nine patients registered at the South Warwickshire General Hospital who have been commenced on insulin pumps were observed in this retrospective cohort study over 60 months. Retinal images taken using a non-mydriatic retinal camera were evaluated and graded in accordance with the English National Screening Committee for Diabetic Retinopathy by a single trained retinal photographer / grader. Regular

blood tests were performed to analyse HbA1c levels using the standard high performance liquid chromatography (HPLC) technique.

Results:

Significant worsening was seen in nine out of ten patients who were graded as pre-proliferative (R2), proliferative (R3) and/or maculopathy (M) on their initial photograph. The mean HbA1c change in these patients was +0.01% before and after starting the insulin pump. The worsening was photographed, on average, 9 months after the insulin pump was started.

Patients with none (R0) or minor background retinopathy (R1) displayed very little change in their retinopathy outside the normal expected variation in the wider population of type 1 diabetic patients. The mean HbA1c change in these patients was -0.07% before and after starting the insulin pump.

Conclusion:

Patients with pre-proliferative retinopathy or worse before commencing insulin pumps are at greater risk of early progression of diabetic retinopathy and therefore should be offered a more frequent ophthalmic monitoring, particularly in the first nine months, to consider early interventions.

ABSTRACT 5

THYROTOXIC PERIODIC PARALYSIS.

Dr Anita Debroy, Dr E Bingham, Dr J R Tringham, Dr A Fawole.
Frimley Park Hospital, Surrey

A 32-year old gentleman presented to A&E with an acute history of paralysis involving both upper and lower extremities. Physical examination found the patient to be in sinus tachycardia and neurological examination revealed flaccid quadriparalysis with no other abnormalities. ECG showed ST segment depression and laboratory findings revealed low potassium (1.4 mmol/L). MRI imaging was done which did not show any cervical cord lesion. His past medical history included thyrotoxicosis but treatment with carbimazole was stopped 12 months ago due to side effects. Further questioning revealed that he had symptoms compatible with hyperthyroidism over the last few months. TSH levels subsequently confirmed this (< 0.03). Diagnosis of thyrotoxic periodic paralysis (TPP) was made. Intravenous potassium was administered alongside anti-thyroid treatment (propylthiouracil & propanolol). Correction of the hypokalaemia rapidly reversed the acute attack of paralysis and anti-thyroid treatment was continued to prevent further similar attacks. Findings on further evaluation confirmed biochemistry consistent with thyrotoxicosis with positive TPO antibodies. The patient agreed to treatment with long-term propylthiouracil.

TPP is an uncommon metabolic disorder characterized by simultaneous thyrotoxicosis, hypokalaemia and progressive symmetrical weakness ultimately leading to paralysis if left untreated. It occurs most frequently in Asiatic hyperthyroid people. The pathophysiology, although still uncertain, is thought to do with Na-K-ATPase pumps, which increase in number and activity in hyperthyroid people. This results in intracellular potassium shift causing hypokalaemia. Treatment

consists of administration of potassium replacement therapy in the acute phase and correction of hyperthyroidism to avoid further attacks in the future

ABSTRACT 6

RAMADAN FOCUSED STRUCTURED EDUCATION IN TYPE 2 DIABETES: IMPACT ON WEIGHT AND HYPOGLYCAEMIA.

V Bravis (1,3), E Hui (1), S Salih (2), S Mehar (2), M Hassanein (4), D Devendra (1,2,3).
(1) Jeffrey Kelson Diabetes Centre, Central Middlesex Hospital; (2) Brent Integrated Diabetes Pathway, Brent tPCT; (3) Dept of Investigative Sciences, Imperial College, London; (4) Dept of Diabetes, Glan Clwyd Hospital, North Wales.

Introduction
During Ramadan, Muslims fast from dawn to dusk for one lunar month. The majority of Muslim diabetes patients are unaware of complications such as hypoglycaemia during fasting. The safety of fasting has not been studied in the UK Muslim population with diabetes.

Aim
To evaluate the impact of Ramadan-focused education on weight and hypoglycaemic episodes (HE) during Ramadan in a Muslim population with Type 2 diabetes.

Method
We retrospectively analysed two groups: Group A attended a structured education programme about physical activity, meal planning, glucose monitoring, hypoglycaemia, dosage and timing of medications. Group B did not. Hypoglycaemia was defined as home blood glucose <3.5 mmol l{-1}. Educational session feedback was provided by standardised form filling.

Results
There was mean weight loss of 0.7kg after Ramadan in group A, compared to 0.6kg mean weight gain in group B ($p < 0.001$). The weight changes observed were independent of the class of hypoglycaemic agents used. There was a significant decrease in the total number of HE in group A, from 9 to 5, compared to an increase in group B from 9 to 36 ($p<0.001$). The majority were in patients treated with short-acting sulphonylureas (group A=100%, group B=94%). Feedback was consistently positive.

Conclusions
Ramadan-focused education in diabetes can empower patients to change their lifestyle during Ramadan. It minimises the risk of HE and prevents weight gain during this festive period for Muslims, which potentially benefits metabolic control. We encourage all healthcare providers in the UK to implement this education programme.

ABSTRACT 7

ROSUVASTATIN IN SOUTH ASIANS WITH TYPE 2 DIABETES.

R. Ratnasabapathy (1), V Bravis (2), D Devendra (3).
(1) Brent NHS; (2) Central Middlesex Hospital; (3) Imperial College London.

Rosuvastatin has been shown to be the most potent statin at lowering LDL-C (low density lipoprotein cholesterol) and raising HDL-C (high density lipoprotein

cholesterol). However its ability to prevent major cardiovascular events(MCE) is not yet established.

We evaluated the efficacy, tolerability and safety of rosuvastatin in the South Asian population with Type 2 diabetes, attending the Northwest London hospitals trust. TC (total cholesterol), LDL and HDL before and after 24 months of treatment with rosuvastatin 10 mg were analysed retrospectively. MCE whilst on rosuvastatin were noted. CK (creatinine kinase) and ALT (alanine transaminase) were monitored. Patients on fibrates, niacin, omega-3 fatty acids, ezetimibe or insulin were excluded. 76 subjects were identified. Mean age was 64.5years (SD 4.2). Mean duration of diabetes = 8.4 years (SD 1.2), number with previous MCE =19 . Mean LDL, TC and HDL before treatment were 3.185, 5.101 and 1.249 mmol l-1 respectively. After 24 months of treatment mean LDL, TC and HDL were 2.022(36.5% reduction, $p<0.0001$), 3.986(21.8% reduction, $p<0.0001$) and 1.361(8.9% increase, $p<0.0001$) respectively. 50% of patients achieved LDL<2 and 51.3% achieved TC<4. CK or ALT did not triple in any patients. 1.3% of patients had a MCE whilst on Rosuvastatin.

Rosuvastatin 10 mg is safe, tolerable and efficacious in reducing TC, LDL, increasing HDL and appears to protect from cardiovascular events in south Asian Type 2 diabetes patients after follow up of 2 years. We conclude that rosuvastatin is a good alternative statin when simvastatin is intolerable or unable to achieve lipid targets.

ABSTRACT 8

DIFFERENTIAL EFFECTS OF INTRAVENOUS AND SUBCUTANEOUS SLIDING SCALE INSLUIN REGIMES USED TO IMPROVE BLOOD GLUCOSE LEVELS IN A TERTIARY CARE SETTING.

E Swan (1), K Dhatariya (2)
(1) School of Medicine, Health Policy and Practice, University of East Anglia, Norwich;
(2) Elsie Bertram Diabetes Centre, Norfolk & Norwich University Hospital, Norwich.

Background:
The use of insulin sliding scales (SS) has been heavily criticised, with their use being described as ineffective or dangerous [1-3]. However despite this, over half of all hospitals in the UK still recommend their use [4].

Aim:
To determine if current insulin SS regimes are effectively used in our institution.

Methods:
A retrospective case notes analysis of IV (n = 48), and SC (n = 15) SS in a single university teaching hospital between September 2007 and February 2008.

Results:
Overall, pooled results showed no improvement of blood glucose levels for those on SC SS (8.78 vs 7.68 mmol/L p = 0.31). In the IV arm, there was a significant reduction in mean blood glucose levels over time (11.38 vs 7.6 mmol/L, p = 0.005).

Discussion:
Patients who are admitted with another condition unrelated to their diabetes often have longer lengths of stay that those admitted with a primary diabetes related

diagnosis [5]. This is thought in part to be due to the perception that the management of diabetes is an 'added burden' in addition to a possible lack of knowledge amongst nursing staff on non-metabolic speciality wards.

In summary:

We have shown that the use of IV SS leads to better glycaemic control but that SC SS insulin does not. However, our data also shows the use of these tools prevents the potential worsening of glycaemic control secondary to forced immobility and the stress of hospitalisation.

Reference List

1. Abourizk NN, et al. Inpatient diabetology. The new frontier. *J Gen Intern Med*. 2004;19:466-471
2. Clement S, et al. Management of diabetes and hyperglycemia in hospitals. *Diabetes Care*. 2004;27:553-597

ABSTRACT 9

TIME OF ARRIVAL IS NOT A SURROGATE FOR OVERALL MOTIVATION: LACK OF CORRELATION BETWEEN GLYCAEMIC CONTROL AND ATTENDANCE FOR ROUTINE DIABETES CLINIC CARE IN A TERTIARY CENTRE.

Z Shahjahan, K Dhatariya.

Elsie Bertram Diabetes Centre, Norfolk & Norwich University Hospital, Norwich.

Aim

To determine if there is a correlation between glycaemic control and the arrival time at the diabetes clinic in relation to the appointment time.

Background

[1]Previous work has shown that people who attend the diabetes clinic have better glycaemic control than in chronic non-attenders [2]. Attendance at a specialist clinic is part of the motivation necessary to improve self-management skills [3]. However, what has not previously been shown is whether the time of arrival to clinic is related to glycaemic control as a measure of this overall motivation.

Methods

All patients attending a single secondary care specialist diabetes clinic were sent a reminder letter 3 weeks prior to their appointment. The letter stated that individuals should attend the clinic 30 minutes prior to the appointment time to allow for HbA1c measurements to be available. Patients were timed on their arrival in relation to their stipulated appointment times. The time difference (either early, on time, or late arrival) was correlated with their HbA_1C done on the same clinic day.

Results

555 patients attended during a 4 week period. 94.6% (n = 520) arrived on or before their designated appointment time. 5.4 % (n = 35) turned up late.

The results show there is no correlation between the time of attendance, type of clinic attended and glycaemic control, $R^2 = <0.001$ (Figure 1).

Conclusions

Time of arrival to clinic in relation to appointment time was not related to overall glycaemic control in this cohort of secondary care patients.