Prevalence of risk factors and burden of diabetic foot disease amongst patients on haemodialysis

Wirral University Teaching Hospital

Aims: The aim of this study was to assess the prevalence of diabetes foot disease and its risk factors amongst patients undergoing haemodialysis.

Methods: This was a cross-sectional observational study of all patients with diabetes undergoing haemodialysis at a University Teaching Hospital. Case notes were reviewed for baseline characteristics, micro and macrovascular complications, past foot ulceration and amputation. Patients were examined for neuropathy, peripheral pulses, foot ulceration and foot deformity.

Results: 55/137 (40.1%) patients receiving haemodialysis in hospital had diabetes. History and clinical examination was performed on 48 patients (mean (SD) age 64.3 (13.1) years). 26/48 (54.2%) patients were male. Hypertension (89.6%) and hyperlipidaemia (70.8%) were the most frequent co-morbidities. 10.4% of patients reported symptoms of intermittent claudication, 16.2% of patients had venous eczema and 78.3% of patients had at least one palpable pulse. Neuropathy impairment was present in 55.2% and 50% of patients in the left and right foot, respectively. Vibration perception was impaired in 28.6% and 30.8% of patients at the left and right metatarsophalangeal joint area, respectively. Foot deformity was present in 38.5% of patients. 8 (16.7%) patients had a previous amputation, 5 (10.4%) had past Charcot neuroarthropathy and 9 (18.7%) patients had a current foot ulcer.

Conclusions: There is a high prevalence of risk factors along with past and current foot disease among patients with diabetes on haemodialysis, highlighting the need for enhanced surveillance and early treatment.

Achieving glycaemic control in patients with diabetes on haemodialysis

Wirral University Teaching Hospital

Aim: Optimising glycaemic control in patients with end stage renal disease on haemodialysis can be a challenge. The aim of this study was to determine the treatment modalities in use to achieve optimal glycaemic control in these patients.

Methods: This was a cross-sectional observational study of patients with diabetes on haemodialysis at a University Teaching Hospital. Data collected included baseline characteristics, type and duration of diabetes, baseline biochemistry, treatment modality for diabetes and glycaemic control.

The ABCD Spring Meeting took place at Holywell Park Conference Centre, Loughborough on 16th & 17th May 2019.

Abstracts 4, 5 and 10 cannot be published as there has been prior publication. The authors of abstract 13 have requested that their abstract is not published.
Driving improvements in inpatient diabetes care: keep your eye on the dashboard!
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Background: In November 2017 the Care Quality Commission (CQC) issued a warning notice to our Trust raising concerns around the safe use of insulin. A robust action plan was implemented across all clinical directorates focusing on supporting frontline non-specialist staff. Assurance measures to track progress and a robust governance process were needed.

Aim: To develop an Inpatient Diabetes Dashboard to be shared quarterly at Executive Quality Board and with frontline staff.

Purpose: For assurance purposes, monitoring progress and to drive further change.

Method and results: With senior sponsors (nursing/medical), a business analyst, inpatient diabetes lead nurse and inpatient diabetes specialist pharmacist, we agreed measures to be reported in the dashboard. It was important to recognise limitations in data collection methods and to ensure the process was sustainable. We chose a combination of capillary blood glucose (CBG) data (\% CBG <3.0; \% CBG >25.1), Data were collected via notes audit (medication errors) and datix incident reporting (National Inpatient Diabetes Harms audit). Compliance with insulin safety training was also reported. The dashboard was set up to report monthly from April 2018 and data are displayed on a single sheet in both tabular and graphical form.

Conclusion: The Leicester Inpatient Diabetes Dashboard provides a unique, visually appealing progress update which can be shared widely. It provides assurance within our organisation that we are addressing concerns raised by the CQC, national audit or local incident reporting. Importantly, it allows us to highlight where we need particular executive support to effect. The dashboard can be adapted for use within any acute trust.

Referral rates of patients with diabetes to secondary care are determined by practice size and confidence in treatment, not by HbA1c level
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Aims: To identify the factors affecting the referral rates of diabetic patients from primary care to secondary care.

Methods: A study was carried out based on 66 GP surgeries in the Cardiff and Vale University Health Board (population 515,581), HbA1c outcome data of GP surgeries were obtained from the QOF database published for 2018. Referral rates were obtained from the electronic referral database of Cardiff and Vale University Health Board over the same period. Confidence level on the treatment of diabetes among GPs was assessed as an initial study done in nine GP surgeries in the same area using a self-administered questionnaire. The relationship of adjusted referral rates with the GP practice size, HbA1c outcome and the confidence level was assessed.
Wide variation in the per patient cost of prescribing diabetes drugs for type 2 diabetes in primary care is not correlated with metabolic outcome

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Background: The prevalence of diabetes, especially type 2, is increasing all over the world. Diabetes prescribing has changed from older drugs to newer expensive drugs, causing an economic burden to health systems.

Aims: To identify the variation in prescription patterns and the cost of diabetes treatment across primary care practices in Cardiff and to compare expenditure versus outcome.

Methods: Data on 64 primary care institutions (515,581 patients) in Cardiff and Vale University Health Board area were obtained from Quality and Outcome Framework Wales 2018 database. Expenditure and volume of commonly used diabetes drugs were obtained from annually published government database (CASPA). Cost per patient for diabetes medication, prevalence of diabetes, prescription patterns and metabolic outcome (percentage of patients with HbA1c <58 mmol/mol) were assessed and compared among 64 GP surgeries.

Results: Out of all patients, 4.94% (n=25,492) were diagnosed with diabetes. The rate of HbA1c <58 mmol/mol was 63.17% (range 43−76%). Biguanide usage was 43.6% of the total diabetes drug volume, but sulfonylurea usage was 15.2%. Other drugs used included DPP-4 inhibitors (12.2%), SGLT-2 inhibitors (8.8%), GLP-1 agonists (3.0%) and insulin (14.08%). The average per patient cost for diabetes drugs was £302.93, with a wide range of £207.00 to £475.28. GP surgeries which reported lower expenditures used diabetess drugs may be possible by retention of use of less expensive drugs in more patients without compromising metabolic outcomes.

Aldosterone-renin ratio in screening for primary aldosteronism: a clinical audit

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Background: The aldosterone-renin ratio (ARR) is the screening test of choice for primary aldosteronism. Patient selection and preparation are crucial to obtain meaningful results. We identified cases of inappropriate screening and significant numbers of repeated testing.

Aim: To compare current practice in a district general hospital against clinical guidelines and to identify the causes of repeated testing.

Methods: We searched the laboratory database for all ARR tests performed over a 14-month period from May 2016 to July 2017 in Basildon University Hospital. We reviewed the clinical records for indications for testing, and evaluated local practice against guidelines of the Endocrine Society in patients with hypertension and the European Society of Endocrinology in patients with adrenal nodules.

Results: We found 109 ARR measurements in 93 patients. 62% of patients were female. The indication for the test was hypertension in 52% and adrenal nodules in 46%. In the hypertension group, 71% met the criteria for investigation while, in the adrenal nodule group, 40% of the patients met the criteria for screening. Overall, 59.1% met the criteria for investigation. Three patients were diagnosed with primary aldosteronism and another three cases are still under investigation. All positive results were in patients who met the criteria for screening. Interfering medications accounted for 33.3% of repeated tests.

Conclusion: ARR was not indicated in 40% of patients in this sample. Careful patient selection can reduce the numbers of unnecessary tests. A review of medications is necessary to avoid the need for repeat testing which is expensive and inconvenient for patients.

Improvement in renal function in the first UK NHS EndoBarrier service for uncontrolled diabesity

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Aims: EndoBarrier, a 60 cm proximal intestinal liner, endoscopically implanted for up to 1 year, reduces weight and HbA1c. As the risk of progressive kidney disease is increased by high body mass index (BMI), we assessed the impact of EndoBarrier on renal function.

Methods: Since October 2014 we have implanted 62 EndoBarriers in patients with suboptimally controlled diabesity in our NHS service and by November 2018 all were explanted. Outcomes were monitored in a registry.

Results: In 61 patients (mean±SD age 51.4±7.2 years, 54.1% male, 57.4% Europid, diabetes duration 12.0 (8.0–19.5) years, 57.4% insulin-treated, BMI 41.9±7.4 kg/m2) with implant and explant data, mean±SD HbA1c fell by 23.7±21.4 mmol/mol from 80.2±22.5 to...
56.5±11.5 mmol/mol (p<0.001), weight fell by 15.9±8.5 kg from 122.6±27.9 to 106.7±28.9 kg (p<0.001), systolic blood pressure (BP) fell from 138.5±15.0 to 125.8±14.6 mmHg (p<0.001), cholesterol fell from 4.7±1.4 to 3.9±0.9 mmol/L (p<0.001) and alanine-aminotransferase (ALT; liver fat marker) fell from 33.2±19.8 to 19.5±11.4 U/L (p<0.001). In the 35 insulin-treated patients the median (IQR) insulin dose was reduced from 100 (54–140) to 40 (0–70) units (p<0.001), with 10/35 (28.6%) discontinuing insulin. With regard to renal function, mean±SD serum creatinine improved by 5.5±15.4 μmol/L from 91.7±47.7 to 86.2±45.7 μmol/L (p=0.007) and estimated glomerular filtration rate (abbreviated MDRD equation) improved by 5.8±10.7 mL/min/1.73m² from 84.3±25.2 to 90.1±26.4 mL/min/1.73m² (p=0.001). Five patients had raised serum creatinine (>133 μmol/L) prior to Endobarrier; after implantation, in four of these creatinine was reduced and in two creatinine was normalised. It was noteworthy that the four patients with renal impairment who sustained improvement had large weight loss (19.3–34.4 kg) whereas the patient without improvement had only 6.6 kg weight loss.

Conclusion: As well as previously documented improvements in weight, HbA1c, BP, ALT and cholesterol, EndoBarrier was associated with improvements in renal function. These observational findings warrant further investigation.

Is electronic referral system an answer for better coordinated inpatient diabetes care?
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Aims: Re-audit of the an electronic endocrine referral system to: (1) analyse the system’s efficiency 1 year post-implementation; and (2) identify potential service gaps and service improvement areas.

Methods: A service level audit at a large district general hospital showed that a new electronic referral system dramatically improved timely access to specialist diabetes/endocrine advice. We re-audited the system by retrospectively analysing the referral audit trails from July to December 2018 (6 months).

Results: The primary outcome measure was the percentage of referrals responded to in 24 hours. On switching to electronic referrals, the proportion responded to within 24 hours rose from 25% in September 2016 to 82% in September 2017 and 76% in September 2018. The figure for July to December 2018 was 76%. Further analysis showed the majority of referrals (56.58%) were responded to by diabetes specialist nurses (DSNs).

Conclusions: Our re-audit shows response times have remained similar, providing a strong case for continued use of this system as a superior alternative to paper referrals. The marginal decrease in the proportion of responses within 24 hours suggests a bottleneck at the point of referral authorisation as referral numbers have increased but workforce size has remained constant. This suggests a potential benefit to hiring more DSNs (as the main responders), and redistributing workload. The study was limited by its retrospective nature and by difficulties in comparing like-for-like time periods. Potential improvements include streamlining the “accept referral” function and making a “report” function available, so referral outcomes can be viewed easily online. All hospitals with electronic investigation-ordering systems could easily replicate our system.

19-22 February 2020
13th International Conference on Advanced Technologies & Treatments for Diabetes (ATTD)
IFEMA Palacio Municipal, Campo de las Naciones Avda. Capital de España Madrid 7-28042, Madrid, Spain
https://attd.kenes.com/

17 March 2020
YDEF Day
SEC Glasgow
http://www.youngdiabetologists.org.uk/courses/

18-20 March 2020
Diabetes UK Professional Conference 2020
SEC Glasgow
https://www.diabetes.org.uk/Diabetes-UK-Professional-Conference

28-31 March 2020
ENDO 2020
Moscone Center, San Francisco
https://www.endocrine.org/endo2020

23-24 April 2020
ABCD Spring Meeting 2020
Hilton Liverpool City Centre
https://abcd.care/events/abcd-spring-meeting-2020

23 April 2020
ABCD DTN-UK Meeting
Hilton Liverpool City Centre
https://abcd.care/events/abcd-dtn-uk-meeting-2020

27-29 April 2020
YDEF Technology Course
Contact Organizer for more detail: info@youngdiabetologists.org.uk
http://www.youngdiabetologists.org.uk/courses/

13-15 May 2020
18th Malvern Diabetic Foot Conference
Malvern Theatres, Grange Road WR14 3HB, Worcestershire, United Kingdom
https://eu.eventcloud.com/home/mdfc2020/Home/

23-26 May 2020
European Congress of Endocrinology
Prague, Czech Republic

12-16 June 2020
American Diabetes Association
80th Scientific Session
Chicago, Illinois
https://professional.diabetes.org/scientific-sessions

21-25 September 2020
EASD 2020
56th Annual Meeting of the European Association for the Study of Diabetes
Vienna, Austria
https://www.easd.org/

For other meetings see https://www.abcd.care/events