A Comparison between the Joint Renal Diabetes Clinic and General Diabetes Clinics in a District General Hospital

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Background

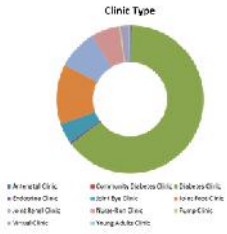
Diabetic nephropathy is the leading cause of end stage renal failure (ESRF). However, premature cardiovascular disease in this group of patients means that not all patients with diabetic nephropathy reach ESRF. The progression of diabetic nephropathy can be reduced through the intensive management of blood pressure, lipids and glycaemic control (1). This intensive management may be achieved through joint renal diabetes clinics (1,2). Joint renal diabetes clinics are also able to manage additional factors such as calcium, bone disorders and anaemia.

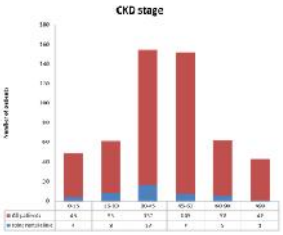
Methods

This was a retrospective review of patients aged above 19 years with either eGFR < 60 ml/min (KDIGO stage 3) or with a raised urine albumin creatinine ratio (urine ACR) above 2.5 (men) or 3.5 (women). 509 patients were identified (out of a total population of 1715). Out of these, 30 were excluded (died or serial DNAs).

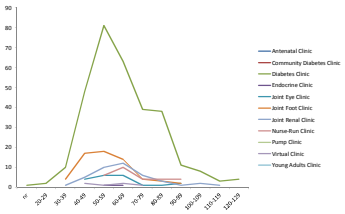
Results

Out of 479 patients, only 9 % were under the joint renal clinic. The majority were under the general diabetes clinic (64 %) and the second highest cohort of patients were found in the foot clinic (13 %). The bar chart below also demonstrates that the patients most at risk e.g. the 45 patients with an eGFR < 15 were not all under the joint renal diabetes clinic.





NICE guidelines (3) advise referral to nephrology if the eGFR < 30 ml/min, urine ACR > 70 or if there has been a reduction in eGFR by 25 % over the preceding 12 months. In our cohort of patients, 123 out of 479 patients had been referred to nephrology. This included 53 patients on dialysis.

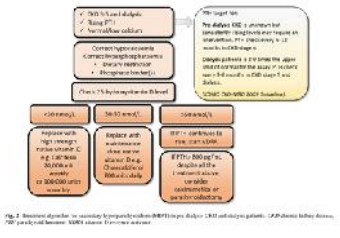


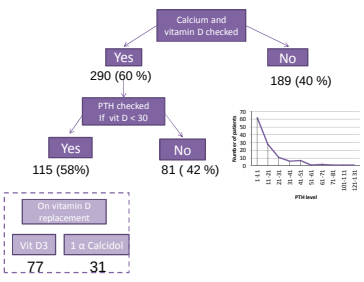
Glycaemic control

We wanted to see if there was a difference in HbA1c between the different specialty clinics. However, this was not demonstrated. This is likely to be due to the fact that our audit is cross-sectional and represents a snapshot in time and therefore is not able to demonstrate any improvement over time.

Bone health

Secondary hyperparathyroidism, a complication of CKD, is associated with increased fracture risk and mortality. In patients on haemodialysis, SHPT is associated with a 20 % increase in mortality and a 4 fold increased fracture risk (4). KDIGO guidelines recommend keeping PTH 2-9 x the upper limit of normal (for our assay the normal range is 1.6-9.3).

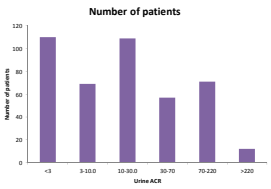




Across our entire cohort of 479 patients, 60 % had had calcium and vitamin D measured and of these 58 % had a PTH measurement if the vitamin D was < 30.

Urine ACR

Across our entire caseload of patients (not just the patients included in this audit) 429 (25 %) did not have a urine ACR measured. However, in the patients included in this audit, the nature of the inclusion criteria [as described in the methods] led to a higher proportion having urine ACR measurements. **In this cohort of 479 patients, urine ACR was measured in 93.5 % of patients [excluding the patients on dialysis].**



Enhanced Care Process attainment in the Joint Renal Diabetes clinics

For most care processes, patients under the joint renal clinic had higher recorded percentages of completion. For example, 100 % of patients had a recorded smoking status, compared to 35.2 % in other clinics. Measurement of vitamin D, PTH, anaemia and cardiovascular risk profiling were also enhanced in patients under the joint renal diabetes clinic compared to other specialist or general diabetes clinics.

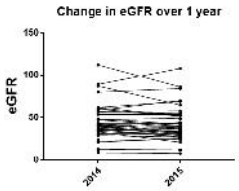
	Joint renal clinic patients	Patients in general and other specialist clinics
BP in target (< 130/80)	33.3 %	38 %
Smoking status recorded	100 %	35.2 %
Vitamin D Checked	73.8 %	59.4 %
PTH Checked	61.9 %	59.4 %
Haematinics checked	85.7 %	58.0 %
On a statin	92.8 %	79.3 %
On aspirin	57.1 %	45.1 %
On ACEI or ARB	85.7 %	72.5 %
CVS status assessed	76.2 %	55.5 %
Stroke risk assessed	64.3 %	45.0 %
Erectile dysfunction assessed	76.2 %	55.5 %

Foot complications

Patients with CKD have an increased risk of diabetic foot disease. This probably explains why 13 % of the identified patients were under the MDT foot clinic. However, amongst our cohort of CKD DM patients (479 patients) only 46 % had accurate documentation of a foot examination and in the joint renal clinic, this figure was only 43 %.

Change in eGFR over 1 year

We looked to see if eGFR had significantly changed in the patients under the joint renal clinic over the course of 1 year. We did not find any significant difference. However, our data are difficult to interpret as we did not have information as to when the patients were first seen/transferred to the joint renal clinic.



Conclusions

We have shown that patients under specialised renal diabetes clinics have higher attainment of recorded care processes. This may be because physicians seeing patients in these high risk clinics are primed to investigate and treat complications.

This audit has demonstrated that not all of our high risk patients are in the appropriate clinics with a large number of patients in the general diabetes or foot clinics. This has helped us to reallocate patients to the appropriate specialty clinic.

What this audit does not show is the rate of decline of eGFR or rise in albuminuria at time of referral to the joint renal diabetes clinic, and if being in the joint renal diabetes clinic led to a reduction in disease progression over time. Our next challenge will be to audit the patients under the joint renal clinic over time to see if enhanced monitoring leads to improved outcomes.

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ACKNOWLEDGEMENTS

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