MULTIMORBIDITY AND DIABETES - WHAT TO DO?

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WHERE TO START?

- Mrs XX, 78, new to surgery, lives alone, walks with sick, frequent falls, T2DM for 17 years, HbA1C 9.5%), CCF, IHD (CABG 2001), CKD (eGFR 46 ml/min, Urea 11mmol/L, Cr 98mmol/L, MCR 14), Hypertension, Dyslipidaemia, Obesity, Asthma…

- Forgetful and feeling weak, has bruise on her forehead

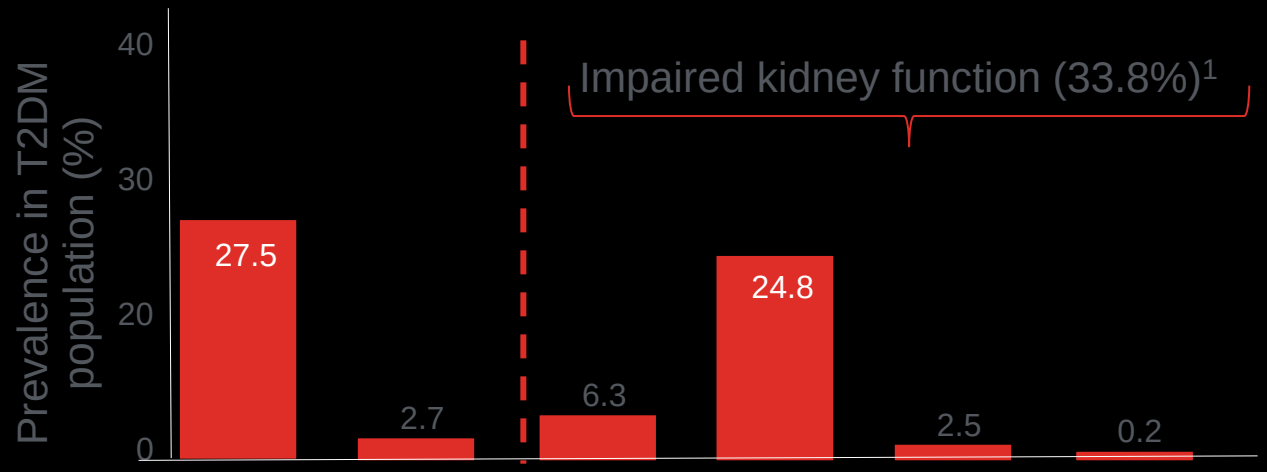
- Taking: Gliclazide 160 mg BD, Metformin 1g BD, Bisoprolol 10 mg, Aspirin 75 mg, NOAC, Ramipril 10mg, Simvastatin 80 mg, Felodipine 10 mg, Furosemide 80 mg OD, Inhalers

OBJECTIVE OF TREATMENT

- Prolong life
- Improve QoL (prevent complications, do not aggravate other conditions)

PREVALENCE OF CKD IN T2DM

>30% HAVE EGFR<60 ML/MIN

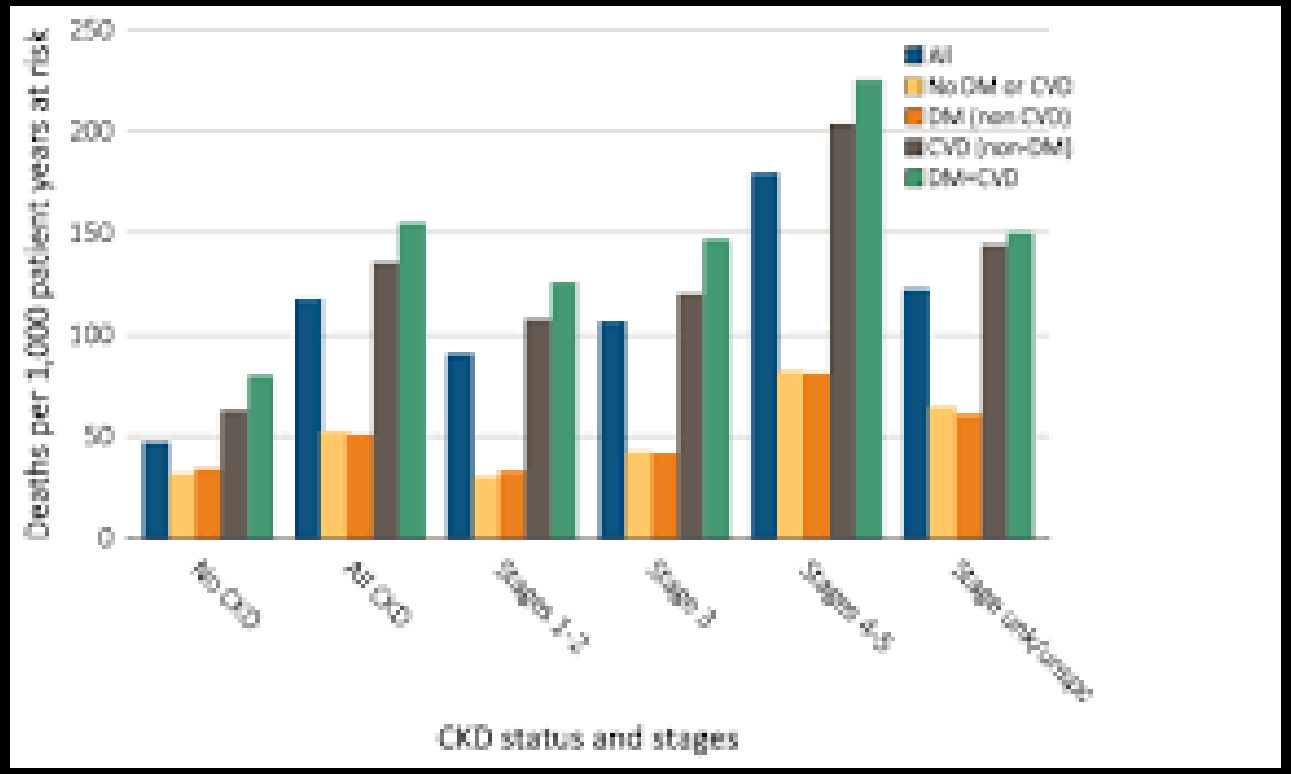


GFR mL/min/1.73m^2	≥90	≥90	60-89	30-59	15-29	< 15
Stage	0	1	2	3	4	5
Kidney Function	Kidney normal	Kidney damage with normal GFR	Kidney damage with mild ↓GFR	Moderate ↓GFR	Severe ↓GFR	Kidney failure

N.B. 36.0% Subjects with GFR ≥ 60 ml/min/1.73m^2 without albuminuria data may have no kidney disease or stage 1–2 CKD

1. Adapted from Middleton RJ, et al. *Nephrol Dial Transplant* .2006;21:88-92.

ADJUSTED ALL-CAUSE MORTALITY FROM MEDICARE FOR PATIENTS >66YR

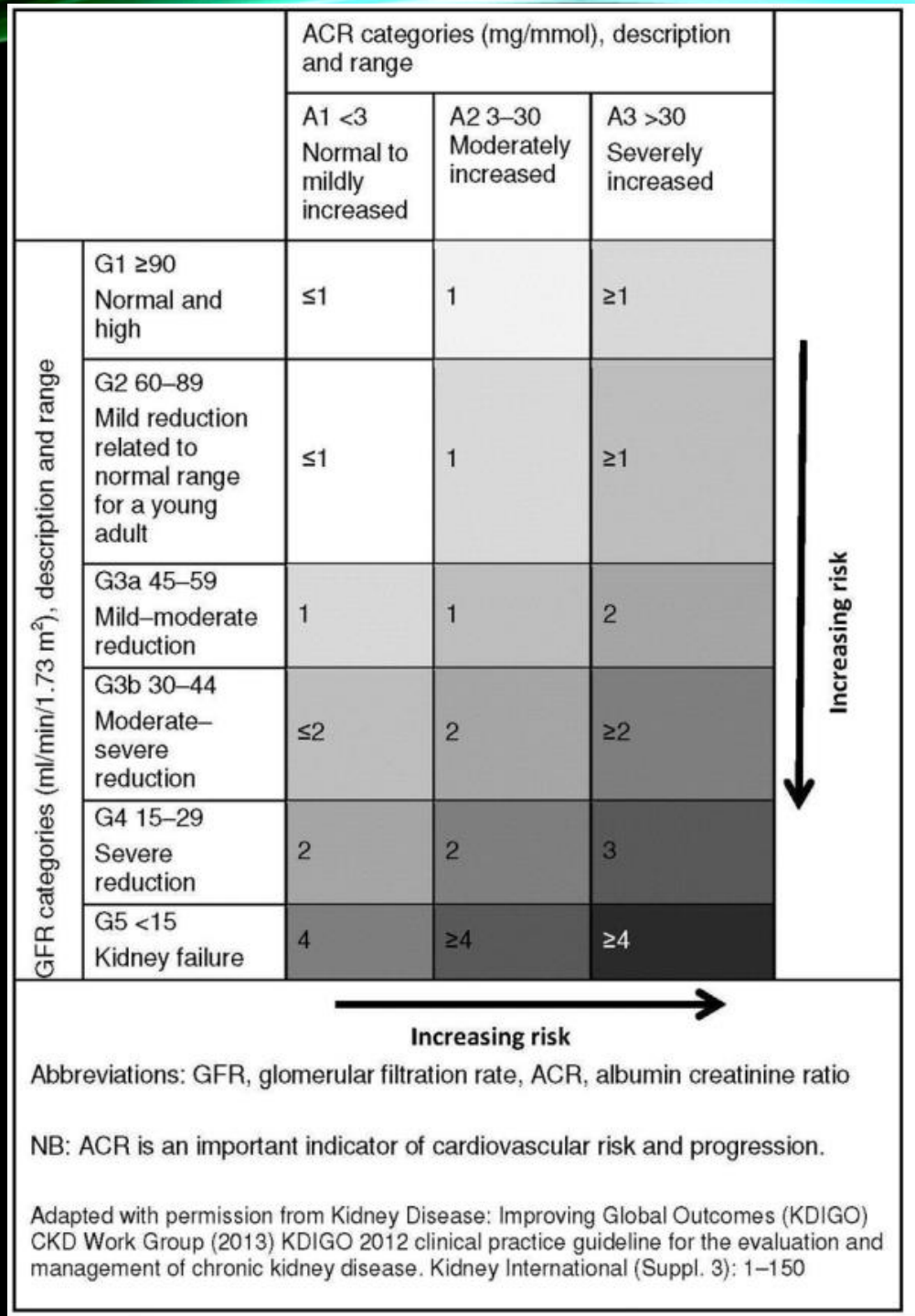


Medicare 2013

WEST HERTS DM RENAL PATHWAY

All patients with DM screened in primary care
HbA1C, U+Es, eGFR, ACR, lipid

- KDIGO 2013
- frequency of screenning



GFR categories (ml/min/1.73 m²), description and range		ACR categories (mg/mmol), description and range		
		A1 <3 Normal to mildly increased	A2 3–30 Moderately increased	A3 >30 Severely increased
G1 ≥90	Normal and high	≤1	1	≥1
G2 60–89	Mild reduction related to normal range for a young adult	≤1	1	≥1
G3a 45–59	Mild–moderate reduction	1	1	2
G3b 30–44	Moderate–severe reduction	≤2	2	≥2
G4 15–29	Severe reduction	2	2	3
G5 <15	Kidney failure	4	≥4	≥4

Abbreviations: GFR, glomerular filtration rate, ACR, albumin creatinine ratio

NB: ACR is an important indicator of cardiovascular risk and progression.

Adapted with permission from Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group (2013) KDIGO 2012 clinical practice guideline for the evaluation and management of chronic kidney disease. Kidney International (Suppl. 3): 1–150

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Autoimmune screening (ANA, ANCA): if +ve → RENAL
Exclude Myeloma
Protein elactrophoresis, Bence Jones in urine: if +ve → HAEM

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Optimise Diabetes control
Optimise BP (130/80 mmHg) preferably with ACEIs or ARBs
Lipid management (follow NICE)
Support to stop smoking

WEST HERTS DM RENAL PATHWAY

Re-check U&Es 2 weeks after starting ACEIs/ARBs
(expected rise in Cr by up to 25% and K up to 5.9 mmol/L)

If rise greater than above, RAS suspected, pt needs MRA →RENAL

US KUB:

- **obstruction → UROLOGY**
- **asymetry → ? RAS → RENAL**

WEST HERTS DM RENAL PATHWAY

Renal function monitoring - plot eGFR on ICE

if steepness of decline > 5 ml/min/yr:

US KUB: if obstruction → UROLOGY
Autoimmune screen: if +ve → RENAL
Myeloma screen: if +ve → Haematology
If haematuria +ve but autoimmune +ve → RENAL

IF EGFR <45 ML/MIN

WHEN PATIENT NOT ACUTELY UNWELL

Screen for anaemia (FBC) 6/12

- **Exclude other causes**
- **B12, folate, ferritin, iron studies**
- **If TSAT <30%, will need Fe replacement, trial oral, if no improvement → RENAL**

Check bone profile, vit D and PTH

- **If Phosphate high → RENAL (dietician and phosphate binders)**
- **If vit D deficient : treat with vit D no Ca added,**
- **If rapid rise in PTH > 3xULN → RENAL (for 1alfa)**

WHERE AND WHEN TO REFER

- **EXCLUSIONS:**
- NH residents
- Age > 75
- Active cancer treatment

DIABETES REFERRAL CRITERIA

- **Poor DM control (hypos or inappropriately high HbA1C) despite max oral treatment (list of medication tried and results)**
- **Deterioration after metformin discontinuation due to eGFR<30 ml/min in an insulin-resistant patient**
- **Patients with DM on any treatment and on dialysis**
- **Patients with DM who had kidney/pancreas transplant**

RENAL REFERRAL CRITERIA

- Linear decline in eGFR of increasing steepness
- K>5.9 mmol/L
- Phosphate >2 x 2 consecutive samples
- Anaemia of chronic disease Hb<110, requiring IV Fe/EPO
- Suspicion of RAS
- eGFR <30 ml/min consistently and falling with no previous management plan

EXTRA REMARKS

- Diabetes-Renal Clinic is not commissioned at present at HVCC
- Patients may be discharged from sec care with instructions for further management