

MacLeod Diabetes & Endocrine Centre Royal Devon & Exeter Hospital

Microalbuminuria

Diagnosis

- Measure urine albumin:creatinine ratio (ACR) once a year
- Use a first pass morning sample for ACR
- Microalbuminuria is considered to be an ACR above...
 - males 2.5mg/mmol
 - females 3.5mg/mmol
- If a sample is positive, repeat twice within 4 months (one further positive is diagnostic)
- If patient has established proteinuria, there is no need to do an ACR

Differential diagnosis

Consider other renal disease if:

- No retinopathy
- Resistant hypertension
- Haematuria
- Rapid decline in GFR or proteinuria
- Patient is systemically unwell

Treatment

- ACE Inhibitor (ACEI) or Angiotensin II Receptor Blockers (ARB) should be started.
- Titrate ACEI or ARB to **full dose** even if BP is <130/80, except if hyperkalaemia or postural hypotension or diastolic BP<60.
- Add a second agent if BP >130/80, and titrate 6-weekly until BP target is achieved.
- If patient is considering pregnancy, do not prescribe ACEI/ARB – refer to hospital clinic.
- Remission of microalbuminuria may be seen in 30% of patients over 10 years' follow-up – but ACEI/ARB should be continued even if ACR normalizes.
- Metabolic renal complications usually start around stage 3b, and therefore PTH, FBC and ferritin should be assessed at this stage.

Stage	Designation	GFR	Likely protein / ACR	Chronology
1	Hyperfunction	>90		At diagnosis
2	Silent	60-90	Men >2.5 Women >3.5	First 5 yrs
3a+b	Incipient (microalbuminuria)	45 - 60 3a 30 - 45 3b	30-300mg/day	6-15yrs
4	Overt nephropathy (macroalbuminuria)	15 – 30 (<20 prepare for dialysis)	>380mg/day	15-25yrs
5	Uraemic (ESRD)	<15	Often reduced	25-30yrs