

Advances in Adult Nephrology

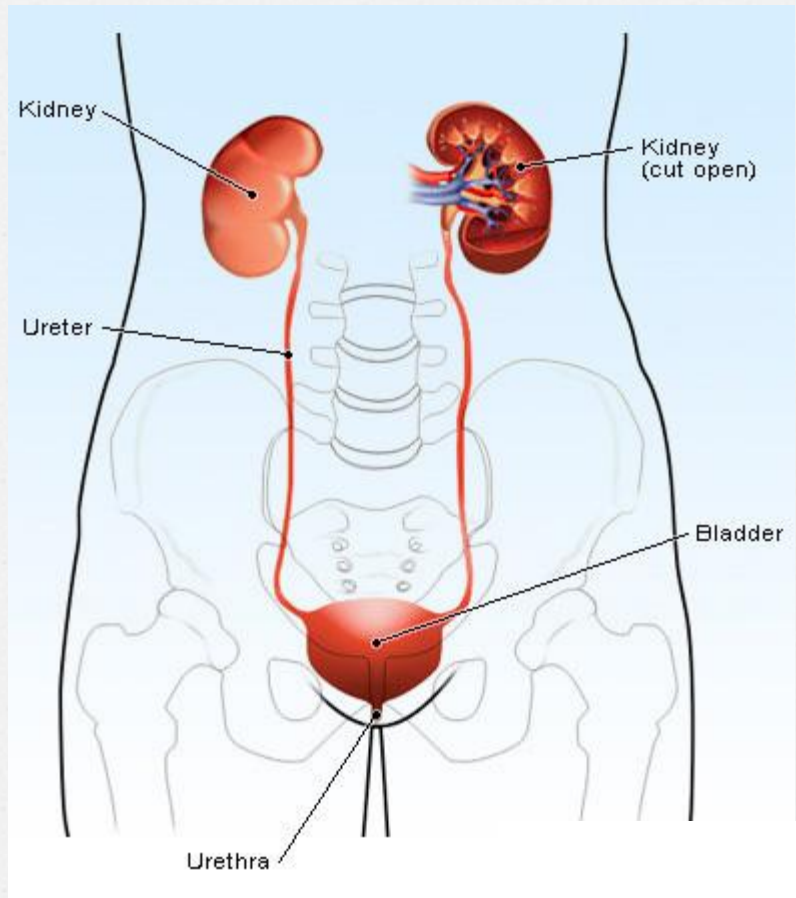
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Learning Objectives

- Identify and treat potentially reversible causes of Chronic Kidney Disease
- Evaluate measures that delay Chronic Kidney Disease progression
- Assess impact of co-morbid conditions and their management



Renal disease

- World-wide public health issue
- A major cause of morbidity and mortality
- Chronic kidney disease may progress to end-stage renal disease (ESRD)



Recent advances: Renal care

- Prevention – management of hypertension and diabetes
- Reno-vascular endothelium protection
- Early detection – role of micro-albuminuria
- Hormones in renal disease
- New medications, specific targets
- Immuno-suppression in renal transplant
- Advances in renal dialysis

Chronic renal disease: Background

Enhance awareness!

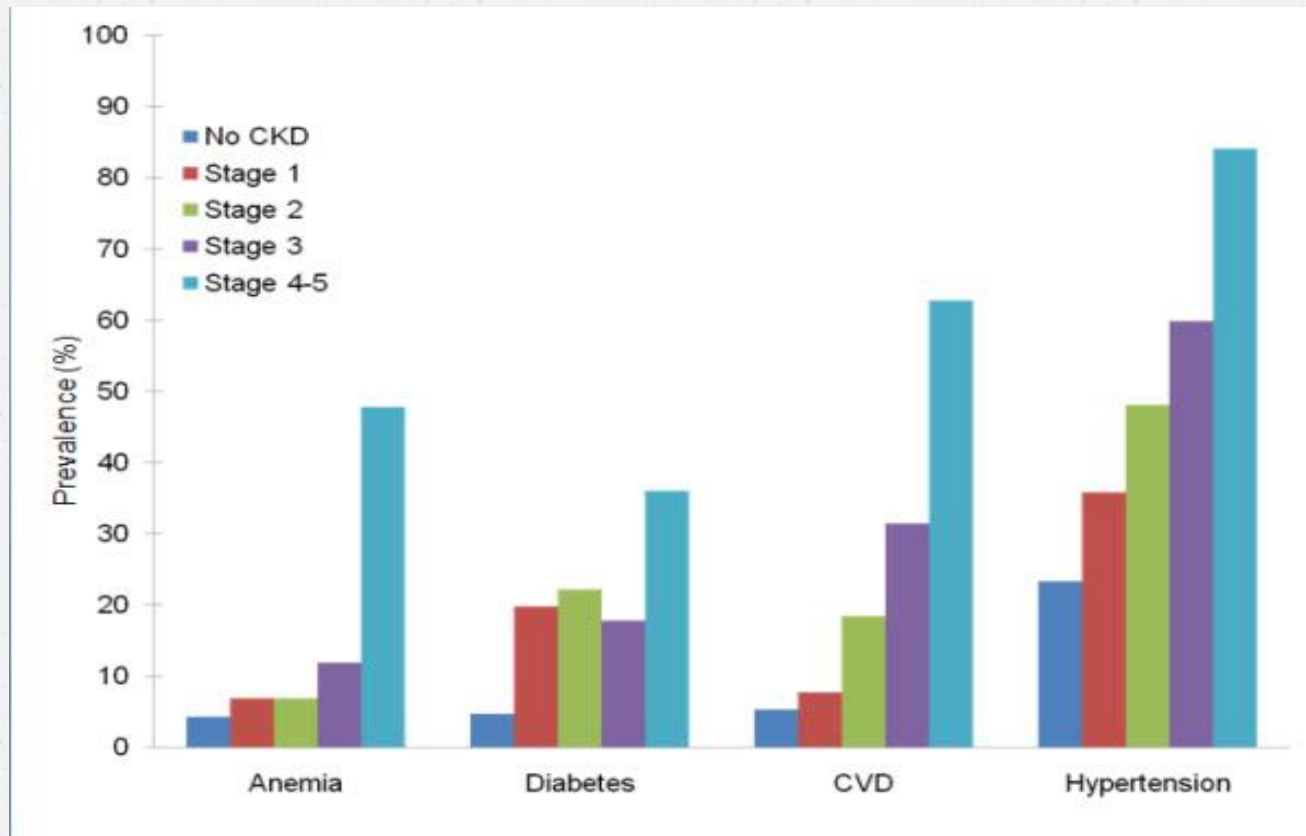
- o Limited awareness of chronic renal disease
- o Limited attention to co-morbidities, esp. cardiovascular
- o Control of blood pressure, anemia, bone disease, calcium-phosphorus
- o Diabetes management
- o Early nephrological co-management
- o Use of ACEI or ARBs, statins

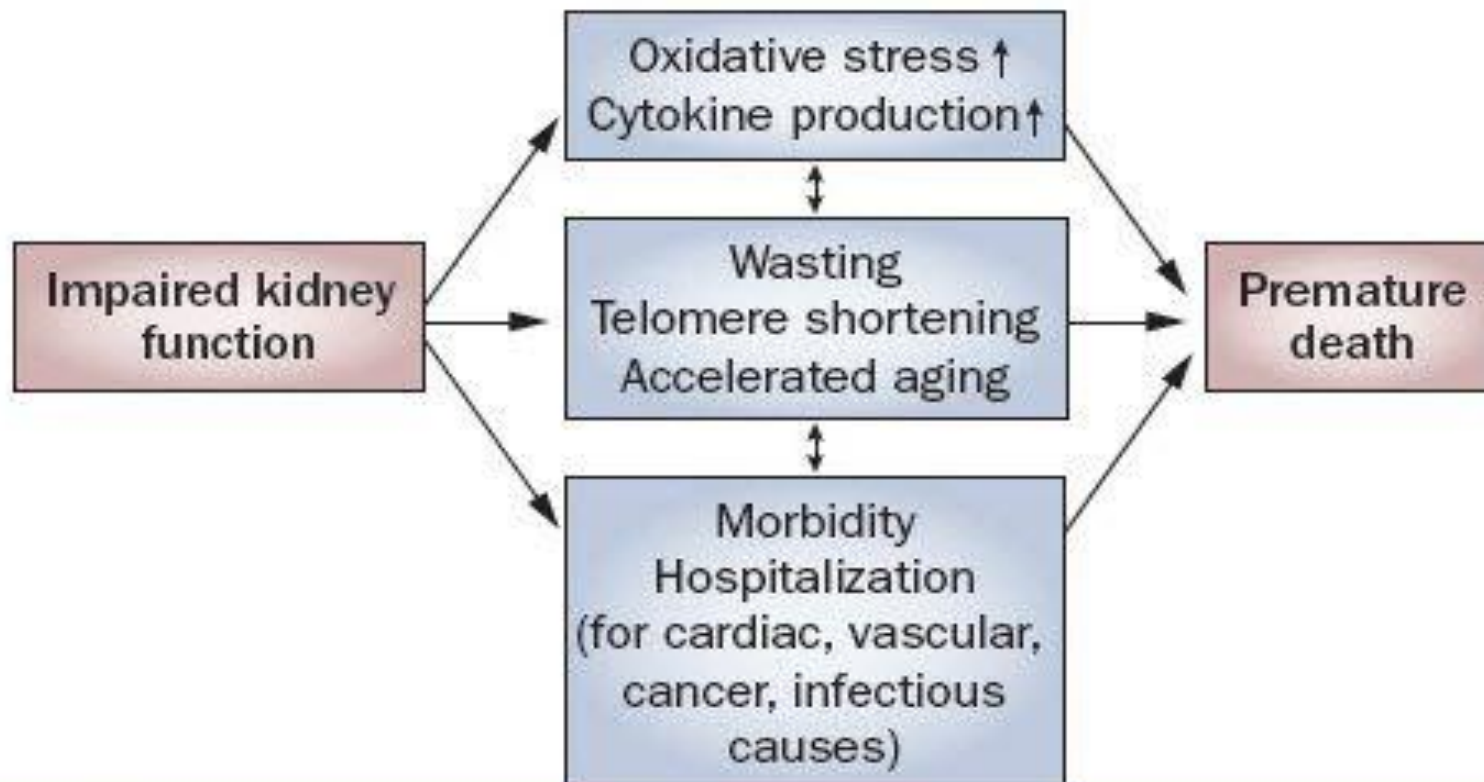
Stages of kidney disease

Stage	Description	GFR, ml/min/1.73m ²
1	Slight damage ?	>90
2	Mild decrease in function	60-89
3	Moderate decrease in function	30-59
4	Severe decrease in function	15-29
5	Renal failure	<15

Stage	GFR	Description	Treatment stage
1	90+	Normal kidney function but urine or other abnormalities point to kidney disease	Observation, control of blood pressure
2	60-89	Mildly reduced kidney function, urine or other abnormalities point to kidney disease	Blood pressure control, monitoring, find out why.
3	30-59	Moderately reduced kidney function	More of the above, and probably diagnosis, if not already made.
4	15-29	Severely reduced kidney function	Planning for endstage renal failure.- more info.
5	14 or less	Very severe, or endstage kidney failure (sometimes call established renal failure)	treatment choices for endstage renal failure.

CKD: Prevalence of co-morbidities

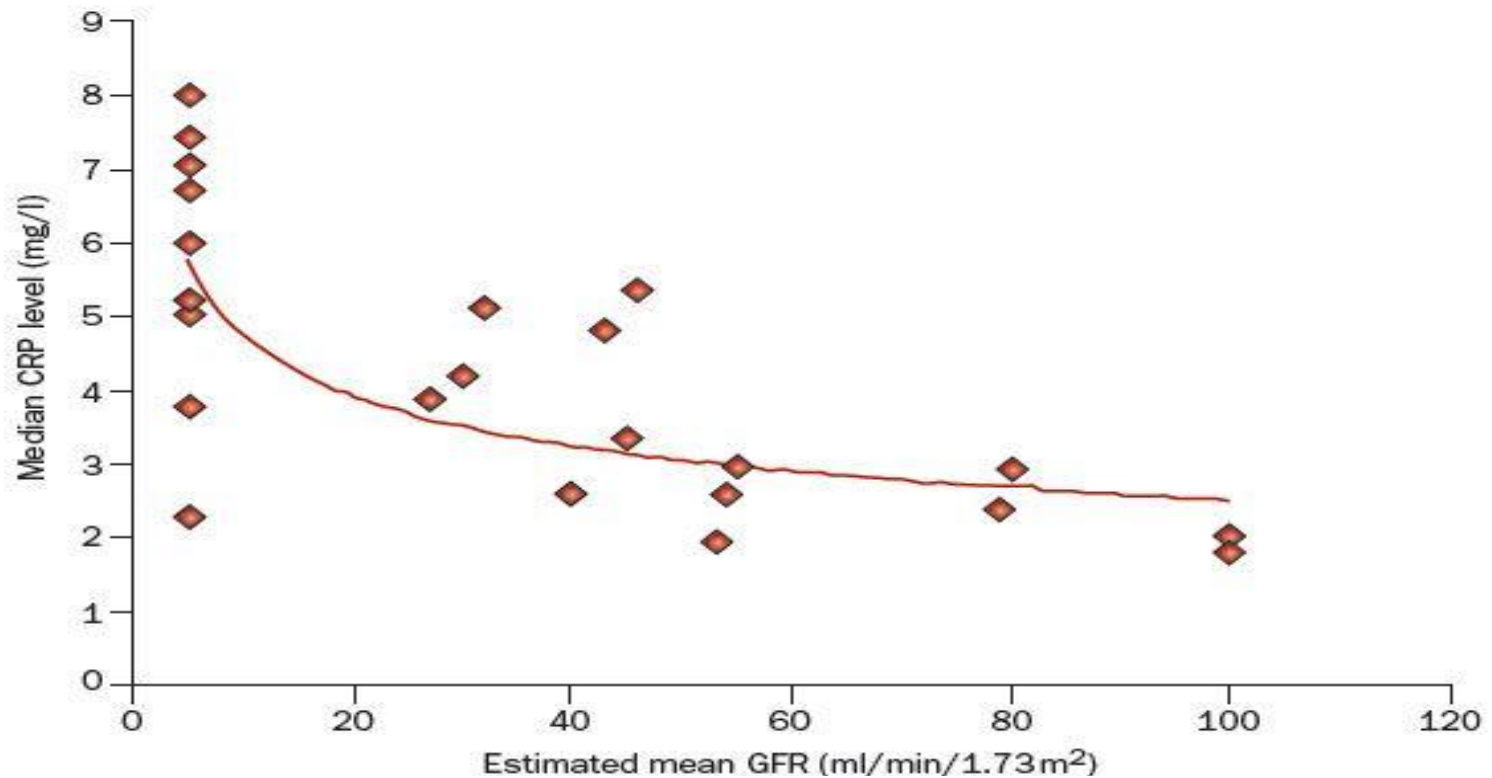




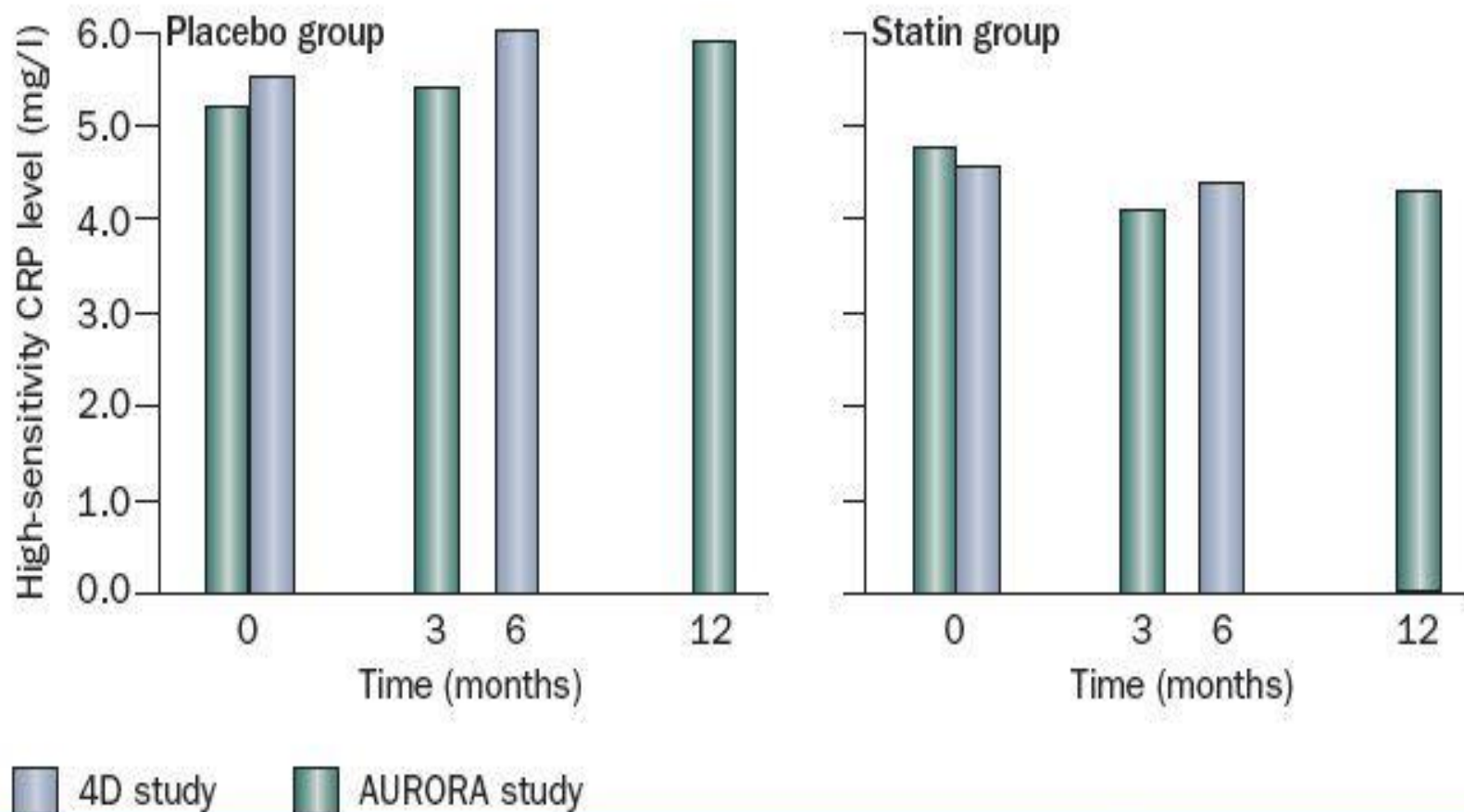
Renal failure: Potentially approaches

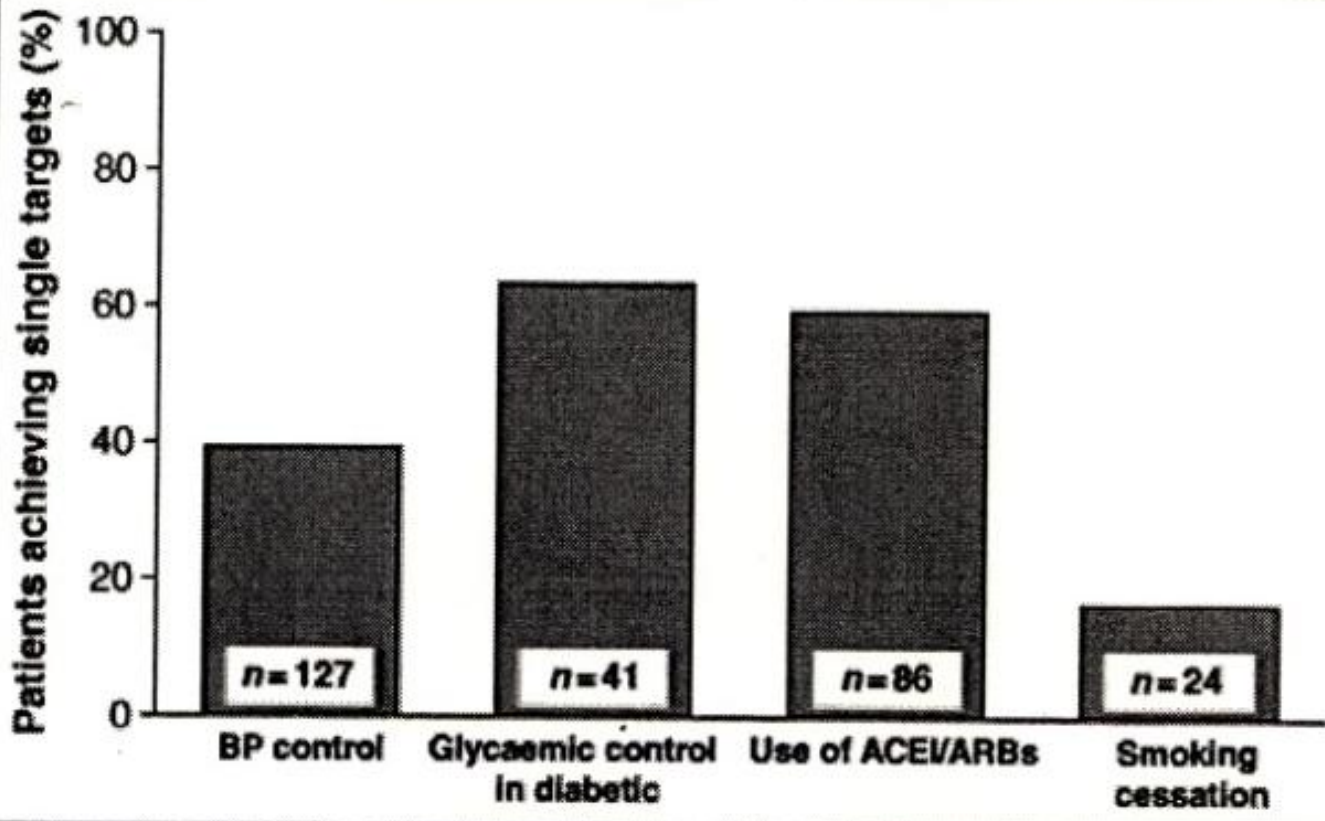
- o Prompt recognition and withdrawal of deleterious drugs/medications
- o ACEI, ARBs, diuretics
- o RCA and role of dialytic clearance
- o Acute interstitial nephritis and drugs
- o “Under the cover” renal arterial disease
- o Manage inflammation

CKD: Role of inflammation

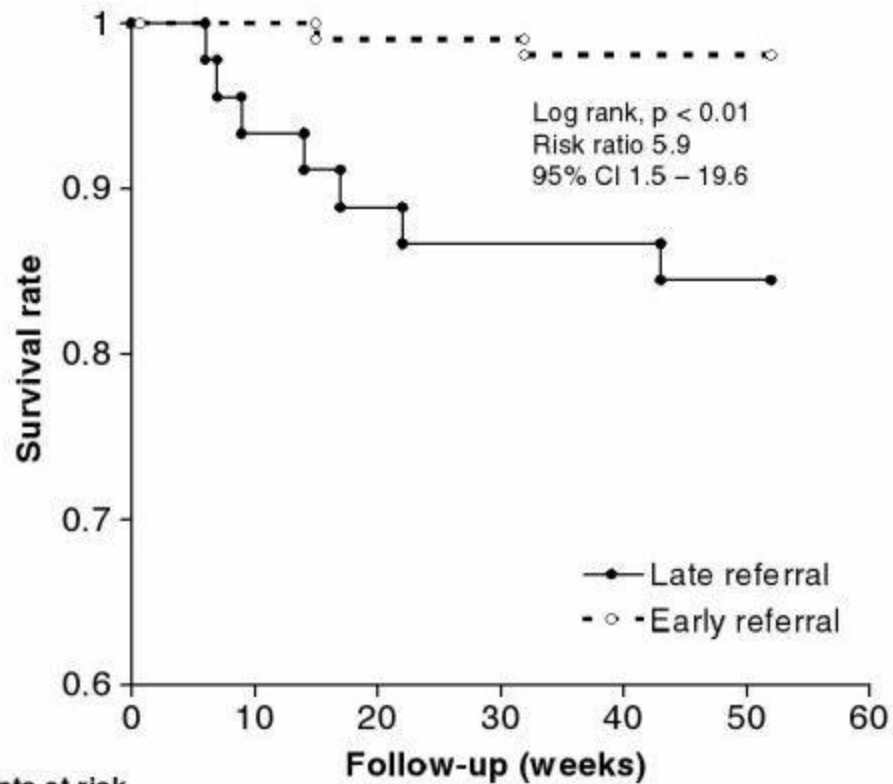


CKD: Role of statins





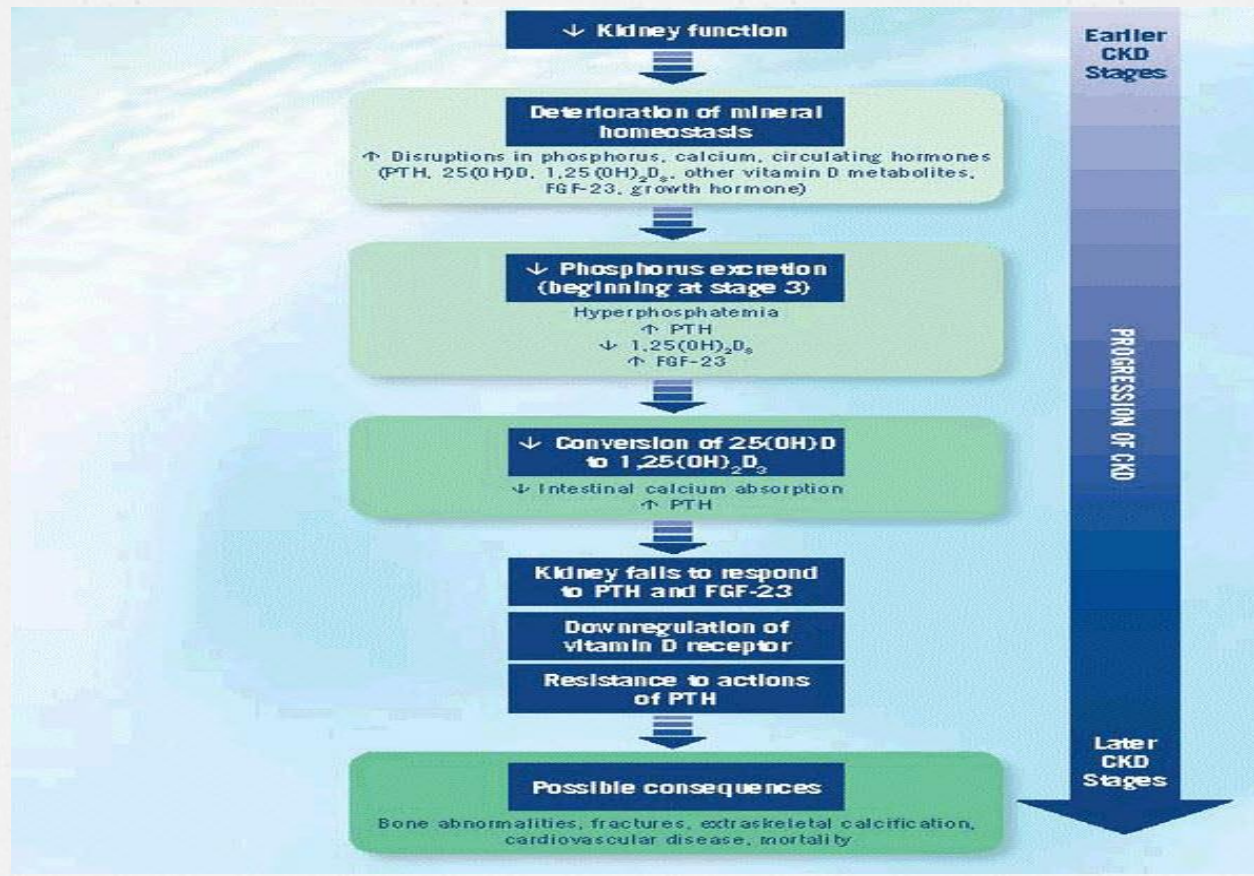
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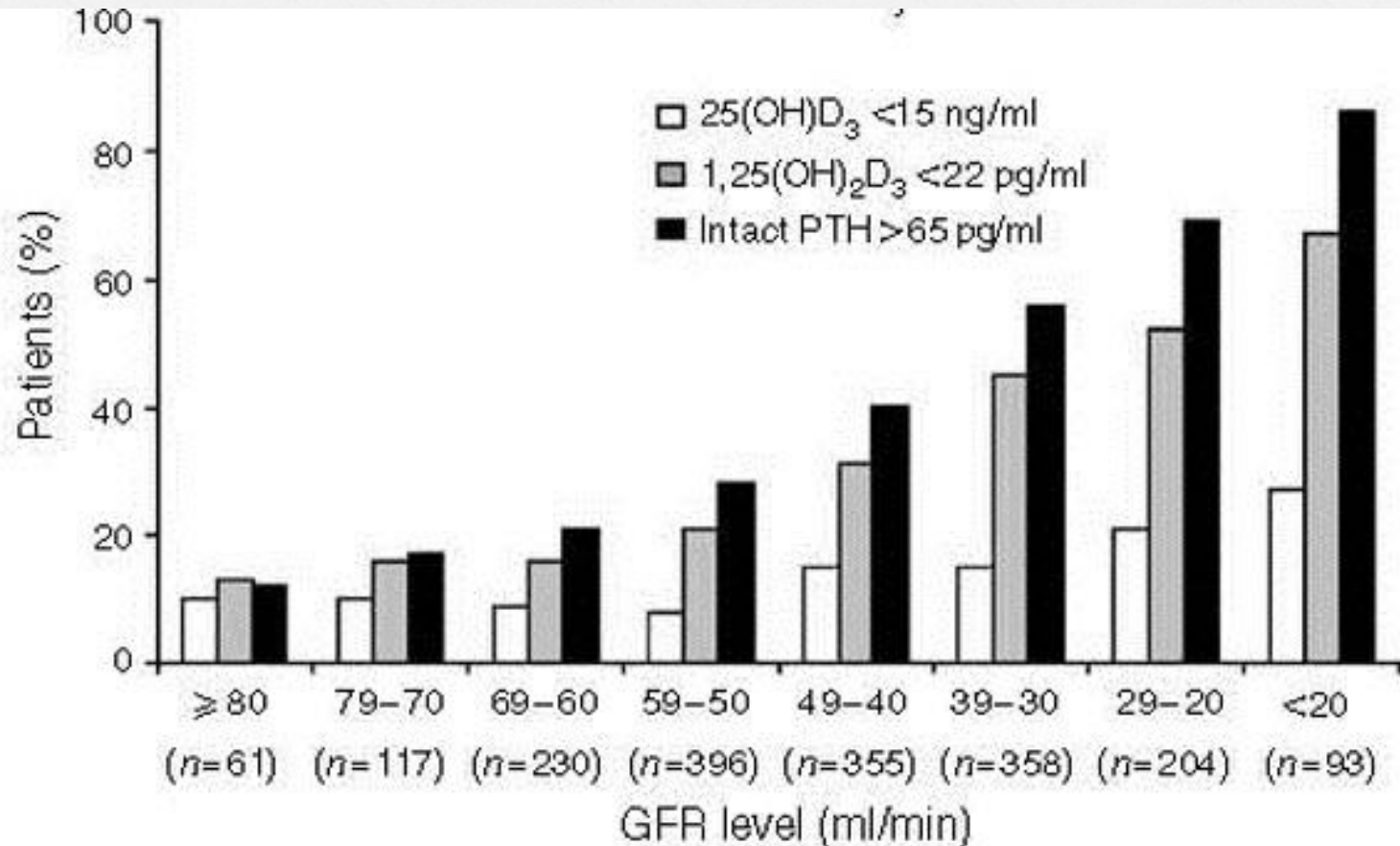
Patients at risk

	0	10	20	30	40	50
Late referral	46	43	40	39	38	
Early referral	103	103	102	101	100	

Renal function: Mineral status



Renal function: Bone mineral status



Azotemia: Transient?

- Transient azotemia defined as rapidly recovering acute renal failure, return to no AKI risk within 72 hours
- Subjects: 20,126 patients, 3641 (18.1%) had acute kidney injury within 1 day of admission; 73.3% recovered within 3 days
- Outcome: Compared to patients without acute kidney injury (AKI), those with AKI had significantly higher odds for hospital mortality, OR 2.26

Chronic renal disease: Interventions

- Identify and treat potentially reversible causes of renal disease
- Delay or prevent progression
- Ameliorate or prevent comorbid conditions
- Interventions must be initiated as early as feasible to be effective – early nephrological co-management



Thanks!