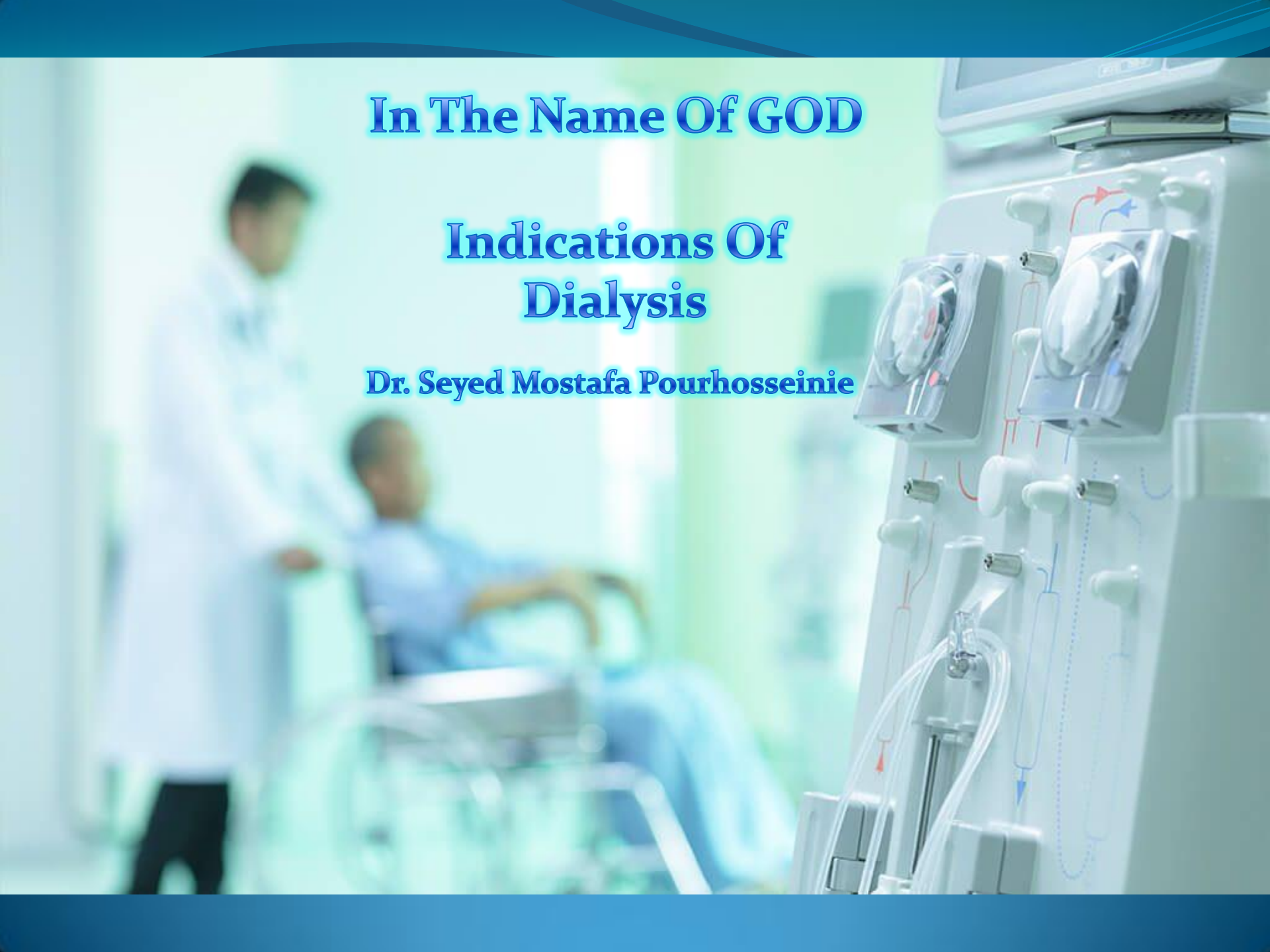


In The Name Of GOD

Indications Of Dialysis

Dr. Seyed Mostafa Pourhosseinie

Renal Replacement Therapy (Dialysis) In Acute Kidney Injury In Adults

- The management of patients with acute kidney injury (AKI) is supportive, with renal replacement therapy (RRT) indicated in patients with severe kidney injury.

- The initiation of RRT in patients with AKI prevents uremia and immediate death from the adverse complications of renal failure.

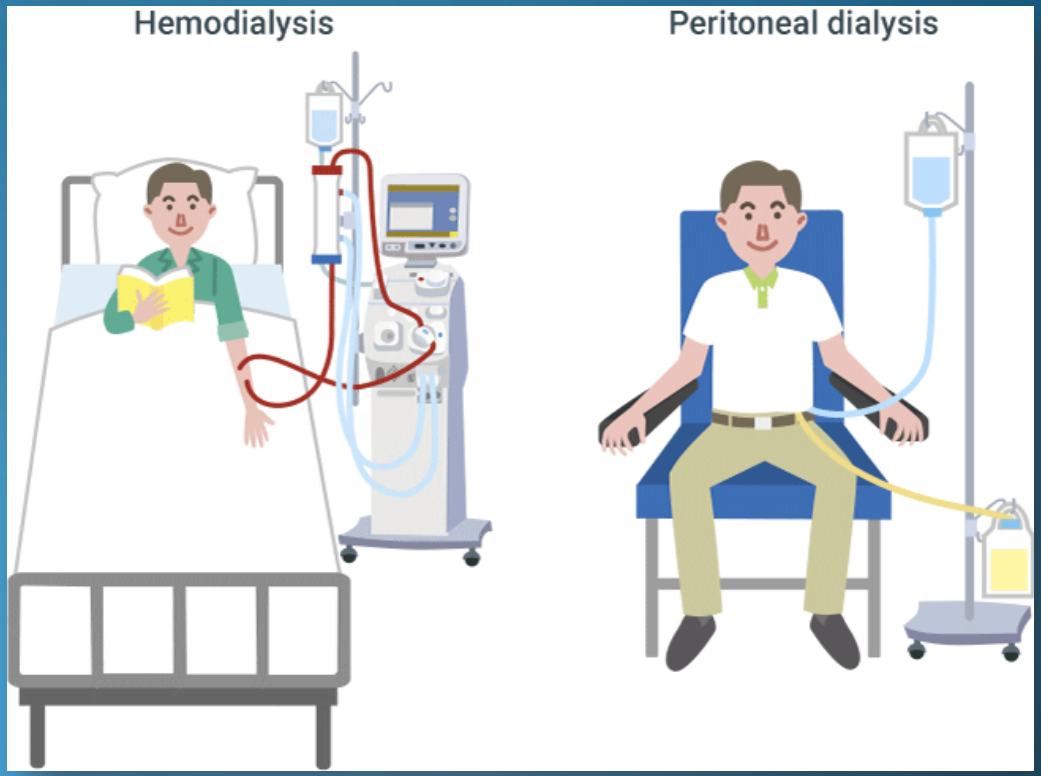
Accepted Urgent Indications For RRT In Patients With AKI Generally Include:

- ✓ Refractory fluid overload
- ✓ Severe hyperkalemia (plasma potassium concentration >6.5 mEq/L) or rapidly rising potassium levels
- ✓ Signs of uremia, such as pericarditis, encephalopathy, or an otherwise unexplained decline in mental status
- ✓ Severe metabolic acidosis (pH <7.1)
- ✓ Certain alcohol and drug intoxications

- A large number of modalities are available for RRT. These include intermittent hemodialysis (IHD), peritoneal dialysis, continuous renal replacement therapy (CRRT), and hybrid therapies such as sustained low-efficiency hemodialysis (SLED).

- RRT is usually continued until the patient manifests evidence of recovery of kidney function.

- if IHD is provided three times per week, the targeted dose of therapy should be a Kt/V of ≥1.2 per treatment, with monitoring of the delivered dose of therapy.



Indications For Initiation Of Dialysis In Chronic Kidney Disease

✓The decision to start dialysis is based upon the presence of uremia-related signs and symptoms, the estimated glomerular filtration rate (eGFR), and the rate of decline of the eGFR.

Indications For Initiation Of Dialysis In Chronic Kidney Disease

✓ Patients with eGFR >15 mL/min/1.73 m2 – We generally do not initiate chronic dialysis for such patients, even when they have possible symptoms related to end-stage kidney disease (ESKD). While some symptoms of kidney disease may be present, they usually can be managed by medical therapy, and dialysis is rarely required.

Indications For Initiation Of Dialysis In Chronic Kidney Disease

✓Asymptomatic patients with eGFR 5 to 15 mL/min/1.73 m2 – We follow such patients closely (ie, monthly) for the emergence of ESKD-related signs and symptoms but do not initiate dialysis in the absence of signs or symptoms.

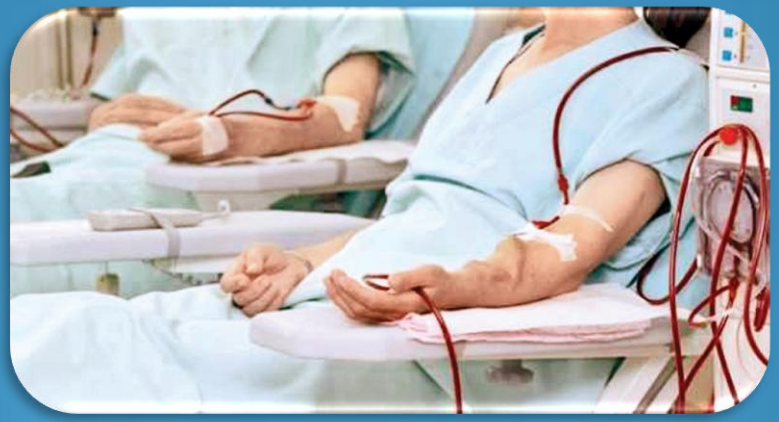
Indications For Initiation Of Dialysis In Chronic Kidney Disease

✓Patients with eGFR 5 to 15 mL/min/1.73 m2 with signs or symptoms that could be due to ESKD – Among such patients, we exclude other causes of signs or symptoms and try to treat medically (ie, without dialysis), if possible.

✓We initiate dialysis for those patients whose signs or symptoms are refractory to medical therapy. An important exception is patients who have absolute indications for dialysis, including uremic pericarditis or pleuritis or uremic encephalopathy; such patients should be initiated on dialysis without delay.

Indications For Initiation Of Dialysis In Chronic Kidney Disease

✓Patients with eGFR <5 mL/min/1.73 m2 – We and most other nephrologists usually initiate dialysis for most patients (who plan to do so) when eGFR is ≤5 mL/min/1.73 m2, regardless of the absence or presence of ESKD-related signs or symptoms.



Absolute Indications To Start Chronic Dialysis Include

- ✓ Uremic pericarditis or pleuritis.
- ✓ Uremic encephalopathy – True uremic encephalopathy (ie, significant alterations in cognitive function in a patient without other causes) is a rare condition that usually does not occur with eGFR >5 mL/min/1.73 m2. Emergent dialysis is indicated. Progressive loss of cognitive function in patients with other underlying conditions (such as dementia, history of strokes, etc) may be an indication for a trial of renal replacement therapy for several weeks to see if cognitive decline improves.

Common Signs And Symptoms That Provide An Indication For Dialysis Initiation:

- ✓ Declining nutritional status
- ✓ Persistent or difficult to treat volume overload
- ✓ Fatigue and malaise
- ✓ Mild cognitive impairment
- ✓ Refractory acidosis, hyperkalemia, and hyperphosphatemia

- We generally initiate dialysis in patients with an eGFR <15 mL/min/1.73 m2 who have anorexia, weight loss, or poor caloric intake that is not adequately treated by conservative measures. Anorexia, nausea, and weight loss are the most common reasons to initiate dialysis.
- With declining eGFR, symptoms of anorexia and weight loss are usually the first uremic symptoms to appear.

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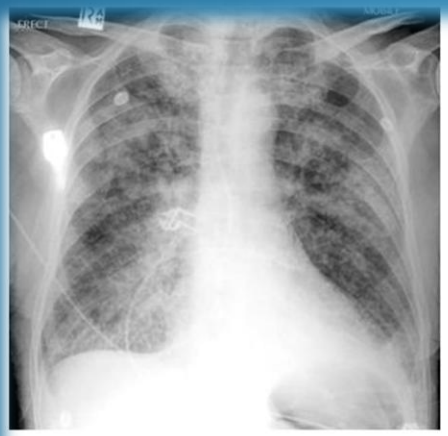
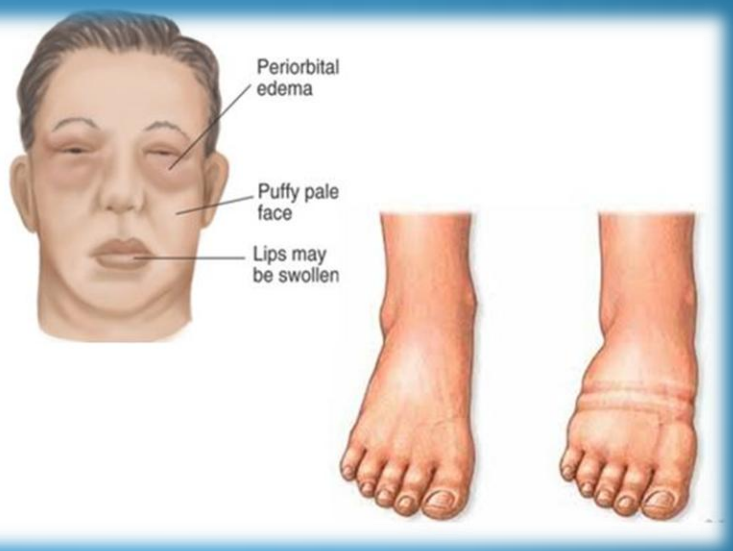
- Sodium retention worsens as kidney function deteriorates. Volume overload can lead to refractory hypertension and recurring hospital admissions for congestive heart failure.
- Diuretics should not be withheld to prevent a rise in the blood urea nitrogen (BUN) and serum creatinine level.

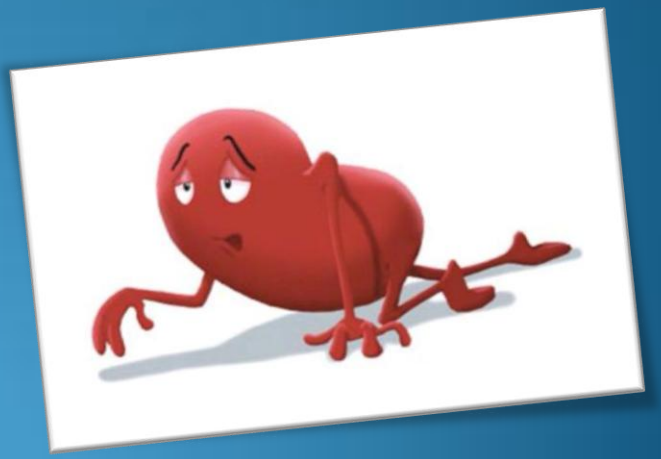




- Cognitive impairment may develop in older adults as kidney function worsens.

- For such patients, a three- to four-week trial of dialysis may be warranted to see if it improves mental faculties. Alternatively, in the patient with dementia, conservative management of kidney failure without dialysis may be indicated.

- Although dietary restriction and phosphate binders are often effective in the prevention of severe hyperkalemia and hyperphosphatemia, their presence increases the rationale for starting dialysis.




THANKS FOR YOUR ATTENTION