ECNG

Extracorporeal Nephrology Group

An Academic Forum for Nephrologists, DM Trainees, Physicians and Healthcare Professionals

History in Nephrology

True Legends are immortal through their deeds and memories.!

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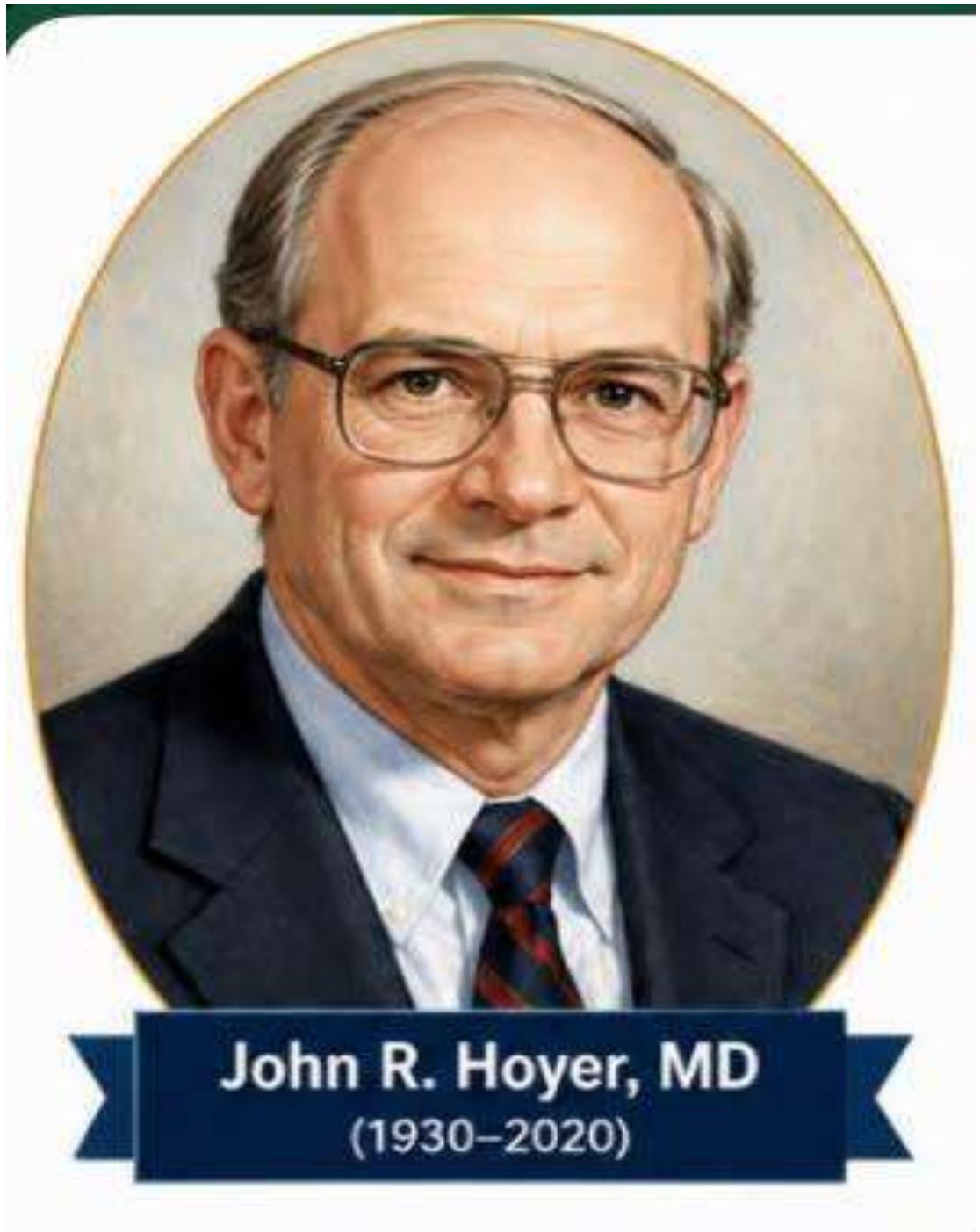
Recurrence of FSGS in Post Transplants

Dr. John R Hoyer


John R. Hoyer, MD
(1930–2020)

1972: John R. Hoyer, MD

Discovery of Recurrent FSGS After Kidney Transplantation

John R. Hoyer, MD
(1930–2020)

Eminent Nephrologist

- Professor of Medicine
- University of Pennsylvania
- Pioneer in Glomerular Disease and Transplantation

PIONEERING OBSERVATION (1972)

John R. Hoyer and colleagues published the first report of recurrent focal segmental glomerulosclerosis (FSGS) in a renal allograft.

This landmark observation demonstrated that primary FSGS can recur rapidly in the transplanted kidney, supporting the concept of a **circulating permeability factor.**

RECURRENCE OF FSGS IN KIDNEY TRANSPLANT

Native Kidney FSGS → Kidney Transplant → Recurrent FSGS in the Allograft

Recurrence usually occurs within **hours to days** after transplantation.

> *"The recurrence of nephrotic syndrome in the transplant suggested a humoral factor affecting glomerular permeability."*
>
> — John R. Hoyer, 1972

LEGACY

Dr. Hoyer's 1972 report laid the foundation for decades of research into the pathogenesis and treatment of recurrent FSGS.

A landmark contribution that continues to influence nephrology and transplantation worldwide.

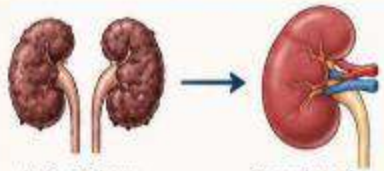
POST TRANSPLANT RECURRENCE OF FSGS

Early recognition • Close monitoring • Timely treatment to protect the graft

WHAT IS FSGS?

Focal Segmental Glomerulosclerosis (FSGS) is a podocyte disease causing proteinuria and progressive decline in kidney function.

POST TRANSPLANT RECURRENCE



Native Kidneys with FSGS

Transplanted Kidney

Recurrence of FSGS in the allograft occurs due to a circulating permeability factor.

INCIDENCE

Occurs in ~30–50% of adults and up to 60–80% of children with primary FSGS.

RISK FACTORS?

- Younger age at onset (< 15–30 yrs)
- Rapid progression to ESRD
- White race
- Diffuse foot process effacement on EM
- Previous graft loss due to recurrence
- High pre-transplant proteinuria (> 3–5 g/day)

CLINICAL PRESENTATION

Usually presents early (median 1–3 months) with:

- Nephrotic range proteinuria (>3.5 g/day)
- Hypoalbuminemia
- Edema
- Normal or mildly impaired eGFR initially

DIAGNOSIS

- Allograft biopsy shows features of FSGS (segmental sclerosis, hyalinosis, podocyte hypertrophy)
- EM: Diffuse foot process effacement

MANAGEMENT

Plasmapheresis

First line therapy to remove circulating permeability factor

Rituximab

Often used early in combination with plasmapheresis

High dose Calcineurin inhibitors

Tacrolimus/ Cyclosporine

Adjuncts

- ACEi / ARB
- Statins
- Diuretics
- Supportive care

Refractory cases

Consider ACTH, Abatacept, Bortezomib, LDL apheresis (centers with experience)

KEY POINTS

- Recurrence can occur early and may lead to graft loss.
- Close monitoring of proteinuria in the first 1–6 months is crucial.
- Early detection and prompt therapy improve outcomes.

MONITORING

- Check proteinuria weekly for first 1–2 months
- Then monthly up to 6 months
- Monitor albumin, eGFR, and blood pressure

POOR OUTCOME ASSOCIATED WITH

Late recognition

Severe proteinuria at presentation (>10 g/day)

Poor response to plasmapheresis/ rituximab

Delay in intensifying therapy

TAKE HOME MESSAGE

Think FSGS recurrence in any transplant recipient with new onset nephrotic range proteinuria.

Act early, treat aggressively, and protect the graft.

Early suspicion • Regular monitoring • Prompt intervention = Better graft survival