Nephrotic Syn.

PATHPHYSIO:

- damage to the glomerular filtration barrier →
  - ① podocytes → nonselective proteinuria → except Minimal Change.
  - fenestrated capillary loops
  - GBM → albumin → loss of -ve charge.

→ ↑Massive proteinuria (out)
- GFR: N
- ↑ hepatic protein synthesis (in).
- ↔ >3.5g/day.

* ↓albumin (CP) → edema
* antithrombin III, protein C/S → hypercoagulability.
* Lipiduria [fatty casts].
* ↓Ig → infections.

CP:

① proteinuria (>3.5g/day).
② edema +
③ ↓albumin.

Types

1. Minimal Change Ds
2. FSGS
3. Membranous
4. Diabetic
5. Amyloid
6. MPGN

1. Minimal Change Ds : [Lipoid Nephrosis].

MCC in Children. cytokine mediated damage.

a. Hodgkin lymphoma →
b. NSAIDs
c. Post · immunisation
d. Post · insect bite
e. Post inf.
f. immunocompromised .

LM : NO CHANGE [Renal tubules - fatty bodies].

EM : effacement of foot process of podocytes.

Rx : CS → Best prognosis .
↳ Responsive .

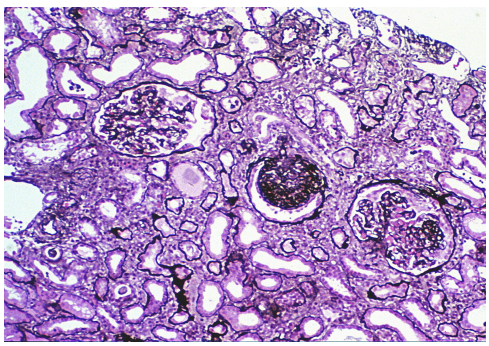
Renal Bx → Non responsive CS.

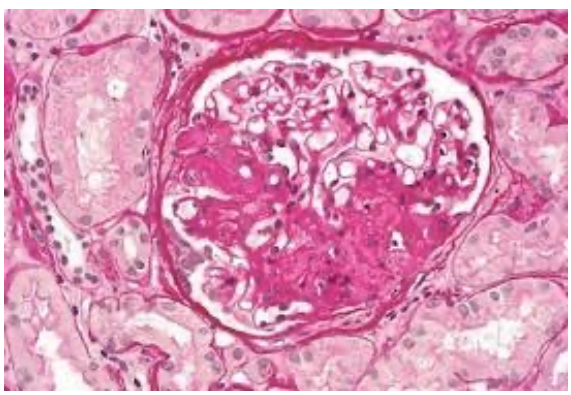
FSGS

Rf:

- African American
- Hispanic
- heroin
- HIV
- SCD
- Massive obesity (>35)
- Interferon Rx.
- CKD d/t congenital Malformation.

LM: Segmental sclerosis & hyalinosis.





EM: effacement of podocytes

Rx: Steroids (poor prognosis).
: RAAS⊖ [ACEi | ARBs].
: Immunosuppressants.

Seq: ESRD.

Membranous Nephro.

① - Malignancy.
② ME / Europe / North African.

SLE presentation as Nephrotic !

1°

Ab against Anti phospholipase A_2 receptor.

↓

glomerular podocyte

LM: IgG & C_3 (spike & dome pattern).

Thick GBM.

Rx: No response to CS.
: RAASθ (ACEi / ARB)
: Immunomodulators.

R ↯

2°

- tumors - lung
  - Breast
  - Prostate
- Drugs - NSAIDs
  - penicinallamine
- Inf - Hep B
  - Hep C.
  - Malaria
  - Syphilis

Diabetic Nephropathy → ① hyperfiltration → mesangial thickening

>10yrs of DM poorly controlled.

- Chronic ↑glycemia

↓

non-enzymatic glycosylation of BM.

↓

① ↑permeability.
② thickening of BM.
③ stiffening of efferent arteriole

↓

hyperfiltration [↑GFR] → early stage ds.

↓

↑glomerular pressure [chronic] [persistent]

↓

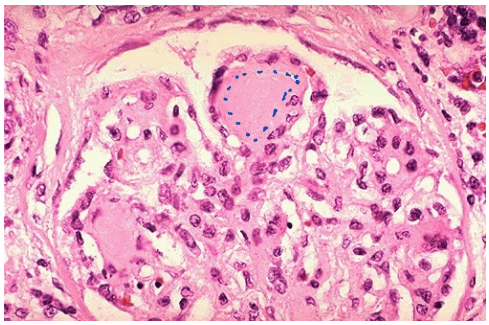
progressive glomerular hypertrophy. [↑kidney size]
[glomerular sclerosis]
scarring.

↓

↓filtration → ↓GFR → Arterial HTN

↓GFR

Creat: Albumin ratio
q 6 mnths.



Kilmmelsteen Wilson.

→ KW nodules.

↓

[eosinophilic hypocellular nodules in renal glomeruli].

CP:

early → frothy. → micro Albuminuria = ↑GFR.

late → uremia → macroalbuminuria. = ↓GFR.

Rx:
1. Strict glycemic Control ✓
2. ACE-I & ARBs ✓
3. ↓ Salt intake.
4. P & K control.

Asis:

I) U/A
1) Qualitative → +3/+4
2) Quantitative → 24hr urine protein.

II) Microscopy: • fatty alls. / lipiduria.

III) T. protein ↓
T. albumin ↓
ATIII ↓
Hyperlipidemia.

* Renal Bx *

Infectious Risk:

→ Pneumococcal →.
→ Influenza (q year).

Hypercoagubility:

→ Px anticoagulation - [Unfractionated heparin. | Oral anticoagulants]

Pregnant & RF
↓
LMWH

Rx

• ↓AAS ⊖ - ACEi & ARB's.
• ↓ Salt
• diuretics.