



Imperial College
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CNC Renal Biopsy: Clinical Correlations

Clinical discussion

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Case 1(1)

- 31y old Caucasian male with nephrotic syndrome
- Single and runs martial arts school
- History of rectal bleeding
- Proteinuria 2y previously
- Strong FH hypercholesterolaemia and premature cardiovascular disease
- FH of APKD and aunt with FSGS

Case 1 (2)

Key findings include:

- Peripheral oedema
- Urine PCR 8.6, no abnormal sediment
- Creat 1.6, albumin 1.4
- Cholesterol 221
- Hb 11.5, WBC 7.4
- On treatment with anti-HT, diuretic, statin

Case 1 (3)

Differential diagnosis includes:

- Membranous nephropathy
- FSGS (? familial)
- Minimal change nephropathy
- HIVAN
- Diabetic nephropathy
- Amyloid/fibrillary GN
- Lipoprotein glomerulopathy

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- **Lipoprotein glomerulopathy**

Case 2 (1)

- 42y old AA female diagnosed with lupus 5y previously
- Strong FH of SLE
- History of multiple miscarriages
- Pre-eclampsia 4y previously, proteinuric, no biopsy
- On thiazide and Plaquenil (stopped)
- Malaise, arthralgia, fever

Case 2 (2)

Key findings include:

- Alopecia, hyperpigmentation face, rash trunk/legs
- 24h protein 9.4, granular casts
- Creat 4.0, albumin 2.4, CK 1540
- Hb 9.9, WBC 2.3
- Positive ANA and anti-dsDNA ab, low C3
- Positive RF, anti-RNP ab, anti-Smith ab
- Anti-cardiolipin ab. and viral serology negative
- Treated with pred and MMF, biopsy weeks later

Case 2 (3)

Differential diagnosis includes:

- Lupus nephritis class V
- LN + TMA
- FSGS/collapsing glomerulopathy related to SLE
- Amyloid
- Coincidental GN, e.g. FSGS

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Case 3 (1)

- 52y old female diagnosed with lupus 21y previously
- Treated with pred and aza, relapsing course
- CABG 1y ago and aortic bifurcation prosthesis 2y ago
- Biopsy for ? LN

Case 3 (2)

Key findings include:

- 24h protein 3.3, active sediment
- Creat 74, albumin 29
- Positive ANA and anti-RNP ab
- Negative anti-ds DNA ab

Case 3 (3)

Differential diagnosis (1st biopsy) includes:

- Lupus nephritis class III/IV
- Atherosclerotic kidney disease
- Coincidental proliferative GN, e.g. IgA

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- **Lupus nephritis class III/IV**
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Case 3 (4)

One year later, malaise, fatigue, dyspnoea, ankle swelling

Key findings include:

- Peripheral oedema, low BP
- 24h protein 9.4 (? sediment)
- Urine IgG λ M protein, κ and λ light-chains
- Creat 81, albumin 21, cholesterol 10.8
- Hb 7.4, WBC 2.8

Case 3 (5)

Differential diagnosis (2nd biopsy) includes:

- Lupus nephritis class V (or still III/IV)
- Atherosclerotic kidney disease
- Amyloid
- Monoclonal immunoglobulin deposition disease
- Other GN, e.g. FSGS, IgA

Case 3 (5)

Differential diagnosis (2nd biopsy) includes:

- Lupus nephritis class V (or still III/IV)
- Atherosclerotic kidney disease
- **Amyloid**
- Monoclonal immunoglobulin deposition disease
- Other GN, e.g. FSGS, IgA

Case 4 (1)

- 41y old AA male with acute renal failure
- History of nasopharyngeal carcinoma 5y previously
- Still had Port-A catheter in place from NPC treatment
- History of hypothyroidism and anaemia
- Initially on dialysis, taken off, infected HD catheter removed

Case 4 (2)

Key findings and further history include:

- Severe oedema
- Creat 1.72, rising to 7.4
- Treated with Solumedrol and Cytoxan
- Given anti-HT and antibiotics
- Creat fell to 2.14 and discharged
- Readmitted with fever, drainage from HD catheter exit site
- Given more Cytoxan, then biopsied

Case 4 (3)

Differential diagnosis includes:

- Crescentic GN
- Infection related GN
 - with AKI?
- Acute kidney injury
 - with other GN, e.g. IgA
- Tubulointerstitial nephritis
 - drugs, infection

Case 4 (3)

Differential diagnosis includes:

- Crescentic GN
- **Infection related GN**
 - **with AKI?**
- Acute kidney injury
 - with other GN, e.g. IgA
- Tubulointerstitial nephritis
 - drugs, infection

Case 5 (1)

- 76y old female with renal dysfunction and proteinuria
- History of hyperlipidaemia, on statin
- History of Ca breast 16y previously, treated with tamoxifen

Case 5 (2)

Key findings include:

- Hypertension
- Urine PCR 2.8, blood, granular casts
- Urine pH 6, glucosuria, phosphaturia
- Creat 2.5, albumin normal
- Glucose normal, Ca 8.5, Hb 13.6
- Autoimmune serology negative

Case 5 (3)

Differential diagnosis includes

- Tubulointerstitial nephritis (drugs, infection, immune disease)
- Toxin exposure (drugs, lead, Chinese herbs)
- Glomerulopathy + tubular damage (FSGS, membranous)
- Monoclonal immunoglobulin deposition disease
- Light chain induced Fanconi syndrome

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- Tubulointerstitial nephritis (drugs, infection, immune disease)
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- Monoclonal immunoglobulin deposition disease
- **Light chain induced Fanconi syndrome**