Parkland Memorial Hospital
MEDICAL GRAND ROUNDS
February 8, 1962

THE KIDNEY IN CONNECTIVE TISSUE DISEASES

CASE I. [redacted]

The first medical admission for this 45 year old [redacted] was [redacted], 1960, when she gave a history of 2 years' increasing swelling of the face, hands and feet; Raynaud's symptoms and tightening of the skin of the face; epigastric discomfort; tiredness; shortness of breath; and headaches with blurred vision. Examination revealed cardiomegaly, eye ground changes, B.P. 190/130, widespread muscle atrophy with sclerodermatous skin. Laboratory tests revealed Hb., 10 G.; ESR, 122; A/G ratio, 3.1/4.6 (55% gamma globulin); L.E. prep., negative; anti-nuclear reaction, positive; urine 3+ proteinuria; BUN's 29, 48, 50, 39, 25 mg.%; cholesterol, 215 mgs.%; PSP excretion, 15%, 2 hours. Skin biopsy - scleroderma; renal biopsy:

Hypercellular glomeruli
Basement membrane thickening
Adhesions
PAS positive deposits

Course: Treated with low-salt diet and digitalization and later prednisone, 10 mgs. b.i.d. with chloroquine, 250 mgs. daily, and discharged Jan., 1961. Continued fairly well until [redacted], 1961, when sudden onset of D.O.E., orthopnea and P.N.D. Admitted with B.P. 180/130, digitalized, but died suddenly on bed-pan 8 hours later. Only lab results - ESR, 93; BUN, 35 mgs.%; Na, 140; and K, 5.0 meq/L.

Autopsy:

Scleroderma - hands, face, trunk
Pulmonary fibrosis
Myocardial fibrosis
Renal sclerosis

CASE II. [redacted] A 42 year old [redacted]

1941-1949	Positive serology treated with courses of penicillin.
1949	Pre-eclamptic toxemia and hypertension (176/106).
1955-1956	Recurrent kidney infections, lobar pneumonia with pleural effusion, hemolytic anemia. Noted to have proteinuria 5 gm./day and a high globulin. Normotensive.

1957 [redacted]. Acute pyelonephritis, respiratory symptoms, anemia, alopecia, arthralgias.

1957 [redacted]. Diagnosis of possible S.L.E. considered. L.E. prep., negative; BUN, 58 mg.%; cholesterol, 400 mg.%; A/G ratio, 4.6/2.8; proteinuria, 4+ with casts. Started prednisone, 12.5 mg. daily, and continued to

1958 [redacted] then discontinued, as patient well.

1958 [redacted]. Recurrence of symptoms - admitted to hospital. Proteinuria then 1 gm./day; BUN, 27 mg.%; cholesterol, 265 mg.%; ESR, 119; A/G ratio, 3.9/4.1; L.E. prep., negative. Started chloroquine, 250 mg. b.i.d. and discharged.

1959 [redacted]. Chloroquine discontinued. Then L.E. prep., positive. Remained well without therapy until

1960 [redacted]. when re-admitted for renal biopsy. Proteinuria then 4 G./day; BUN, 36 mg.%; cholesterol, 395 mg.%; L.E. prep., negative; ESR, 120; A/G ratio, 1.9/2.8.

Renal biopsy: Basement membrane thickening
Hyaline thrombi
Wire loops
Adhesions.

Started 60 mg. prednisone daily [redacted]-60 and continued to [redacted]-60. At that time had [redacted] diastolic B.P., edema and glycosuria. Urine protein under 1 gm./day; BUN, 58 mg.%; cholesterol, 430 mg.%; ESR, 131; A/G ratio, 3.0/2.5; anti-nuclear reaction, negative. Repeat renal biopsy as before. Prednisone gradually reduced to 10 mg. daily and continued with little change in any of the lab. indices.

1961 [redacted]. Evidence of clinical activity and chloroquine, 250 mg. b.i.d. recommenced. This was later changed to quinacrine.

1961 [redacted] Re-admitted for 3rd renal biopsy. Little change. Has been controlled on 10 mgs. prednisone, etc., to the present time. Mild hypertension.

1962 [redacted]. Urine protein-trace with casts; BUN, 36 mg.%; ESR, 73; A/G ratio, 4.7/3.8; L.E. prep. and anti-nuclear reaction, negative.

CASE III. [redacted]

This 30 year old [redacted] was admitted [redacted], 1960, with a 6-month history suggestive of systemic lupus erythematosus, with nephrotic

syndrome. Hb., 7 G.; ESR, 136; A/G ratio, 2.4/3.2; cholesterol, 380 mg.%; L.E. prep. and anti-nuclear reaction, positive; proteinuria, 4 G./day with cast formation; BUN's 26, 66, 49, 37, 31 mg.%. Renal biopsy not obtained. After clearing of a local staphlococcal infection, prednisone, 60 mgms. daily, was commenced [redacted]-60 and continued to [redacted]-60, without any real change in the lab. indices. She was continued on 20 mg. daily as an outpatient until the end of [redacted], 1960, when she ceased to attend.

Her final admission was [redacted], 1961, with a history of progressive weakness and edema. She became semi-comatose following a series of convulsions necessitating tracheostomy. Peritoneal dialysis was instituted for the renal failure, which was characterized by azotemia, acidosis, hyperkalemia, severe anemia and hypoalbuminemia. She was edematous and hypertensive. Prednisone, 60 mg. daily, and antibiotics were added, but the patient died on the 10th hospital day. Autopsy was not obtained.

DISEASE	TYPE OF RENAL LESION	REPORTED INCIDENCE AT AUTOPSY
Rheumatoid arthritis	1. Granuloma 2. Arteritis 3. Secondary amyloidosis	Rare Rare From 15% to 61% cases
Polymyositis	Non-specific	Rare
Polyarteritis nodosa	1. Arteritis 2. Glomerulonephritis with capsular proliferation polymorph infiltration focal fibrinoid necrosis 3. Arteriolar nephrosclerosis	Occur singly or in combination in 75% to 100% cases
Scleroderma	Intimal sclerosis and hyperplasia of interlobular arteries Fibrinoid necrosis of arterioles and glomerular loops Focal cortical infarction	Varying combinations in 70% to 100% cases
Systemic lupus erythematosus	Glomeruli Basement membrane thickening Hypercellularity Hyaline thrombi Wire loops Local necrosis Karyorrhexis Hematoxyphil bodies Fibrinoid Adhesions and crescents Tubular and interstitial damage is an infrequent and late finding	Over 75% cases

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