Medical Literature Search
M.B.
Sample Case

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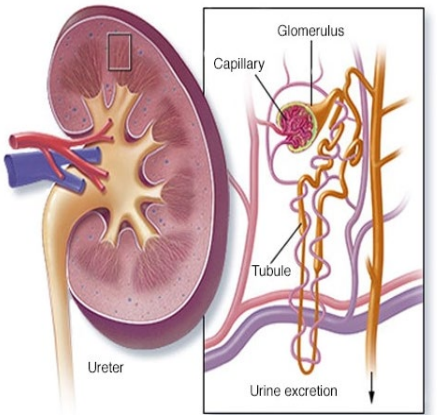
Case Background
Mr. B., a client with a history of glomerulonephritis and diabetes Type I, is diagnosed with end-stage renal disease (ESRD) seven years after the diagnosis of glomerulonephritis by his primary physician.

Attorney Guided Research: Determine the relationship between glomerulonephritis and the later ESRD diagnosis. Did the physician fail to perform to his standard of care?

Research

Glomerulonephritis defined: Inflammation of the tiny filters in the kidneys (glomeruli). The function of glomeruli is to remove excess fluid, electrolytes and waste from the bloodstream, passing these wastes into the urine. When this condition is present, the kidneys can become damaged causing a reduction of the filtering function of the kidney, leading to a dangerous accumulation of fluids, electrolytes, and wastes in the body.[1]



Definitions and pathogenesis (progression to end stage renal disease)

Renal Failure – the short term, or long term condition, which occurs when the loss of filtering function of the kidney causes rapid accumulation of waste products.
Treatment – manage patient with medications or possibly emergency or permanent dialysis.

Chronic Kidney Disease (CKD) – This physician makes this diagnosis when the kidney

[1] Mayo Clinic. Chronic Kidney Disease. www.mayoclinic.org/diseases-conditions/chronic-kidney-disease/symptoms-causes/syc-20354521

functions at 10% or less than normal filtering capacity. Dialysis or kidney transplant may be necessary to sustain life at this point. Staged at I, II, III, by degree of severity.

End Stage Renal Disease (ESRD) – occurs when CKD reaches an advanced state. Kidneys are no longer able to function at this stage.[1]

Recommendations for Further Discovery:

Determine <u>possible physician failure</u> to diagnose CKD leading ultimately to ESRD.

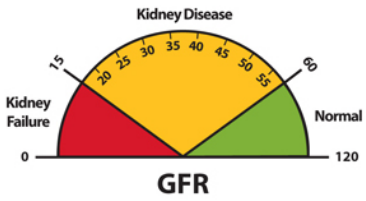
Rationale: Failure to diagnose CKD can result in irreversible damage to the kidneys, i.e., ESRD. Here, was the primary physician negligent in properly conducting testing and physical exams to rule CKD in or out? If the following common diagnostic tests where not performed during the seven years following Mr. B's diagnosis of glomerulonephritis it is possible that a failure by the primary physician to diagnose CKD early, led to unchecked disease progress.[2]

Further Discovery:

A. Did the physician, at any time during the past seven years, perform or fail to perform the following diagnostic tests:

Laboratory/Urine Tests:

Glomerular Filtration Rate (GFR) – 60 or greater is normal, 15 or less is kidney failure, 15-60 may indicate kidney disease. This test determines the ability of the kidneys to perform their filtering function.[3]



Serum Creatinine – 0.84 to 1.21 mg/dl is the normal result. Creatinine is one of the waste products removed from the blood by the kidneys, produced by the normal breakdown of muscle in the body. Higher levels of creatinine in the blood are indicative of reduced filtration in the kidneys.[4]

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[2] It is important to note that early identification of CKD followed by preventative action, e.g., instructing the patient to lose weight, increase exercise as tolerated, increase nutritious food intake, control blood pressure, and maintain blood sugar levels within a normal range, may result in the slowing of the progress of CKD.

[3] National Institute of Diabetes and Digestive and Kidney Diseases. Chronic Kidney Disease Tests & Diagnosis. www.niddk.nih.gov/health-information/chronic-kidney-disease-ckd/tests-diagnosis

[4] Mayo Clinic. Chronic Kidney Disease. www.mayoclinic.org/diseases-conditions/chronic-kidney-disease/symptoms-causes/syc-20354521

Urine Albumin – 30-300 mg per 24 hours with 2-3 urine collections. The presence of albumin, a protein in the blood, is linked to kidney disease[5].
Dipstick test for albumin – simple color change in a dipstick that detects presence of albumin in the blood.
Urine albumin-to-creatinine ratio (UACR) – 30 mg/g or less is normal. This test measures the amount of albumin in relation to creatinine in urine.[4]

NOTE: A GFR or urine albumin (other albumin tests as well) which remains the same over time can indicate that treatments are working.[7]

Imaging Tests:

Ultrasound – performed to assess the size and structure of the kidneys, serving as a foundation to rule out a congenital abnormality of the kidney, e.g., renal fusion, obstructive renal dysplasia[6].

Other Diagnostic Tests:

Kidney Biopsy – removal of a kidney tissue sample to determine the cause of a kidney problem.[7]

Summary

The standard of care in screening, monitoring, and treating CKD, which again may progress to ESRD, begins with the following recommendation from the American Academy of Family Physicians: asymptomatic adults absent risk factors for CKD should not be screened for CKD[8]. This recommendation logically leads to a need to make the determination of whether Mr. B. had, at any time over the past seven years, any risk factors for CKD. Risk factors for CKD include Type 1 or 2 diabetes, high blood pressure, glomerulonephritis, interstitial nephritis, polycystic kidney disease, prolonged obstruction of the urinary tract, vesicoureteral reflux, or recurring kidney infections.[7]

Mr. B. did have at least one of these risk factors, namely, glomerulonephritis. As an aside, Mr. B.'s medical records should be reviewed to determine if suggestions of

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[5] Emedicine.medscape.com. Microalbumin. www.emedicine.medscape.com/article/2088184-overview
[6] Rodriguez, M.M. (2014)., Congenital anomalies of the Kidney and Urinary Tract (CAKUT). Fetal and Pediatric Pathology. Doi: 10.3109/15513815.2014.959678
[7] Mayo Clinic. Chronic Kidney Disease. www.mayoclinic.org/diseases-conditions/chronic-kidney-disease/symptoms-causes/syc-20354521
[8] American Academy of Family Physicians, Chronic Kidney Disease, www.aafp.org/patient-care/clinical-recommendations/all/chronic-kidney-disease.html.

other risk factors are present, implying further misdiagnosis. Knowing that Mr. B had one risk factor for CKD, and that CKD was not screened for by Mr. B.'s physician, implicates the physician in a breach of duty by the AAFP's definition of the physician standard of care.

CKD is a progressive disease, the result potentially being non-functioning kidneys. Early intervention aimed at improving lifestyle, and medication management of the disease may improve outcomes.[7] However, untreated CKD, may progress to ESRD.[9] Here, it is arguable, that since the physician made a diagnosis of a risk factor for CKD, i.e., glomerulonephritis seven years previous, the failure by the physician to follow the standard of care, i.e., to screen for CKD where a risk factor is present, was a breach of the physician's duty.

A simple battery of diagnostic tests and procedures as described above could have determined the definitive presence of CKD, allowing for earlier intervention and management of the disease as recommended by the AAFP. If a medical record review yields failure by Mr. B.'s physician to conduct these diagnostic tests, a medical expert would be useful in demonstrating the likelihood that seven years of undiagnosed CKD could lead to premature ESRD, leading to a potential award of damages. For example, if Mr. B. were aware of the severity of his CKD at an earlier point in his life, he might have been better able to provide for his family, knowing that his life expectancy and quality of life would rapidly decline in the near future.

Recommendations

Obtain Mr. B.'s medical chart from his primary care physician to determine precisely when the physician made the glomerulonephritis diagnosis, and to definitively determine that a diagnosis of CKD was never made in the medical record.

Consult medical expert for prognosis of untreated CKD versus treated CKD to answer whether Mr. B.'s present ESRD is a likely a result of a failure to properly diagnose CKD and intervene early in the disease process.

[9] Centers for Disease Control, Chronic Kidney Disease Basics, www.cdc.gov/kidneydisease/basics.html