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Abstract Topic : Glomerular and Tubulointerstitial Disorders

Breaking the Norm: Minimal Change Disease Diagnosed in an Adult

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Case Study: Minimal change disease (MCD) is a common cause of nephrotic syndrome in children. It is characterized by an increase in renal membrane permeability and loss of protein due to damage to the glomerular filtration barrier. However, in adults, it is not a common disease and the exact incidence is not known. We present a case of a 68-year-old male, known hypertensive, not known chronic kidney disease who came in due to Bipedal Edema. He had a 2-week history of progressing bipedal edema and bubbly urine after he self-medicated with an antibiotic for sore throat. Upon consult, the patient was seen awake, not in acute cardiorespiratory distress with stable vital signs and normal anthropometrics. The patient had bipedal edema +2 up until the thigh with scrotal edema. The following pertinent laboratories revealed elevated creatinine at 3.25, BUN 66, normal electrolytes, hypercholesterolemia (427 mg/dL), hypertriglyceridemia (277 mg/dL), hypoalbuminemia (2.64 mg/dL), normal ASO titer at <200, normal C3, and non-reactive to hepatitis B infection but with previous hepatitis A infection. Kidney biopsy was done which revealed widespread podocyte foot process effacement. This was signed out as Minimal change disease. Patient was initially subjected to hemodialysis and started on steroid therapy. He eventually had renal recovery with improvement of creatinine to 0.94 mg/dL (eGFR 81.9). Prednisone 50mg/tab 1 tab once daily was initially maintained but eventually tapered off. Although the patient responded to steroid therapy, Unsampled focal segmental glomerulosclerosis (FSGS) should still be included in the consideration since this condition can also present with symptoms being manifested in minimal change disease and the degree of foot process effacement does not differentiate between unsampled primary FSGS and MCD. Some evidence suggests a common etiology between the pathogenesis of MCD and idiopathic FSGS should be studied together. However, this is still under study at the moment.

Biopsy Findings- MCD.png



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Images **Findings** LIGHT MICROSCOPY Unremarkable Glomeruli some sclerosed glomerulus Interstitial infiltrates Atrophic tubules Protein reabsorption droplets **IMMUNOFLOURESCENCE** IgG, IgA, C3, C1q - 5 glomeruli with negative staining. IgM, fibrinogen – 5 glomeruli with diffuse segmental granular mesangial staining (trace) **IgG IgA** C1q **ELECTRON MICROSCOPY** widespread podocyte foot process effacement. Endothelial cell swelling is present. No definite electron-dense deposits are seen in glomerular basement membrane and mesangium.