

Medical Quiz

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Thirty five year old Indian male was admitted with acute renal failure, proteinuria, and haematuria. He had haemoptysis prior to admission. There was no previous history of infections, renal complaints or any serious systemic disorders. Laboratory investigations revealed high serum creatinine 418 $\mu\text{mol/L}$ and urea 19.8 mmol/L . Liver functions and investigations for vasculitides were normal. Serological studies for systemic lupus erythematosus were negative. Radiological studies revealed bilateral pulmonary parenchymal haziness. Ultrasound of abdomen showed kidneys of normal echo texture and size. There was no organomegaly. The patient was placed on haemodialysis immediately. There was no improvement in patients condition and was given plasmapheresis. A renal biopsy was taken (Fig 1 & 2).



Fig 1

Fig 2

The renal biopsy was adequate with twelve glomeruli and tubulointerstitial compartment. All the glomeruli were large with cellular crescents. The capillary tufts were also hyper cellular, but they were obscured by the crescents. The capillary lumen was totally obliterated by the swollen endothelial cells as well as by the growing crescents. The crescents occupied over 80% of the Bowman's space and the glomerular tufts at places showed fibrinoid necrosis. The basement membrane did not reveal any increased thickness. The proximal tubular epithelium was hydropic and the epithelial cells showed focal eosinophilic change. Interstitium was edematous and showed patchy lymphoid infiltrates.

- Q1. What is the morphological diagnosis on the renal biopsy?
- Q2. What additional investigation are needed to confirm the diagnosis?
- Q3. What is the prognosis based on the structural changes?
- Q4. What laboratory investigation can help in further evaluations and follow up?
- Q5. What are the other conditions that show similar features?