

Myeloma nephropathy

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Multiple myeloma (MM) is the cancer with the most renal complications. This is not only in the number of patients affected but also the various types of injury. It is no surprise that light chain cast nephropathy (LCCN) which is one of the most common complications is also a myeloma defining event. Renal impairment is particularly important because if not reversed, it can have a negative impact on the survival of these patients. Therefore, it is vital for physicians who treat MM to be able to recognize the various renal complications. In addition to LCCN, there are a number of renal lesions and conditions that are associated with MM. These include immunoglobulin light chain (AL) amyloidosis, monoclonal immunoglobulin deposition disease (MIDD), light chain proximal tubulopathy (LCPT) with or without Fanconi syndrome, myelogenous infiltration and acute tubular necrosis (ATN). LCCN and myelogenous infiltration are associated with high tumor burden and typically present with acute renal failure. They are always associated with MM and immediate treatment is necessary in order to prevent irreversible renal damage. In LCCN, not only is the depth of response important but also the speed of response. This is different for condition like MIDD and LCPT where the speed of response is less important. However, the achievement of a very good partial response or better is required for better outcomes. In AL amyloidosis, rapid and complete response is preferred especially if the heart is involved. In patients with ATN, the cause should be identified and eliminated. Common etiologies are hypercalcemia, dehydration, drugs which include (NSAIDs, intravenous contrast, ACE inhibitors, etc) and infection. Monoclonal light chains have also been implicated to cause tubular damage without cast formation. In this situation, treatment should also be initiated to prevent further renal damage. Finally, MM patients are susceptible to renal damage from the usual causes such as acute interstitial nephritis and drug toxicity. Unfortunately, the presentation may not be different enough that a diagnosis can be made without a kidney biopsy. Fortunately, kidney biopsy has been shown to be safe in most patients.