Monoclonal Gammopathy and the Kidney: A Comprehensive Approach to MGRS

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Monoclonal Gammopathy of Renal Significance (MGRS) is a group of B-cell and plasma cell proliferative disorders that produces a nephrotoxic monoclonal immunoglobulin but does not meet the criteria for symptomatic multiple myeloma or high grade lymphoma. These clones are more closely related to clones that produce monoclonal gammopathy of undetermined significance (MGUS) but differ from MGUS due to the end organ damage. The diagnosis of MGRS requires a kidney biopsy except in the case of AL amyloidosis where the amyloid deposits have already been identified in another organ and the kidney involvement is characteristic of amyloidosis. The kidney diseases associated with MGRS are progressive and recur frequently after kidney transplantation unless it is adequately treated. Studies have found that a minimum hematologic response of very good partial response can hault the progression of the native disease or prevent recurrence in the kidney allograft. The most effective therapy for MGRS is clone directed therapy. In certain MGRS, autologous stem cell transplant may be more effective. Complement inhibition may also be necessary in MGRS related thrombotic microangiopathy. Although clone directed therapy is effective, the ability to recover kidney function deminishes when the estimated glomerular filtration rate (eGFR) drops below 20 ml/min/1.73 m^2. In these patients, treatment is not required unless there is extra-renal manifestation or if the patient is going to have a kidney transplantation. MGRS belongs to a larger group of diseases call monoclonal gammopathy of clinical signifiance (MGCS) where the end organ damage involves organs other than the kidney. Clone directed therapy has also been shown to be effective in MGCS especially in the resistant cases.