28.8.2. sFLC response and renal outcome

Pinney et al. [1] assessed the value of the sFLC response in predicting long-term renal outcome in 923 patients with renal AL amyloidosis. Patients who achieved a greater sFLC response after chemotherapy demonstrated prolonged survival and superior renal outcomes. Patients who achieved more than a 90% FLC response at 6 months had an almost four-fold increase in the chance of renal response (p<0.001) and a lower rate of renal progression (p<0.001) compared with those achieving a FLC response of 0 - 50%. Among 752 patients with a baseline estimated glomerular filtration rate (eGFR) of $\geq 15$ mL/min, those who achieved a 50 to 90% reduction or more than a 90% reduction in dFLC were less likely to experience renal progression requiring dialysis than patients achieving a <50% reduction in dFLC.

Rezk et al. [2] studied the prognostic value of the response to chemotherapy among 78 patients with AL amyloidosis who presented with advanced CKD (eGFR <20 mL/min/1.73m²). The median time to a composite end point of either death or dialysis was 17.3 months for patients who achieved a dFLC response of $\geq 90\%$ at 3 months, compared to 5.3 months among patients who achieved a lesser response (p=0.001). The dFLC response remained prognostic in the subset of 45 patients who had renal amyloidosis without cardiac involvement (time to dialysis was 23.0 months compared to 6.2 months, p<0.007). The authors concluded that patients with advanced CKD due to renal AL amyloidosis should be treated urgently with the aim of achieving a rapid and deep clonal response, as this is associated with delayed dialysis and prolonged survival.

Palladini et al. [3] characterised sFLCs in patients with renal progression (defined as a >25% increase in eGFR) at disease relapse. Of the 92 patients who required second-line therapy, 11 had renal progression and in all cases this was associated with an increase in dFLC to >20 mg/L. Among the 167 patients in whom rescue treatment was not deemed necessary, 5% had renal progression but only minor (<20%) increases in dFLC from the value reached at best response. The authors conclude that “It should be kept in mind that AL amyloidosis renal progressions can occur in the absence of haematological progression, particularly in patients with advanced renal failure.”

It should be noted that in cases of renal insufficiency, use of a modified renal reference interval for the $\kappa/\lambda$ sFLC ratio may be appropriate. Application of this reference interval has been demonstrated to improve the diagnostic specificity of the sFLC ratio without affecting diagnostic sensitivity in patients with renal impairment (Section 6.3).
References

