SURVIVAL MODEL IN PATIENTS WITH RENAL AMYLOIDOSIS

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INTRODUCTION AND AIMS: New therapeutic strategies for AL Amyloidosis with bortezomib and lenalidomide have improved the prognosis. The aim of our study was to evaluate the outcome as renal and patient survival in a population with renal AL.
Amyloidosis after cycles of Bortezomib + Cyclophosphamide + Dexamethasone (BCD) and Lenalidomide.

METHODS: This was a retrospective observational study of adult patients with histological diagnosis of renal amyloidosis belonging using the our Nephrology Department during 1/01/2010 to 31/12/2015. Amyloid deposits are identified histologically by their diagnostic apple-green birefringence when stained with Congo red and viewed under polarized light. In order to detect serum protein network to the Amyloidosis, a proteomic approach was applied on serum based on two-dimensional electrophoresis, Western-blotting and mass spectrometry. The same therapeutic regimen was used in all patients: Bortezomib-based (BD) regimen (Bortezomib 1.3 mg/m² subcutaneously on days 1-4-8-11 in the first three cycles and after on days 1-8-15-22; Cyclophosphamide 200 mg/m² p.o. + Dexamethasone 40 mg p.o. on days 1-8-15-22 of the 21-day cycle for 9 cycles) and cycles of Lenalidomide in those patients with partial renal response (PRR: decreased of 24 hour urine protein and serum creatinine > 50% over baseline). We evaluated therapeutic efficacy with: i) patient survival; ii) kidney survival (start hemodialysis); iii) PRR and iv) complete renal response (CRR 24 hour urine protein < 300 mg, MDRD > 70 ml/min). Moreover we analyzed the correlation among the end-points and following parameters at the onset of disease: plasma cell infiltrate (% Plasm) to BOM, Pro-BNP, troponin I, SIV, Crs, proteinuria, anemia, calcemia, FLC, creating a patient and organ survival model.

RESULTS: Twenty patients (15F and 5M) with an average age of 63 were enrolled, From our survival model a significant correlation emerged between patient survival and Hb, Pro-BNP, Troponin I, Calcemia, % Plasm, while there was no correlation with Creatinine and Proteinuria of onset. Furthermore, the coexistence of Myeloma Multiplo correlated with renal survival, but not with patient survival.

CONCLUSIONS: From our work it emerged that in a population of patients with AL amyloidosis treated with unconventional chemotherapy (Bortezomib + lenalidomide) the presence at the onset of multiple myeloma, anemia and cardiac involvement worsened the outcome of renal and patient survival. Furthermore, renal dysfunction and proteinuria do not seem to condition the outcome of the amyloidosis disease. Further studies on larger samples are needed to validate the data.