Baseline patient-reported outcomes in light chain amyloidosis patients enrolled on an interventional clinical trial

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Background

Light chain (AL) amyloidosis can be associated with multisystem involvement, and treatment is directed at eradicating the underlying plasma cell clone using chemotherapies (e.g. bortezomib, lenalidomide, melphalan, stem cell transplant)[1]. Symptoms of AL amyloidosis depend on the affected organ systems making the amyloid symptom experience highly varied across patients. Patient-reported outcomes (PROs) can add significant value to assessments of benefits (or harms) in clinical trials, and can serve as important clinical endpoints. In an ongoing phase 2 clinical trial assessing the utility of doxycycline as an adjunct in the treatment of AL amyloidosis [2]. the Patient Reported Outcomes Measurement Information System (PROMIS) Global Health Index was used to describe PROs. In this abstract, we report the baseline physical and mental health of patients enrolled on this study.

Material and Methods

Patients completed the PROMIS Global Health Index upon enrollment and monthly thereafter for 1 year on this study. All types of AL amyloidosis syndromes that were starting first AL-directed treatment were eligible, including localized AL. Inclusion criteria included adult patients aged 18 years and older with biopsy proven AL amyloidosis. Patients completed the survey in clinic on paper. The PROMIS Global Health Index is a 10-item instrument representing multiple domains. It can be scored into a Global Physical Health Score (GPHS) and Global Mental Health Score (GMHS) as a standardized T-score where 50 represents the mean for the US general population with a standard deviation of 10, and lower scores representing worse health. Mean T-score with standard deviation was determined for each group [3]. Comparisons were done using the student t-test.

Results

Between 10/24/2014–7/13/2017, 31 patients were enrolled on this phase 2, open label, pilot study including 6 localized AL and 25 systemic AL amyloidosis. The localized AL patients

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included 2 patients with tracheobronchial, 3 with nodular pulmonary and 1 laryngeal AL. Patients with systemic AL were staged according to the 2012 AL staging system based on cardiac biomarkers and difference in free light chains [4]. Baseline scores were similar to the US general population in localized AL but were lower for systemic AL (table), especially for GPHS. For systemic AL stratified by stage of disease (table), advanced stage had higher GMHS than early stage; 5 patients with stage III/IV died within the first year after diagnosis. Among stage III/IV, patients with early mortality had lower pre-treatment baseline AL-HRQL than those who survived; GPHS 37.94+/−11.26 vs 43.86+/−5.66 and GMHS 43.96+/−11.58 vs 52.23+/−5.08.

Discussion and conclusions

This is the first report of AL amyloid patients using the PROMIS system. Despite the small sample size, the PROMIS Global Health Index 1) distinguished between localized and systemic AL and 2) demonstrated significant differences in pre-treatment scores among those with early mortality within advanced stage. Counterintuitively, advanced stage AL amyloidosis had higher GMHS compared to stage I/II disease. Completion of our study will provide additional data on the use of PROMIS to effectively measure PROs in AL amyloidosis longitudinally.

References

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Table

Mean PROMIS T-scores with standard deviations

	Localized AL syndrome (N=6)	Systemic AL (N=25)
Global Physical Health Score	48.68+/−6.47	41.95+/−10.01
Global Mental Health Score	51.32+/−9.78	47.55+/−9.14
	2012 stage I/II (N=12)	**2012 stage III/IV (N=13)**
Global Physical Health Score	42.34+/−11.91	41.58+/−8.36
Global Mental Health Score	45.92+/−9.62	49.05+/−8.79