Diagnostic Hospitalization and Associated Costs in Patients with Amyloid Light-Chain Amyloidosis

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Background: Light-chain (AL) amyloidosis is a rare, fatal disease due to extracellular deposition of misfolded immunoglobulin light chains. Clinical experience suggests some patients are first diagnosed with AL amyloidosis during an acute admission for organ dysfunction and undergo a diagnostic work-up.

Objective: The study's aim was to estimate the rate of such diagnostic events among hospitalized patients and measure associated healthcare utilization and costs.

Material & Methods: This retrospective analysis used 2017-2020 data from the Premier® Healthcare Database to identify hospitalized patients aged ≥18 years with ≥1 inpatient claim for AL amyloidosis (ICD-10-CM code E85.81) in any diagnosis field during the study period (10/1/2017-12/31/2020). Patients with a diagnosis for other amyloidosis types (E85.0x-E85.3x) or certain chronic inflammatory disease were excluded. Patients were stratified into diagnostic and other hospitalization. Diagnostic hospitalization was defined where the patient had a diagnostic biopsy (bone marrow, kidney, liver, abdominal fat pad, salivary gland, gingival, or endomyocardial) and did not have a solid organ or hematopoietic stem cell transplant. Study outcomes included hospitalization costs (in 2020 USD) and length of stay (LOS).

Results: Of 1,341 hospital admissions, 234 (17.6%) were diagnostic admissions. Diagnostic admissions did not differ from other hospitalizations regarding characteristics such as patient demographics, payer type, and hospital location. However, diagnostic hospitalizations were characterized by longer LOS (14.5 vs. 8.4 days, $P<.001$), higher cost ($40,052 vs. $24,360, $P<.001$) and higher total charges ($161,526 vs. $104,129, $P<.001$) than non-diagnostic ones.

Summary & Conclusion: Healthcare utilization and costs are high among patients hospitalized with AL amyloidosis and particularly high for those who have not been diagnosed prior to being admitted for an acute event. From a cost perspective, it may be desirable to have a diagnostic work-up performed in the outpatient setting when possible.