**Amyloidosis and Carpal Tunnel Syndrome: Are We Missing The Potential to Make a Diagnosis?**

**Background:** Amyloidosis is a systemic condition with devastating cardiac manifestations. Current therapies are only able to retard progression of the disease as opposed to reversing the damage that has already been done. Early disease diagnosis, therefore, is paramount to successful treatment. Recent studies have suggested an intimate association between carpal tunnel syndrome (CTS) and amyloidosis. We sought to evaluate what patient characteristics are more common in CTS patients with underlying amyloidosis in order to improve the ability to identify these patients.

**Methods:** Using a national Medicare database, we searched for patients with a diagnosis of CTS or amyloidosis using ICD-9 codes. We then identified patients with coexisting CTS and amyloidosis. We assessed the characteristics of CTS patients with and without underlying amyloidosis in order to identify certain demographics and comorbidities that were associated with disease coexistence. We then assessed the incidence of carpal tunnel release (CTR) in these patients.

**Results:** Between 2010 and 2018 3,777 patients were diagnosed with coexisting CTS and amyloidosis. These patients were significantly more likely to be older than 65 years and male when compared to those with isolated CTS. They were significantly more likely to have several comorbidities including chronic kidney disease, congestive heart failure, atrial fibrillation or flutter, and dialysis dependence. Chronic obstructive lung disease, coronary artery disease, diabetes, obesity, tobacco use, and cubital tunnel syndrome were significantly less likely to be seen in patients with CTS and amyloidosis. Spinal stenosis and prior biceps tendon rupture, while previously described to be associated with amyloidosis, were not more prevalent in our cohort of interest. Both patient cohorts underwent CTR at similar rates.

**Conclusions:** Previous studies have recommended tenosynovial biopsy at the time of CTR in order to assess for amyloidosis. We have described patient factors that put them at increased risk of coexisting amyloidosis and believe that this data should be used to guide biopsy at the time of CTR. Through biopsy of at risk patients, amyloidosis diagnosis may be expedited and treatment may be initiated in order to prevent irreversible damage from occurring as a result of systemic amyloid deposition.