

Results: Synovitis was found in MTP joints in 41 (14.6%) of 280 toes. The incidence rates of synovitis in the deformity group, the bone erosion group, and the normal group were 27.3%, 13.1%, and 6.7%, respectively. Synovitis was found in 21.7% of patients on therapy with biologic products and in 38.3% of those without such therapy. There were no significant differences in the mean duration of the disease, visual analogue scale score, erythrocyte sedimentation rate, matrix metalloproteinase 3 level, or health assessment questionnaire score among the 3 groups.

Conclusions: Synovitis was also found in patients who showed no changes on imaging of the toes. Synovitis persisted in some patients even after establishment of toe deformity. Drug therapy, intensification of conservative therapy, and synovectomy should be considered to prevent further deformation.

References:

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Disclosure of Interest: None declared

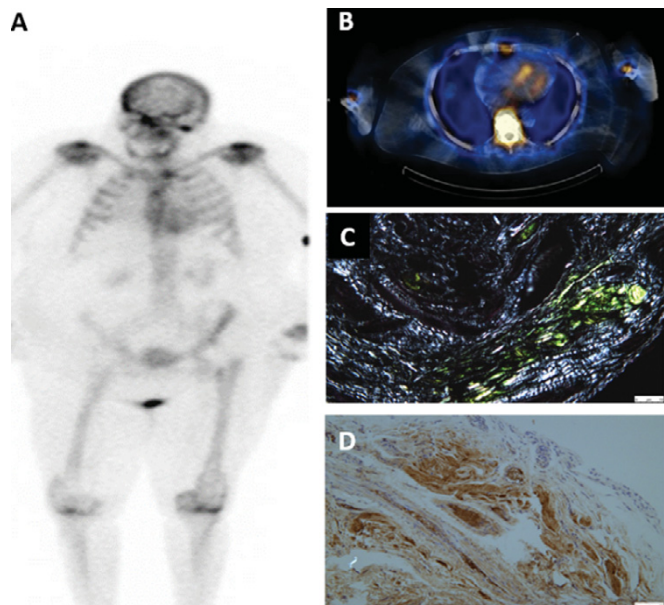
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AB1064 CARPAL TUNNEL BIOPSY AND BONE SCINTIGRAPHY USING THE TECHNETIUM-3,3-DIPHOSPHONO-1,2-PROPANODICARBOXYLIC ACID (99M) (Tc-DPD) TRACER CAN IDENTIFY CLINICALLY SILENT CARDIAC AMYLOIDOSIS AT A POTENTIALLY TREATABLE STAGE

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Background: Carpal tunnel syndrome (CTS) is the only known early clinical manifestation of wild-type transthyretin amyloidosis (ATTRwt; formerly known as senile systemic amyloidosis) which causes an amyloid cardiomyopathy. At the UK National Amyloidosis Centre 98% of those with proven ATTRwt have evidence of median nerve entrapment on neurophysiological studies and 48% have a history of carpal tunnel decompression as much as 12 years prior to heart failure symptoms. ATTRwt is diagnosed in approximately 150 individuals in the UK each year although post-mortem studies suggest presence of ATTRwt amyloid deposits 30% of males over 80 years (yrs)¹. A novel bone tracer, Technetium-3,3-diphosphono-1,2-propanodicarboxylic acid (99m) (Tc-DPD) largely abrogates the need for cardiac biopsy, identifying cardiac ATTR amyloidosis with a sensitivity of 98% and specificity of 70%². Amyloid deposition can be readily identified by Congo red staining of carpal tunnel biopsies taken at routine decompression surgery. Immunohistochemistry (IHC) is usually able to determine the amyloid



A. Tc-DPD scintigraphy showing Perugini Grade 1 Cardiac Uptake B. CT SPECT from same scan showing uptake in the left ventricular wall and intraventricular septum C. Apple green birefringence of amyloid deposits under cross polarised light D. IHC identifies TTR as the amyloid precursor protein.

fibril protein (amyloid type). Rheumatologists are ideally placed to request CT biopsy. Developing this underused but diagnostic test is of particular importance in light of emerging therapies for ATTR amyloidosis.

Objectives: To determine the utility of CT biopsy as a diagnostic tool in systemic ATTR amyloidosis, and its utility in combination with Tc-DPD scintigraphy in identifying pre-clinical cardiac amyloidosis.

Methods: CT biopsies were taken at decompression surgery. Biopsies were stained with Congo red and viewed under cross polarised light. IHC was used to type amyloid deposits using standardised techniques.

Results: We analysed 37 CT biopsies, 73% female, median age 65.8 yrs (35–87 yrs). 5 biopsies contained amyloid deposits (13.5%) by Congo red staining. 3 were typed as ATTR amyloid using immunohistochemistry (8%), median age 80.35 yrs. The amyloid type could not be determined by IHC in two cases. No cases of proven ATTR amyloid had a history of heart failure symptoms. Of these, a 74 yr old male attended the NAC for diagnostic work up. He had a normal ECG and Echocardiogram, however, Tc-DPD scintigraphy was able to demonstrate low grade uptake.

Conclusions: Carpal tunnel biopsy can readily identify ATTR amyloid deposition and may identify those at risk of developing cardiac ATTR amyloidosis in the future, permitting earlier intervention with novel therapeutics aimed at preventing accumulation of amyloid. This ongoing study aims to identify the UK prevalence of ATTR amyloid in those with carpal tunnel syndrome and to create a cohort of those who may develop systemic ATTR amyloidosis to further elucidate the disease natural history.

References:

[1] Senile systemic amyloidosis: clinical features at presentation and outcome. Pinney JH et al., *J Am Heart Assoc*. 2013 Apr 22;2(2). doi: 10.1161/JAHA.113.000098.

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AB1065 NEEDLE VERSUS FORCEPS TECHNIQUE IN ULTRASOUND-GUIDED SYNOVIAL BIOPSY OF THE KNEE JOINT

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Background: Ultrasound-guided synovial biopsy is increasingly applied in rheumatology. Usually forceps- or needle-based techniques are used. So far there has been no direct comparison of different devices regarding their suitability in high resolution musculoskeletal ultrasound (hrMSUS)-guided synovial biopsy.

