IS IT POSSIBLE TO DISTINGUISH PRIMARY AGE-RELATED TAUOPATHY FROM ALZHEIMER'S PATHOLOGY AS A COMBINED ENTITY?

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Introduction: PART (Primary age-related tauopathy) as a distinct entity is under discussion due to its resemblance to Alzheimer's pathology. In this study we have applied the classification criteria for PART to a series of brain bank cases with predominant neurodegenerative and vascular pathologies. Our aim was to determine whether PART can be identified as a distinct combined pathology.

Materials and Methods: A total 130 brains with Braak stage I ≤ IV were classified either as PART(+) (Thal Aβ phase ≤ 2 ; n = 53) or as PART(-) (Thal Aβ phase > 2 ; n= 77). Demographic, macroscopic, histopathological and diagnostic features were compared between groups. The neuropathological profile for phospho-tau inclusions (AT100 antibody) was additionally assessed in a subgroup of cases. Genetic analysis for *APOE* and *MAPT* H1/H2 was performed in a limited number of cases.

Results: Age at death is lower for PART(+) cases (71, 31 ± 9,8 yrs *vs*. 80,30 ± 8,5 yrs; p< 0,05). *APOE* ε4 and *MAPT* H1 status did not differ among groups. An association was observed between PART(-), Alzheimer's, Lewy and vascular pathology while PART(+) features were predominant in cases with Huntington and TDP pathology, though no significant association was found. PART(+) and PART(-) brains displayed a common pattern of regional distribution and intensity of neurofibrillary pathology, and both groups form a continuum of tau (+) pathology. After stratification for Braak stage, no difference was observed between groups for regional intensity of pathology. No neuritic plaques were observed in definite PART (+) cases.

Conclusion: In a brain bank series of cases with high age at death and predominant neurodegenerative and vascular pathologies, cases fulfilling current criteria for PART did not show a distinct demographic, pathological or genetic profile. Accordingly, in our series PART seems to form a continuum with conventional Alzheimer's tau pathology.