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Neuropathology in the Life after 90 Study: A New Ethnically Diverse Cohort Study of Oldest-Old

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There is a dearth of neuropathology studies, in ethnically diverse, non-white decedents over age 90, although these persons are the fastest growing segment of the US population. In July 2018, the Life after 90 study began enrollment and is an ongoing cohort study of Kaiser Permanente Northern California members aged 90+ with recruitment across different racial/ethnic groups of individuals with no prior diagnosis of dementia in their medical record. Brain donation was available to all interested consenting participants. As of January 2021, 173 (26%) participants enrolled in autopsy (18% Asian, 12% African American, 12% Latino, and 10% as multiracial) with 8 deceased and neuropathological evaluations completed. Average age of death was 96 years (range 91 to 105), 5 (62.5%) were female, 3 Latino, 3 Caucasian, and 2 multiracial. The most common neuropathology was Age Related Tau Astrogliopathy and was found in 6 cases (75%). With respect to Alzheimer's disease (AD), all participants had some level of neurofibrillary tangles with Braak stages between II and IV. Two participants lacked plaques (Amyloid-Beta or neuritic types), and the highest Thal phase was 4. Two met criteria for intermediate likelihood (25%), 4 low (50%), and 2 were considered not to have AD (25%); none had high likelihood of AD. Four participants (50%) had Lewy bodies (LBs), 1 in olfactory bulb/tract only, 2 Transitional, and 1 with Diffuse. Hippocampal sclerosis was not seen in any whereas TDP-43 inclusions were detected in 2 participants (25%). Diffuse LB, TDP-43 inclusions, and intermediate AD cooccurred in one (50%) of the dementia participants while all were lacking in the other. Preliminary results of the first 8 deaths in this multiethnic cohort of oldest-old individuals indicate that numerous brain pathologies are present with advanced age. Further work with this study will examine the clinical im-pact of this pathological heterogeneity.