RENAL DISFUNCTION TEAM PARALLEL TO HIGHER SENILE PLAQUE FORMATION IN OVX MICE.
Santanta, HS¹; Pedrosa, DF¹; Lopes, RPM¹; Figueiredo, I¹; Rangel, LBA¹; Silva, IV¹.

1. Aging Cell Biology Laboratory, Morphology Department, Health Science Center, Universidade Federal do Espirito Santo, Vitoria, ES, Brazil.

Alzheimer’s disease (AD) is classified as an amyloidosis. Histopathologically, AD is mainly characterized by the accumulation of senile plaques (also called amyloid plaques or AP) in the brain which may be also found in other organs, such as kidneys and liver. The major risk factor for AD is the age, although it postmenopausal women exhibits higher disease risk when compared to age-paired men. Aiming to determine the effect of lacking in ovarian hormones in AP formation in brain and kidney we studied ovariectomized (OVX) female mice (Mus musculus, C57Black6, n = 10, aging 6 months-old), comparing them to the corresponding controls (SHAM operated). Two months after surgery, animals were sacrificed and tissues, plasma, and 24 hours urine were collected. It was determined that OVX led to increase in AP formation in brain by fluorescence microscopy. In parallel, it was verified a two-fold increase in 1-14b amyloid peptide (1-14bAP) in urine (7.6 ± 0.1 for OVX vs. 6.0 ± 0.1 for SHAM, n = 5, p ≤ 0.01) measured by ELISA. Total proteinuria was accessed by Silver Staining of TCA precipitated urinary protein by SDS-PAGE. These experiments showed that OVX led to high molecular weight protein urinary excretion whereas it was not observed in SHAM mice. Measurements of AP within the kidney are still preliminary although Tioflavin S fluorescence suggests that OVX mice has an increase in amyloid spots in kidney cortex as well. Taken together, these results indicate that lacking of ovarian hormones may lead to AP deposition in brain as well likely in kidney as well. However, whether this effect is due to raised levels of circulating 1-14bAP still needs to be further analyzed.

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