Menopause is a natural consequence of aging in women which result in many negative symptoms. One of the distinctive changes in postmenopausal individuals is a decline in function of hypothalamic-pituitary-gonadal (HPG) axis. HPG axis is the key system that regulates reproduction by controlling uterine and ovarian cycles with various hormones (GnRH, LH, FSH, E2, P4).

The median eminence serves as a bridge between hypothalamus and pituitary gland in HPG axis and is the location of peptide releasing hormones. We are comparing how the microenvironment of the median eminence of different age rhesus monkey respond to hormone treatment. Particularly, we focused on the changing relationship between glia and GnRH neuroterminals. Age-related structural changes, as observed in the rat (image below), may contribute to the negative symptoms experienced during menopause and determine how subjects respond to hormone treatments.

**EXPERIMENTAL DESIGN**

**ANIMALS:**
- Young adult (~12 years)
- Aged adult (~21 years)

**TREATMENTS:**
- Vehicle
- E2 constant
- E2 constant + P4 cyclic

Ovariectomized (OVX) female rhesus macaque monkeys, housed at UC Davis Primate Center, received hormone treatments or peanut oil (vehicle) for 2 years. Our methods depicted to the right.

**RESULTS & DISCUSSION**

**EXAMPLE RESULTS**

Knowledge of how the micro environment of the median eminence changes due to age and hormone treatment provides insights to the functions of the GnRH neurons during menopause. This insight may allow for better treatment options for pre-menopausal / menopausal women.

**REFERENCES & ACKNOWLEDGEMENTS**


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