INTRODUCTION

- The endogenous cannabinoid system (ECS) plays an essential role in human homeostasis. Human cannabinoid receptor 1 (CNR1) gene encodes unique CB1R transcript variants.
- Maternal Nutrient Restriction (MNR) affects offspring development through fetal programming.
- The ECS modulates offspring’s behavioral responses to nutritional stimuli through Temporal Cortex (TC) as a target of exo and endogenous cannabinoids.

OBJECTIVE

To determine the fetal sex-specific nutritional regulation of CB1R and CB1 transcript variants in temporal cortex of a baboon model (Papio spp.) of MNR near term.

MATERIALS & METHODS

RESULTS

DISCUSSION

The only data available to date regarding MNR effects on the offspring’s CB1R expression is available in rodent model (Fig6), authors showed sex-specific behavioral and brain changes. In the female offspring of MNR mothers in non-human primate model low arousal, poor attention, and persistence, and difficulty modulating activities are reported (Figure 7).

CONCLUSIONS

- Endogenous activation of CB1R may serve as a compensatory mechanism for caloric restriction-associated decreased insulin and glucagon concentrations.
- Our data might explain the more variable and lower levels of persistence and attention in the female offspring of nutritionally restricted mothers.

REFERENCES


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