INTRODUCTION

Huntington’s disease (HD) is a hereditary, progressive, neurodegenerative disorder with clinical manifestations of motor dysfunctions, cognition deterioration, psychiatric symptoms, and personality changes. It is caused by a genetic mutation resulting in an expansion of the Huntington disease gene (HDN) in the brain and resulting in a toxic gain-of-function of the protein huntingtin. This protein leads to an important role in the formation and modulation of behavioral transmission systems known to be involved in the formation and modulation of behavioral impact functions or malfunctions, keeping the protein aligned with the host (Hickey & Chesselet, 2003; Marsden, 2003).

Recently, several studies have reported on the role of HDN in the striatum. Given it is unlikely that any one mechanism or brain region is solely responsible, several parallel and/or interdependent disruptions may underlie expressed neuropathology underlying cognitive deterioration remains understudied. This study aims to explore the HDN role in the striatum and to investigate the specific neuropathology underlying cognitive deterioration.

METHODS

Male heterozygous (HET) and homozygous (HOM) KI HDN+/- mice and wild-type (WT) mice are studied. Original breeder pair mice are from Jackson laboratories with additional litters bred in our colony and maintained on a 12:12 hr. day/night cycle. Diet restriction begins at 35 days to maintain body weight and water is available ad libitum in home cages.

EXPERIMENTAL TIMELINE

One day prior to microdialysis, animals are tested for hypoactivity (A) and grip strength (B). Grip strength is measured by holding tension until the animal is released at this point in the study and the force required to pull the animal over the back of the head (C) is measured. Significance has been made to refine protocols and microdialysis in our colony and the relationship between animal care and health and the studies within this protocol differ in the procedure and intervention. Significant progress has been made to refine protocols and microdialysis to achieve increased success in the procedure, and intervention. Significant progress has been made to refine protocols and microdialysis to achieve increased success in the procedure.