

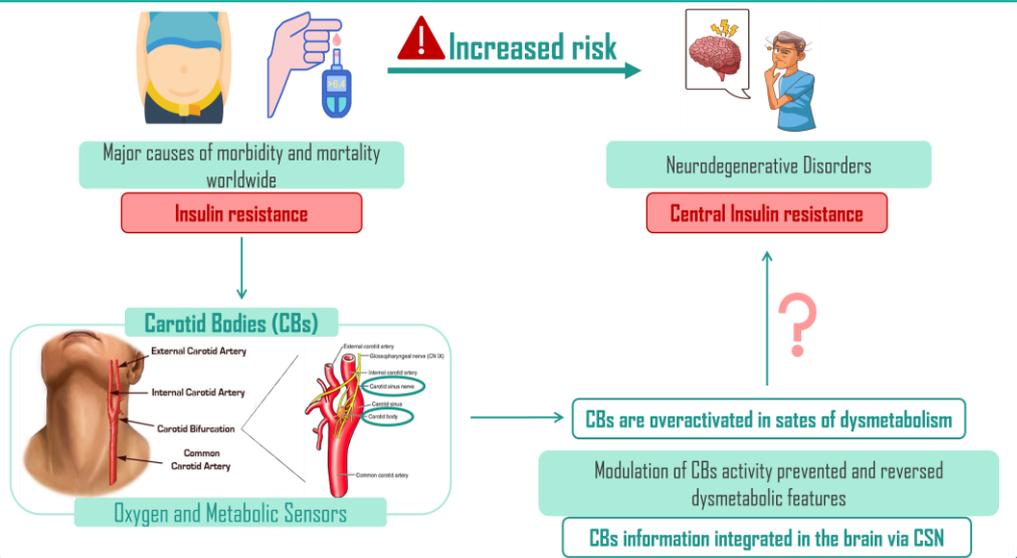
Carotid sinus nerve resection prevents cognitive dysfunction in an animal model of dysmetabolism

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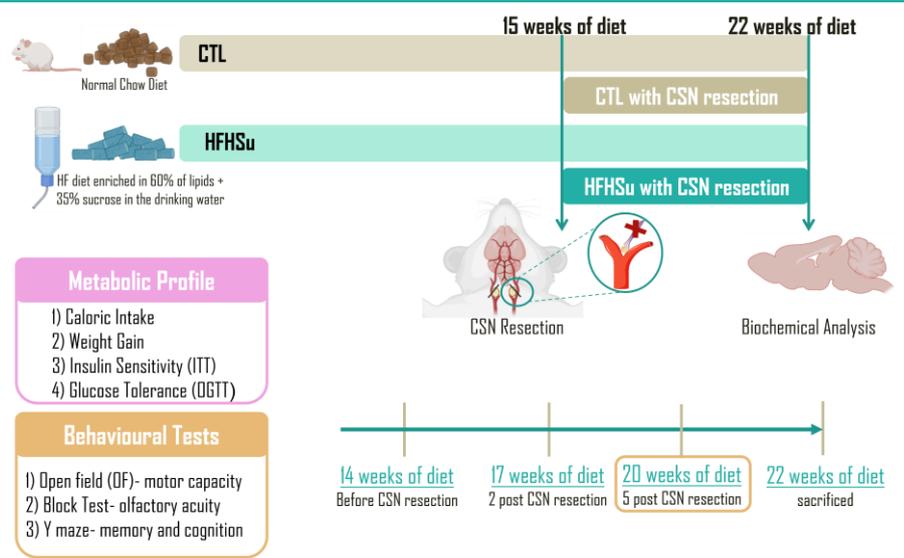
CEDOC- Chronic Diseases Research Centre, NMS- NOVA Medical School Lisbon, Portugal



Background



Experimental Design



Modulation of CB activity can prevent brain insulin resistance and hyperinsulinemia-induced neurodegeneration

CSN resection decreased caloric intake and liquid intake.

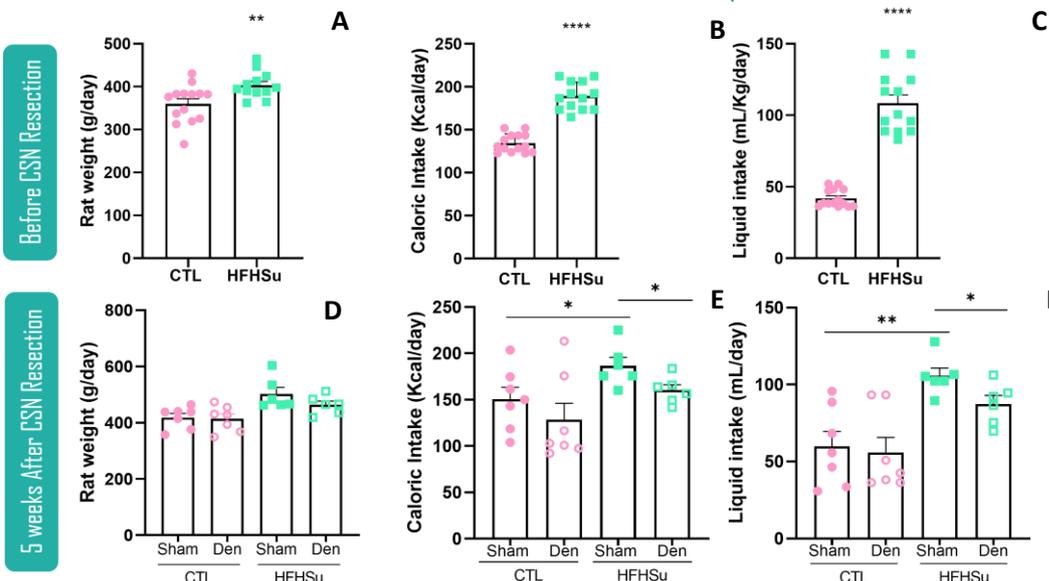


Figure 1. Metabolic Profile of CTL and HFHSu animals before and 5 weeks after CSN resection. Effect of HFHSu diet and CSN resection on **A), D)** weight gain, **B), E)** caloric intake, and **C), F)** liquid intake. Data are represented as mean \pm SEM. 2WAY ANOVA tests * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. N= 6-7 animals

CSN resection reverts insulin resistance and attenuates glucose intolerance in the HFHSu animals

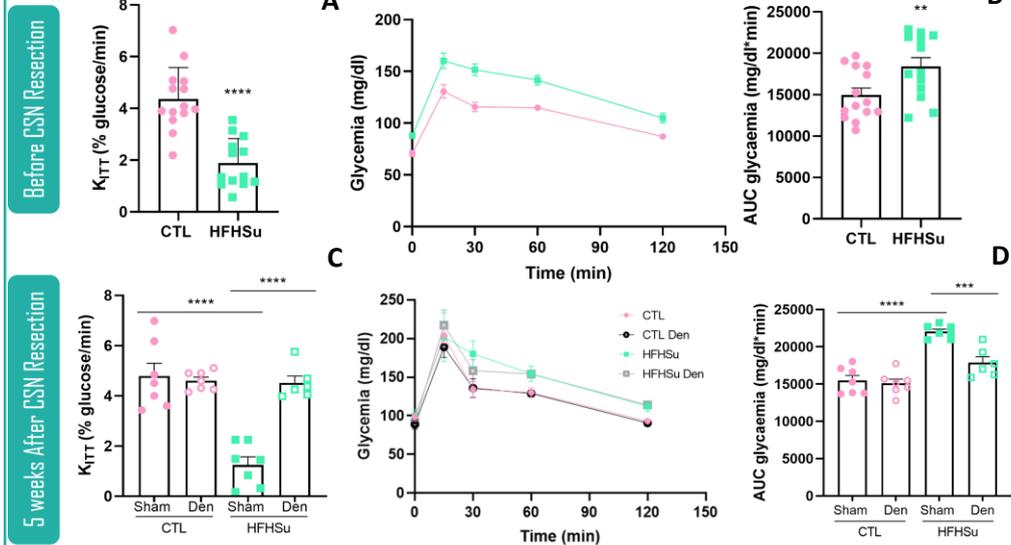


Figure 2. Effect of HFHSu diet and CSN resection on Insulin sensitivity and Glucose Tolerance. **A)** Constant of Insulin Tolerance Test (KITT) before CSN resection, and **C)** 5 weeks after CSN resection. **B)** Glucose tolerance depicted as glucose excursion curves, and as the area under the curve (AUC) obtained from the glucose excursion curves, before CSN resection, and **D)** 5 weeks after surgery.

Before CSN resection, no differences were observed between the groups. At 20 weeks of diet, in the Y-maze test, HFHSu animals spend less time on the novel arm, and the CSN resection prevented this phenotype

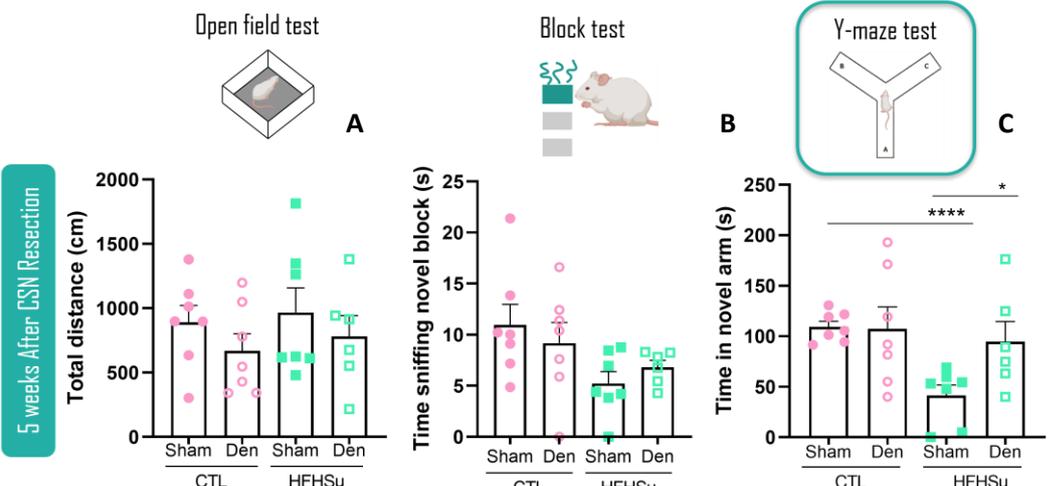
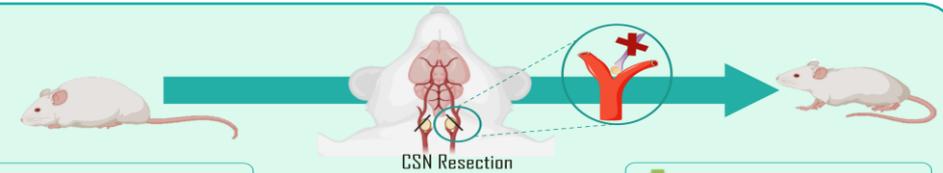


Figure 3. Behaviour Phenotyping of HFHSu and CTL animals after CSN resection. Effect of HFHSu diet and CSN resection on **A)** open field test, **B)** block test and **C)** y-maze test. Data are represented as mean \pm SEM. 2WAY ANOVA tests * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. N= 6-7 animals



Carotid body modulation might protect against hypercaloric diets induced-cognitive impairment

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