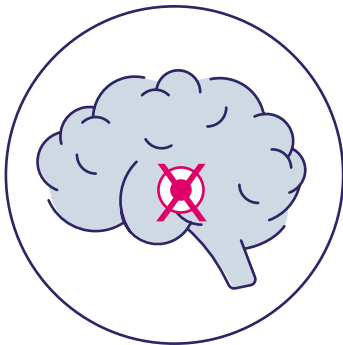


Acquired hypothalamic obesity



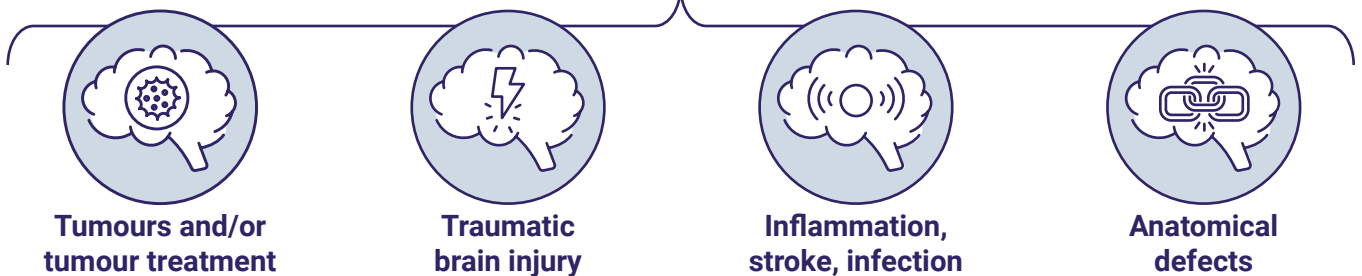
What is acquired hypothalamic obesity (aHO)?

aHO is a severe, devastating disease, characterised by accelerated and sustained weight gain resulting from physical injury or structural abnormality of the hypothalamus, with MC4R pathway disruption and other hypothalamic functional impairment.

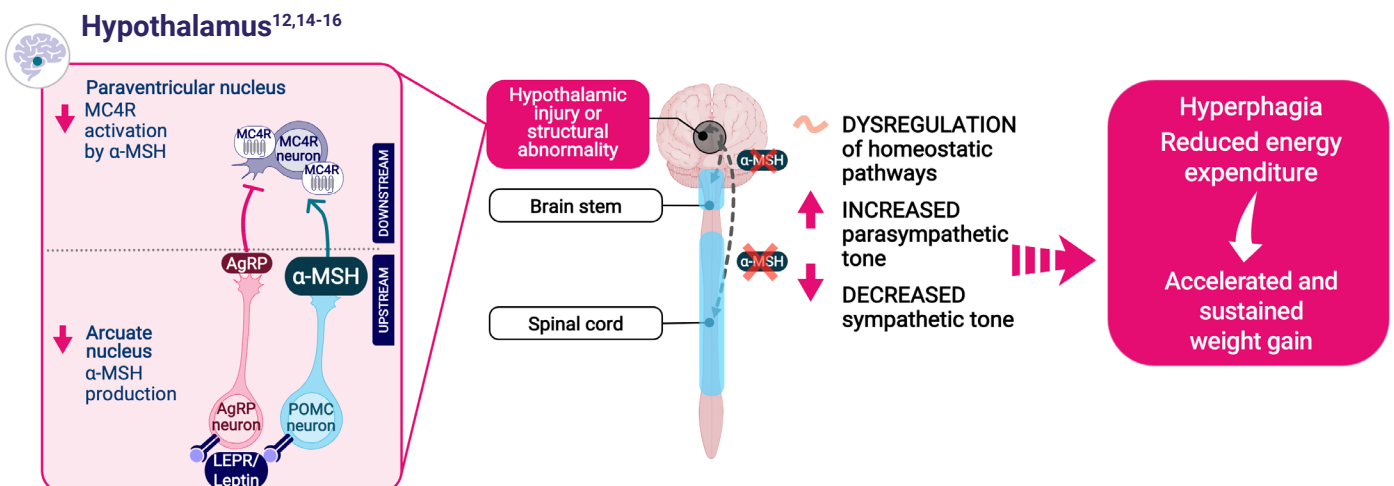
The MC4R pathway in the hypothalamus is crucial for maintaining energy homeostasis through regulation of satiety, hunger, and energy expenditure, all of which impact body weight¹⁻⁶

Impairment of the MC4R pathway can arise following physical injury or structural abnormality of the hypothalamus resulting in energy imbalances that may lead to accelerated and sustained weight gain seen in aHO⁷

Identified causes of aHO⁸⁻¹²



Physical injuries or structural abnormalities of the hypothalamus may disrupt the MC4R pathway, decreasing the production of α -MSH and potentially leading to aHO^{4,8,13}



α -MSH, α -melanocyte-stimulating hormone; AgRP, agouti-related peptide; aHO, acquired hypothalamic obesity; LEPR, leptin receptor; MC4R, melanocortin-4 receptor; POMC, proopiomelanocortin.

Disruption of the MC4R pathway causes the key clinical symptoms observed in aHO⁹

Three key features of aHO:⁹



Hyperphagia (pathological, insatiable hunger)



Reduced energy expenditure



Accelerated and sustained weight gain

Additional features of aHO:¹⁷

- Decreased physical activity & apathy
- Sleep problems
- Altered sense of thirst
- Mood or behavioural changes
- Temperature dysregulation

If you identify these symptoms in your patients following a tumour, surgery, radiotherapy, stroke or other brain injury, alongside physical injuries or structural abnormalities of the hypothalamus, it may indicate aHO

aHO impacts the physical and psychological well-being of patients and caregivers¹⁸

Patients with aHO have:



Increased risk of endocrine and CV complications^{19,20}



10.2 fold greater risk of developing CVD (vs general population)²¹



2.8 fold greater risk of developing T2D (vs general population)²¹



If left unmanaged, aHO can lead to early mortality in patients²²

Early recognition of aHO symptoms is critical for limiting or reversing the increase in weight that could otherwise lead to these potentially life-threatening complications

Please speak to a Rhythm representative for more information on acquired hypothalamic obesity

aHO, acquired hypothalamic obesity; CV, cardiovascular; CVD, cardiovascular disease; MC4R, melanocortin-4 receptor; T2D, Type 2 Diabetes.

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