

Characteristics and behaviours of hyperphagia⁴



**Heightened
and prolonged
hunger**



**Severe preoccupation
with food**
(hyperphagic drive)



**Longer time to
reach satiety**



**Food-seeking
behaviors**
(night eating, stealing
food, foraging for food
in trash)



**Shorter duration
of satiety**



**Distress and functional
impairment if denied
food**

What is a rare melanocortin-4 receptor (MC4R) pathway disease?

Rare MC4R pathway diseases can be caused by genetic variants within the melanocortin-4 receptor (MC4R) pathway (part of the central melanocortin pathway).¹

This can impair signaling in the pathway that controls hunger, leading to insatiable hunger and increased body weight.

Should your patient be evaluated for a rare MC4R pathway disease?

Look for the following signs²



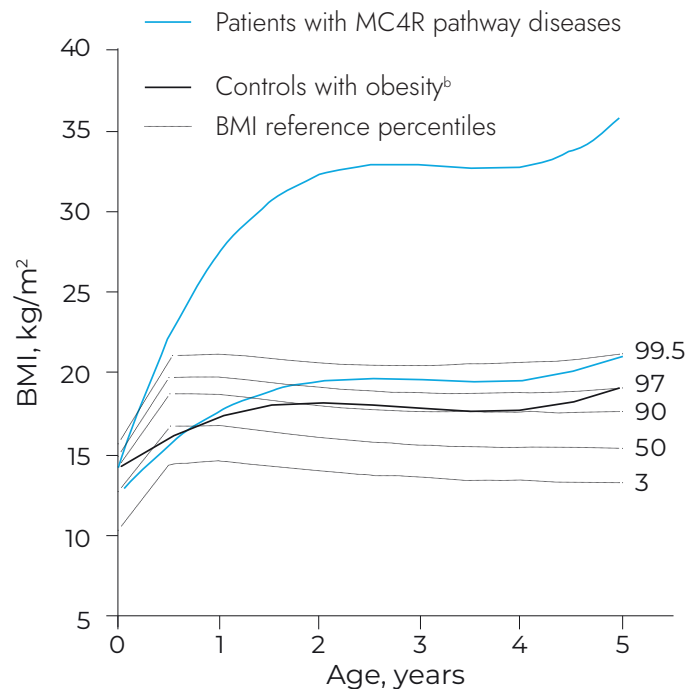
**Early-onset,
severe obesity^a**



**Hyperphagia
(insatiable hunger)**

^a Early-onset is typically at age 2 to 5 years.

Growth curves in patients with early-onset, severe obesity^{3,b}



^b Controls with obesity have a BMI >30 kg/m² by age 14 to 16 years and do not have a variant in *LEP*, *LEPR*, or *MC4R*.

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References: 1. Yazdi F, et al. *PeerJ*. 2015;3:e856. 2. Huvenne H, et al. *Obes Facts*. 2016;9(3):158-173. 3. Kohlsdorf K, et al. *Int J Obes (Lond)*. 2018;42(9):1602-1609. 4. Heymsfield SB, et al. *Obesity (Silver Spring)*. 2014;22(suppl 1):S1-S17.

Abbreviations: MC4R, melanocortin-4 receptor; LEP, leptin; LEPR, leptin receptor.