No link between ‘obesity gene’ and ability to lose weight, say experts

Findings suggest that environmental factors might dominate over genetic profile

People with one of the genetic profiles associated with increased body weight (known as the FTO gene) respond equally well to diet, exercise, and drug based weight loss interventions as the rest of the population, concludes a study in The BMJ today.

The findings suggest that carrying the FTO gene does not appear to affect a person’s ability to lose weight.

Obesity is a major public health burden and its prevalence is increasing worldwide. With an estimated 2.1 billion adults now overweight or obese, there is an urgent need to develop more effective strategies for preventing and managing obesity.

Some experts argue that genes play a significant role in the development of obesity, while others say that changes in our environment are responsible for increasing obesity. In reality, the extent to which genes determine the ability to lose weight remains unclear.

So an international team of researchers set out to test the relation between the FTO gene and weight loss interventions using data from almost 10,000 participants in eight randomised control trials. Study design and quality were taken into account to minimise bias.
Participants with the FTO gene were slightly (0.89 kg) heavier than those not carrying the gene at the start of the trials (baseline).

However, the researchers found no relation between FTO and the ability to lose weight. Changes in body mass index, body weight, and waist circumference by FTO genotype did not differ by intervention type, intervention length, ethnicity, sample size, sex, or baseline body mass index and age category.

The authors acknowledge several limitations in their analysis, but say this is “an important finding for the development of effective weight loss interventions in the context of the global epidemic of obesity.”

And they conclude that future strategies for managing obesity “should focus on improving lifestyle behaviours, principally eating patterns and physical activity, since these will be effective in achieving sustained weight loss irrespective of FTO genotype.”

In a linked editorial, Dr Alison Tedstone, chief nutritionist at Public Health England, says the causes of the obesity epidemic are multiple and complex, but current evidence suggests they have little to do with gene profiles.

She argues that, if we are to turn back the tide of obesity, a focus on personalised interventions based on the genome “may not pay off, at least in the short term.” Instead, she says “a rebalancing of research towards whole systems approaches including environmental drivers may be of greater benefit to the population in the long term.”

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**Note to Editors**
Research: FTO genotype and weight loss: systematic review and meta-analysis of 9563 individual participant data from eight
randomised controlled trials
http://www.bmj.com/content/354/bmj.i4707

Editorial: Obesity treatment - are personalised approaches missing the point?
http://www.bmj.com/content/354/bmj.i4980