Scientists find how obesity gene works, a clue to treatment

20/08/2015

Scientists have finally figured out how the key gene tied to obesity makes people fat, a major discovery that could open the door to an entirely new approach to the problem beyond diet and exercise.

The work solves a big mystery: Since 2007, researchers have known that a gene called FTO was related to obesity, but they didn't know how, and could not tie it to appetite or other known factors.

Now experiments reveal that a faulty version of the gene causes energy from food to be stored as fat rather than burned. Genetic tinkering in mice and on human cells in the lab suggests this can be reversed, giving hope that a drug or other treatment might be developed to do the same in people.

The work was led by scientists at MIT and Harvard University and published online yesterday by the **New England Journal of Medicine**.

The discovery challenges the notion that "when people get obese it was basically their own choice because they choose to eat too much or not exercise," said study leader Melina Claussnitzer, a genetics specialist at Harvard-affiliated Beth Israel Deaconess Medical Center. "For the first time, genetics has revealed a mechanism in obesity that was not really suspected before" and gives a third explanation or factor that's involved.

Independent experts praised the discovery.

"It's a big deal," said Dr. Clifford Rosen, a scientist at Maine Medical Center Research Institute and an associate editor at the medical journal.

"A lot of people think the obesity epidemic is all about eating too much," but our fat cells play a role in how food gets used, he said. With this discovery, "you now have a pathway for drugs that can make those fat cells work differently."

Researchers can't guess how long it might take before a drug based on the new findings becomes available.