
The Fat-Busting Potential of Neuropeptide Y

By NED POTTER

July 2, 2007 —

We generally shy away from reporting animal studies. It's not a judgment on their value to science, or on objections to how animals are treated; the problem is that the payoff in human beings may be far away -- but television viewers may not hear that, no matter how diligently we try to tell them not to run to their doctors.

But we've been talking to Dr. Steve Baker of Georgetown University Medical Center for about a year now, and he bubbles with excitement about the work he's been doing. It's only in mice--there, I've said it --but he and his colleagues believe they've found a mechanism that controls the amount of fat in the body.

"It's really liposuction in a bottle. You know, you can take the compound out, inject it and basically the fat would melt away," he said when we sat down.

Baker was on a team led by Dr. Zofia Zukowska, chair of Georgetown's Department of Physiology and Biophysics, looking at the chemical mechanisms behind the formation of fat.

Their major finding--made, as many are, almost by accident--is that a chemical neurotransmitter called neuropeptide Y is found extensively in fatty tissue. They've know about NPY for 25 years, but were mostly trying to see how it acts in the brain when one is under severe or prolonged stress. In this week's Nature Medicine, they report NPY appears to be a mechanism that tells the body to build blood vessels so fatty tissue can grow.

What's more, there's already a compound--NPY antagonist in their shorthand--that bonds to the same chemical receptors NPY would. The researchers gave their mice small injections of this chemical blocker, and the mice lost weight. Without changing their fatty diets or making them exercise.

Baker is a plastic surgeon. Some of his interest is in creative fat for reconstructive surgery. What the researchers may have found is a switch mechanism--a way to turn fat production on and off.