Alzheimer's as contagious as mad cow disease

Some sporadic cases could be related to an infection

Is Alzheimer's as contagious as mad cow disease? The results of a study published online today in Molecular Psychiatry open the door to the possibility that some sporadic forms of the disease may have a similar origin to that of bovine spongiform encephalopathy, or Creutzfeldt-Jakob disease. In fact, American scientists are targeting an "infectious process", similar to the one that acts in prion diseases.

Researchers at the University of Texas Health Science Center in Houston, led by Claudio Soto, injected diseased human brain tissues into mice, finding that the animals develop dementia in this way. "Our results open to the possibility that some sporadic forms of Alzheimer's may
originate from an infectious process - says Soto - which occurs in other neurological diseases, such as mad cow disease".

The mechanism at work behind this form of dementia, therefore, would be very similar to that of prion diseases: a normal protein is altered and is capable of spreading, transforming healthy proteins into diseased ones. "Bad" proteins build up in the brain, forming plaque deposits that are thought to kill neuronal cells in Alzheimer's.

Of the approximately 5.4 million Alzheimer's cases in the US, 90% are sporadic. And these would be precisely the cases in the sights of researchers. The study shows, in fact, an infectious spread of Alzheimer's in animal models that do not usually develop this form of dementia.

The researchers injected brain tissue from an Alzheimer's patient into some mice, comparing the results with those of other animals into which tissue from a healthy subject had been injected. Well, no test subjects in the control group showed signs of the disease, while virtually all the others developed plaques and other Alzheimer's-typical alterations.

"We took a mouse model that does not spontaneously develop any brain damage, then injecting a small amount of human brain tissue affected by Alzheimer's directly into the brains of the animals - explains Soto - So we saw that the mouse got sick and that Alzheimer's it has spread to other parts of the brain. We are currently working to understand if the transmission of the disease can also occur in real life, through more “natural” routes of exposure ». 