

How ‘minor insults to the brain’ could fuel Alzheimer’s

When it comes to the perpetrator of Alzheimer’s disease (AD), the finger of blame has long pointed to hard deposits of protein in the brain known as amyloid plaques. But smouldering signs of inflammation are also clearly evident in the background.

Now [a paper in *Nature*](#) reveals how the two processes connive. During inflammation, specks of a protein called ASC are released. Like the grit inside a pearl, they seed the deposition of amyloid. The authors – Carmen Venegas at the University of Bonn, Germany and colleagues – showed that in mice, removing the specks prevented the formation of amyloid and slowed progression of the disease.

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The findings show how inflammation and amyloid may collude in a vicious cycle to cause the disease. Amyloid deposits cause inflammation; inflammation releases ASC; ASC seeds the deposition of more amyloid plaque.

What this means, explains senior author Michael Heneka, is that minor insults to the brain – perhaps a virus or mild injury – could snowball into a major inflammatory cascade that kills off neurons.

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Heneka points out that population studies already show the use of anti-inflammatory drugs like ibuprofen allay the onset of AD. But he says these drugs are too non-specific. Many drug companies are now focused on finding drugs that inhibit the function of the inflammasome in a particular tissue. “This is all under way,” he says.

Read full, original post: Brain inflammation sows the seeds of Alzheimer’s