



... Lymphatics

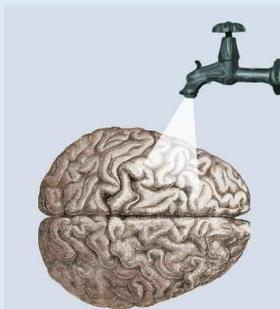
New Research Connects Lymph System To Brain !!



Why Is This News Such A Big Deal?

It was standard anatomical dogma that the only way into the brain was through the BBB (blood brain barrier)

What the discovery of lymphatic vessels says is that there are other avenues available to the brain for brain washing.



What? Some people actually need brainwashing?

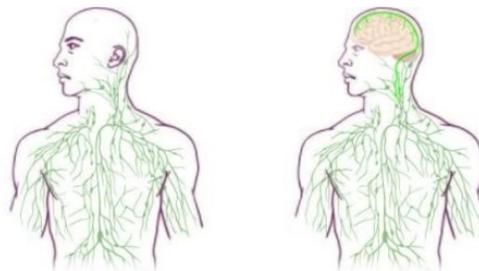
Yup, afraid so!

Well, the technical term is called Autophagy. When we sleep the brain goes through an elaborate process of clearing out metabolic toxins.

It was thought this process was entirely controlled by enzymes and it was not clear why some people would clear these brain toxins and others would store them.

It turns out that with this discovery, the lymphatic system plays a part.

SUMMARY: In a stunning discovery that overturns decades of textbook teaching, researchers at the University of Virginia School of Medicine have determined that the brain is directly connected to the immune system by vessels previously thought not to exist. That such vessels could have escaped detection when the lymphatic system has been so thoroughly mapped throughout the body is surprising on its own, but the true significance of the discovery lies in the effects it could have on the study and treatment of neurological diseases ranging from autism to Alzheimer's disease to multiple sclerosis.



"Instead of asking, 'How do we study the immune response of the brain?' 'Why do multiple sclerosis patients have the immune attacks?' now we can approach this mechanistically. Because the brain is like every other tissue connected to the peripheral immune system through meningeal lymphatic vessels," said Jonathan Kipnis, PhD, professor in the UVA Department of Neuroscience and director of UVA's Center for Brain Immunology and Glia (BIG). "It changes entirely the way we perceive the neuro-immune interaction. We always perceived it before as something esoteric that can't be studied. But now we can ask mechanistic questions."

"We believe that for every neurological disease that has an immune component to it, these vessels may play a major role," Kipnis said. "Hard to imagine that these vessels would not be involved in a [neurological] disease with an immune component."

New Discovery in Human Body

Kevin Lee, PhD, chairman of the UVA Department of Neuroscience, described his reaction to the discovery by Kipnis' lab: "The first time these guys showed me the basic result, I just said one sentence: 'They'll have to change the textbooks.' There has never been a lymphatic system for the central nervous system, and it was very clear from that first singular observation -- and they've done many studies since then to bolster the finding -- that it will fundamentally change the way people look at the central nervous system's relationship with the immune system."

Alzheimer's, Autism, MS and Beyond

The unexpected presence of the lymphatic vessels raises a tremendous number of questions that now need answers, both about the workings of the brain and the diseases that plague it. For example, take Alzheimer's disease. **"In Alzheimer's, there**

In light of what we know about Echinacea -- that it is first and foremost a lymphatic drainage herb and only later became known as an immune modulating herb -- this native American remedy may hold some promise for people with degenerative brain conditions.

Sound far fetched? Well, it wasn't that long ago that the notion of microbes was considered insanity and hand washing was looked upon with suspicion.

There is a great deal of medicine in the healing power of plants. Echinacea is but one.

In addition, any plant that upregulates detoxification in the body (beets, cruciferous vegetables, spanish black radish, Kale and amino acids that support glutathione production) is going to support autophagy.

I, for one, have taken Echinacea liquid every day for the last 7 years. For no other reason than I understood that it had a hermetic effect on immunity. That is, Echinacea is to immunity what exercise is to muscle. A little bit of good stress helps keep it strong.

It is not yet confirmed, but I'd speculate with good certainty that persons who use Echinacea long term are likely to be the ones with healthier brains as they age precisely because of improved lymphatic drainage of the brain.

Control blood sugar and add detox to that recipe and now you've got a great long term brain health strategy.

Eat well and keep in touch,

Dr. Olejak

Sources:
<http://www.nature.com/nm/journal/v19/n8/full/nm3232.html>

are accumulations of big protein chunks in the brain," Kipnis said. "We think they may be accumulating in the brain because they're not being efficiently removed by these vessels." He noted that the vessels look different with age, so the role they play in aging is another avenue to explore. And there's an enormous array of other neurological diseases, from autism to multiple sclerosis, that must be reconsidered in light of the presence of something science insisted did not exist.

Journal Reference:

[Antoine Louveau, Igor Smirnov, Timothy J. Keyes, Jacob D. Eccles, Sherin J. Rouhani, J. David Peske, Noel C. Derecki, David Castle, James W. Mandell, Kevin S. Lee, Tajie H. Harris, Jonathan Kipnis. Structural and functional features of central nervous system lymphatic vessels. Nature. 2015; DOI: 10.1038/nature14432](#)

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For a more detailed treatment on the value of Echinacea, see:

<http://www.kalberred.com/Portals/6/kometib/allergy%20and%20immune%20system/Immunomodulator/Elanos/3.pdf>

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1193558/>