Concussions and Glutathione

Concussion is a public health crisis affecting vulnerable populations including youth athletes. There is a promising new intervention that could be effective in some cases.

At the root of brain inflammation are microglia cells, the brain's immune cells. (1) There are ten times more microglia cells than neurons. When they are damaged from concussion or other things that cause oxidative stress, they become inflamed.

It's important to take brain inflammation seriously because it can rapidly degenerate the brain, raising the risk of dementia, Alzheimer's, Parkinson's, and other brain degenerative diseases. In fact, scientists have discovered that brain aging is more related to the brain's immune cells than the neurons, as previously thought.

In the long run, chronic neuroinflammation results in neuron death and brain degenerative disorders.

Glutathione is involved in the disposal of peroxides by brain cells and in the protection against reactive oxygen species. (2)

Medications do not address brain inflammation.

Glutathione is the body's number one antioxidant reducing oxidative stress and therefore the number one anti-inflammatory. In fact, glutathione recharges the other antioxidants.

Glutathione is difficult to get into the body because the gut will destroy both the glutathione and the precursor L-cystine. Older technology has done what it can to get extra glutathione into the body; however, past methods have had limited success.

Attempts to deliver with lipids, gels, sprays, NAC or other compounds containing the precursor or glutathione only provide a small percentage to the cells. Even glutathione IVs are limited in that the glutathione needs to break down to its amino acids and then attempt to reach the cells to be rebuilt into glutathione an hour later.

The new breakthrough technology allows the delivery of billions of glutathione molecules directly into the cells within 70 seconds. This timing could be very critical under certain conditions.

Because glutathione has a half life of 90 minutes, you would literally need an IV every day at \$100 to \$500 per shot to match the use of effectively a mouth wash for three minutes a day for about \$2 a day.

In addition, glutathione has shown to improve sports ability and decrease recovery time by up to 70% creating a significant athletic advantage.

- 1. <u>https://thefnc.com/research/do-you-have-brain-inflammation/</u>
- 2. https://pubmed.ncbi.nlm.nih.gov/10880854/

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