Harvard Neurologist: Head Injuries, Risk of Parkinson’s and Brain Regeneration

By Marilyn Schairer

When Boxing Champion Mohammed Ali developed Parkinson's disease 32 years ago, it raised the issue of the correlation between boxing and the disease, and severe head trauma and the disease -- including athletes that suffer from concussions.

With Ali's death Friday, June 3, 2016, the discussion surrounding the degenerative disease including its cause, symptoms, and treatment is surfacing again, but the focus is shifting more toward research, rehabilitation and prevention.

In the case of Parkinson's disease, it's clear that if you have severe head injuries it can increase the risk of getting Parkinson's by 50 percent, according to Dr. Ole Isacson, Professor of Neurology at Harvard Medical School and the Director of the Center for Neuroregeneration Research at Mclean Hospital, which is noted for its ground-breaking neuroscience research.

Medical studies also show if you have a genetic risk of Parkinson's (meaning a family member has the disease), severe head injuries are usually associated with a five year earlier onset of a classic case of Parkinson's disease, according to Dr. Isacson.

"When the brain gets squished inside the skull it's actually bruised, you see redness for three days to two weeks afterward," says Dr. Isacson.

He says the brain starts producing proteins that will aggregate after each injury, having a cumulative effect.

Dr. Isacson says he met Ali on several occasions and in observing him, he says he had classic characteristics of a person who suffered from Parkinson's disease; body and hand shaking, trembling and loss of speech.

In terms of brain rehabilitation, Dr. Isacson says exercise is one of the best things for the brain. He says doctors recommend Parkinson's patients have a good exercise schedule.

In addition, he's conducting research that focuses on neuronal regeneration. According to Dr. Isacson, research in the last decade among patients with Parkinson's, Huntington's, Alzheimers's and ALS has developed greatly using implantation of fetal, cultured or induced stem cell-derived neurons in the adult brain to help connect pathways in the brain that have been damaged or lost.