## **IPAK LAUNCHES VACCINE SAFETY RESEARCH PROGRAM**

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Amid the firestorm of controversy and debate on vaccines sweeping the country, one small not-for-profit research institute is taking a close – and importantly independent - look at a new problem with vaccines: evidence that they can create autoimmune disorders in some people.

In February 2016, The Institute for Pure and Applied Knowledge, located north of Pittsburgh, Pennsylvania, is launching a new research program in vaccine safety research. The program will focus on the question of why some vaccines may cause autoimmune diseases, and how.

"We've seen the case reports, we've seen the studies. We know that most proteins encoded by viruses contain small sequences that match nearly every protein in humans" said IPAK CEO & President, Dr. James Lyons-Weiler. "But those aren't the ones that bother us. Our researchers have hits on much long epitopes with high selfantigenicity– and other research labs are finding matches, as well".

Lyons-Weiler recently finished writing his third book, "Genetic and Environmental Causes of Autism".

IPAK's work is mostly computational, followed by validation in animals and studies of immunologic profiles in patients. The match predictions they are turning up are intriguing, say Lyons-Weiler because "they were right where molecular biology and specific details of autoimmunity disease we're studying tell us they should be".

The specific details of their research await laboratory confirmation and peer-review publication.

"Other research institutions have published intriguing data indicating that a variety of vaccines can lead to a large number of autoimmune disorders due to accidental matches between the pathogen and human host. It's called 'molecular mimicry'."

He says there are "gaps" in the knowledge base available to date, however, such as whether such instances are due to convergent molecular evolution, or due to hosts picking up genes from viruses. He also says that results require independent validation. But he says the research is critically important.

In 2015, researchers at the University of Chicago, in collaboration with Mount Sinai Hospital and Emory University found evidence of molecular mimicry between a protein in A(H1N1) influenza virus and a peptide in humans. Such similarity is not likely due to chance, and the researchers considered it sufficient concern for an increasing number of cases of narcolepsy. Molecular validation showed that the HGN peptide sequence was found in a protein expressed by hypocretin neurons which in humans regulate sleep/wake cycles. Another independent study by Stanford University verified the presence of autoantibodies in narcoplepticsm, but then retracted their study because they could not reproduce the results.

Lyons-Weiler agrees. "We know the vaccine caused narcolepsy. Only one of the H1N1 vaccine products induced an autoimmune disorder – another did not. This tells us there is a need for a screen of all vaccines for molecular mimicry, and we need to hunt down the mechanisms" said Lyons-Weiler.

"There's a great deal of evidence of problems with other virus/human matches as well, including influenza vaccines, MMR, HPV. Tetanus, enteroviruses and others. We see reason for concern for vaccine induced autism via

molecular mimicry, as well as Diabetes, Celiac disease, post-vaccination demyelination syndromes, and Guillain-Barre syndrome."

He said that a few bacteria with medicinal use appear to have the same problem.

When asked whether people should stop getting vaccines due to molecular mimicry, Dr. Lyons-Weiler was straightforward:

"First of all, that's their choice. If anyone wants to forego vaccination for medical, ethical, religious, or any other reasons, they have that right under national and international law. People should be respectful of individual rights, and each person has a right to informed consent. Plus, I believe Pharma has learned a lesson here: they can avoid molecular mimicry, and therefore, they should."

The vaccine that induced narcolepsy was produced by Glaxo Smith Kline (GSK), who has compensated families for their injuries. The version by Novartis did not. GSK has published an article in which they confirmed that the epidemiological link was strong enough to consider the hypothesis of molecular mimicry "valid": they have paid millions to families who have peptides that match their vaccine.

When asked whether we should all skip vaccines because they might turn our immune systems around on us, and attack specific cells, he says, for now, he says, the answer is 'No'. "Not all of us, no. So far the risk is aggregated into specific families. But anyone who is concerned may have good reason, because this is a diffuse threat. We don't handle diffuse threats very well, so we need more data. It's too soon to conclude that there is an issue with everyone – the cases studies reported had specific variants that allowed the vaccine to cause the autoimmunity. The link is real, that's not debated. But we need more data on possible matches, and we need it right away".

He says that many of the matches seen involve the machinery of the immune system itself. It appears that molecular mimicry can cause our self-defense system to attack itself, which results in what Dr. Lyons-Weiler has termed 'vaccine-induced immunologic damage'.

To date, all of IPAK's research in this area is crowdsource funded. Their ultimate aim is to provide Pharma with computational screens using IPAK's computational pipeline to help insure vaccine safety during production. Positive hits could provide vaccine developers with the knowledge needed on which peptides to exclude from which viruses. They also plan to provide people with the ability to see whether their genome sequence encodes matches to viruses in vaccines that might be a cause for concern of the use of specific vaccines with specific people.

He says that the FDA has been right to be cautious about genomic sequencing, but that people can see the match for themselves. "But the FDA is way, way behind on the issue of whether genetic screening should be required for vaccine-induced autoimmunity, and most of the public is not aware that it is a serious issue for some people, and might be an important issue for all of us. We have the know-how, we're simply just not using it".

"We want to empower people to enjoy their right to truly informed consent. That, to me, is a big deal."

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