

# Alzheimer's and Herpes Zoster

Horace Heffner March 5, 2010

The relationship between Alzheimer's and herpes zoster should be studied. A solid link between herpes simplex virus-1 (HSV1) and Alzheimer's has been found. See: "Cold Sore Virus Linked To Alzheimer's Disease: New Treatment, Or Even Vaccine Possible":

<http://www.sciencedaily.com/releases/2008/12/081207134109.htm>

<http://tinyurl.com/5ujyxx>

"Science Daily (Dec. 7, 2008) — The virus behind cold sores is a major cause of the insoluble protein plaques found in the brains of Alzheimer's disease sufferers, University of Manchester researchers have revealed."

"They believe the herpes simplex virus is a significant factor in developing the debilitating disease and could be treated by antiviral agents such as acyclovir, which is already used to treat cold sores and other diseases caused by the herpes virus. Another future possibility is vaccination against the virus to prevent the development of the disease in the first place."

"Professor Ruth Itzhaki and her team at the University's Faculty of Life Sciences have investigated the role of herpes simplex virus type 1 (HSV1) in AD, publishing their very recent, highly significant findings in the Journal of Pathology. Most people are infected with this virus, which then remains life-long in the peripheral nervous system, and in 20-40% of those infected it causes cold sores. Evidence of a viral role in AD would point to the use of antiviral agents to stop progression of the disease."

"The team discovered that the HSV1 DNA is located very specifically in amyloid plaques: 90% of plaques in Alzheimer's disease sufferers' brains contain HSV1 DNA, and most of the viral DNA is located within amyloid plaques. The team had previously shown that HSV1 infection of nerve-type cells induces deposition of the main component, beta amyloid, of amyloid plaques. Together, these findings strongly implicate HSV1 as a major factor in the formation of amyloid deposits and plaques, abnormalities thought by many in the field to be major contributors to Alzheimer's disease."

"The team had discovered much earlier that the virus is present in brains of many elderly people and that in those people with a specific genetic factor, there is a high risk of developing Alzheimer's disease."

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It is not a giant leap to consider the possibility that Herpes zoster, the virus that causes chicken pox, and later in life Shingles, might be linked to Alzheimer's, or at least the onset process of Alzheimer's. Like Alzheimer's, and unlike cold sores, which are caused by the Herpes simplex virus, Shingles occurs late in life. There is a vaccine for Shingles effective for people over 60 years of age. See:

<http://www.mayoclinic.com/health/shingles-vaccine/AN01738>

<http://tinyurl.com/create.php>

Since Shingles vaccine is recommended by the Mayo Clinic for everyone over 60 anyway, it might be a very good investment for those individuals, one earning unexpected dividends. Shingles is pretty horrific as it is. See the photos here:

[http://www.skincare.com/info\\_Herpes\\_zoster.htm](http://www.skincare.com/info_Herpes_zoster.htm)

<http://tinyurl.com/4aeeg>

The somewhat obvious potential link suggested here between Alzheimer's and Herpes zoster (varicella zoster), and possibly the Shingles vaccine, a vaccine against Herpes zoster, could be studied by survey.

The percentage of the population vulnerable to Alzheimer's may take a significant change in the future. A vaccine for chicken pox was licensed for use in Japan and Korea in 1988, and the United states in 1995, and the MMRV vaccine licensed in 2005. See:

<http://www.vaccineinformation.org/varicel/qandavax.asp>

<http://tinyurl.com/6nuc5y>

The chicken pox vaccine utilizes a live weakened virus, so it's effect on Alzheimer's could be to increase the incidence, or it could be prophylactic.

"One in 10 people over age 65 and nearly half of all individuals who reach the age of 85 will develop Alzheimer's disease." See:

[http://www.health.state.ny.us/diseases/conditions/dementia/alzheimer/alzheimer\\_qaa.htm](http://www.health.state.ny.us/diseases/conditions/dementia/alzheimer/alzheimer_qaa.htm)

<http://tinyurl.com/yfn8239>

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"Currently, 90% of adults are immune to chickenpox because of having had the disease as children. If you have a history of chickenpox disease, you don't need testing or vaccination, [for chicken pox] unless you are working in an environment where your immune status must be documented (such as a hospital). If you are uncertain of your medical history, blood testing can be done to see if immunization is appropriate." See:

<http://www.vaccineinformation.org/varicel/qandavax.asp>

<http://tinyurl.com/6nuc5y>

Being immune to chicken pox does not provide immunity to Shingles, despite the fact both are due to the same virus. Despite 90% of adults being immune to chicken pox, Shingles occurs in 25% of individuals.

"About 25 percent of all adults, mostly otherwise healthy, will get shingles during their lifetimes, usually after age 40. The incidence increases with age so that shingles is 10 times more likely to occur in adults over 60 than in children under 10."

See:

[http://www.ninds.nih.gov/disorders/shingles/detail\\_shingles.htm](http://www.ninds.nih.gov/disorders/shingles/detail_shingles.htm)

<http://tinyurl.com/dl3az>

It is also a reasonable hypothesis that genital Herpes may also play a role in Alzheimer's, and perhaps has and will play an increasing role with time due to the sexual revolution in the 1960's which was brought about by birth control and cultural changes.

"Genital Herpes can infect anyone who has sex, even if only once. An estimated 25% of adults from varying backgrounds, income levels and ethnic groups have Herpes type 2 causing genital Herpes. Herpes type 2 is often so mild that an estimated two thirds of those infected don't even realize they have it. Herpes type 2 rarely causes complications and more rarely spreads to other parts of the body." "It is estimated that herpes simplex 1 now accounts for as many as 30% of all genital herpes cases in the U.S. and 2-5% of the recurring outbreaks are associated with the herpes type 1 virus." See:

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[http://www.herpesonline.org/articles/herpes\\_virus.html](http://www.herpesonline.org/articles/herpes_virus.html)

<http://tinyurl.com/yddtj3f>

Herpes prevalence, in particular HSV-2 prevalence, varies with geographic location and sex.

"Information on age- and sex-specific prevalence of herpes simplex virus (HSV) types 2 and 1 infections is essential to optimize genital herpes control strategies, which increase in importance because accumulating data indicate that HSV-2 infection may increase acquisition and transmission of human immunodeficiency virus. This review summarizes data from peer-reviewed publications of type-specific HSV seroepidemiologic surveys. HSV-2 prevalence is, in general, highest in Africa and the Americas, lower in western and southern Europe than in northern Europe and North America, and lowest in Asia. HSV-2 and -1 prevalence, overall and by age, varies markedly by country, region within country, and population subgroup. Age-specific HSV-2 prevalence is usually higher in women than men and in populations with higher risk sexual behavior. HSV-2 prevalence has increased in the United States but national data from other countries are unavailable. HSV-1 infection is acquired during childhood and adolescence and is markedly more widespread than HSV-2 infection." See:

<http://www.ncbi.nlm.nih.gov/pubmed/12353183>

<http://tinyurl.com/ye4me24>

A study of Alzheimer's vs HSV-1 and HSV-2 virus prevalence across age groups and geographical location may be useful.

Even an amateur created web based survey might be useful to explore some of the relationships, in order to justify the expense of a professional survey. Such a survey might even be conducted as a high school science project. Such a survey might include the following questions:

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1. Geographical location? (providing a multiple choice of regions)
2. Age? (providing a multiple choice of age groups)
3. Sex?
4. Have you had cold sores or Herpes of any kind?
5. Have you had Shingles?
6. Have you had chicken pox?
7. Have you had a chicken pox or MMRV vaccination?
8. Have you had a Shingles vaccination?
9. Have you been diagnosed with Alzheimer's?
10. Have you been diagnosed with dementia?

It would be important to obtain a large proportion of Alzheimer's respondents.  
Perhaps the Alzheimer's Foundation of America would be helpful in this regard. See:

<http://www.alzfdn.org/>

or the Alzheimer's Association:

<http://www.alz.org>