

vScience Bites Radio

*small bites you can remember
to bite them in the behind*

Date: January 16, 2020

NEW CONTACT EMAIL:

www.Courses4MasteryEDU.com

Text MVI to 555888 to join our email list

The Shingles Vaccines: Part 1

The Illness

Humans are the only known host for the herpes varicella-zoster virus (VZV) that causes chickenpox. A very benign infection in the vast majority of children, chickenpox used to be called a “rite of passage” disease, with most kids contracting the infection between the ages of 8 and 12. Recovery left behind lifetime immunity and in little girls, antibodies to be passed to their infants through breast milk later on life.

Historically, shingles was mostly diagnosed in those who were elderly, immunocompromised, had insulin-dependent diabetes or were taking drugs such as steroids, chemotherapy or biologics. After the widespread use of the chickenpox vaccine, which was first introduced in 1995, very little wild varicella virus remains in circulation.

Without re-exposure, the dormant chickenpox virus can reactivate in adults, leading to the painful rash referred to as herpes zoster (HZ) or shingles. The zoster rash is typically unilateral, does not cross the midline and follows a distribution along a dermatome, an area of the skin supplied by nerves from a single spinal root. The painful rash usually lasts 7-10 days but can last 3 to 4 weeks, or more.

For full explanation about Shingles – what it is and the potential for side effects, this is the full text article:

July 2013 - New England Journal of Medicine, 369(3), 255–263.

“Herpes Zoster.” Full text <https://www.sci-hub.tw/10.1056/NEJMcpl302674>

Ingredients: Shingles shot contains:

- **Viral Particles:** At least 19,400 PFU (plaque forming units) – **14 times** more viral particles than in the chickenpox vaccine
- **Animal cells:**
 - Pig: porcine **gelatin** – 15.58mg – known to cause anaphylaxis and food allergies
 - Cow: bovine serum – known to cause anaphylaxis and food allergies
 - Aborted Human cells: MRC-5 cells
 - Antibiotic: Neomycin
 - Chemical: sodium chloride (table salt) – 4.0 mg
 - Chemical: MSG, 0.62mg
 - Chemical: sodium phosphate dibasic, 0.57mg
 - Chemical: potassium phosphate monobasic, 0.10mg
 - Chemical: potassium chloride, 0.10 mg
 - Chemical: sucrose, 31.16 mg

Article: Sept. 2017 – Journal of Infectious Disease – Full Text

“Clinical Usage of the Adjuvanted Herpes Zoster Subunit Vaccine (HZ/su): Revaccination of Recipients of Live Attenuated Zoster Vaccine and Coadministration With a Seasonal Influenza Vaccine.”

<https://academic.oup.com/jid/article/216/11/1329/4237498>

Primary Side effect: Post-herpetic Neuralgia

The most frequent debilitating complication of HZ is persistent neuropathic pain known as postherpetic neuralgia (PHN) reflecting damage to the sensory ganglion in which the latent virus reactivated and to adjacent neural structures. Early treatment with antiviral drugs reduces the severity and duration of HZ but **does not prevent the development of PHN**, which may persist for months or years and is frequently refractory to treatment. More than a million new cases of HZ occur each year in the United States and this number is increasing with aging of the population and the increased use of immunosuppressive therapies.

Article: June 2005 – NEJM – Full text

“A Vaccine to Prevent Herpes Zoster and Postherpetic Neuralgia in Older Adults”

NEJM, June 2005, Vol 352, No. 22 <https://www.sci-hub.tw/10.1056/NEJMoa051016>

Referred to as the Shingles Prevention Study, 38,500 adults 60 years or older given one injection of zoster vaccine (Zostavax). Follow up was 3.1 years to assess if any of the recipients contracted shingles. Conclusion:

- The **burden of illness** is the measure of severity and duration of pain and discomfort
 - Reduced overall burden of HZ illness by **61.1%** - less pain/shorter duration
 - 65.5% in subjects aged 60–69 yrs
 - **55.4% in subjects aged ≥70 yrs** – barely 50:50
 - Reduced the overall incidence PHN **66.5%**
 - 65.7% in subjects aged 60–69 yrs;
 - 66.8% in subjects aged ≥70 yrs
 - **Reduced the incidence of shingles by 51.3%**
 - 63.9% in subjects aged 60–69 years
 - **37.6% in subjects aged ≥70 years).**

But not so fast.

In a Letter to the Editor, dated October 31, 2013, regarding a different study, Dr. Roy Fried, MD MHS did this analysis on the data: <https://www.sci-hub.tw/10.1056/NEJMc1310369>

- **For persons over 60**, when data from FDA safety study was combined data from the Shingles Prevention Study, there is a **36% increase incidence of serious AEs** within the first 42 days
- **For persons over 80**, the ability of the vaccine to prevent shingles or PHN was **no better than placebo** AND these seniors had nearly **double the rate of serious AEs** in the first 42 days after the vaccination.
- An FDA safety showed a 26% increase in the rate of serious adverse events in the first 42 days after herpes zoster vaccination (P = 0.16).