Healthy Older Adults Should Receive the Herpes Zoster Vaccine

Tseng HF, Smith N, Harpaz R, et al. Herpes zoster vaccine in older adults and the risk of subsequent herpes zoster disease. JAMA 2011;305:160–6.

Study Overview

Objective. To assess the risk of herpes zoster (shingles) after receiving the herpes zoster vaccine in a community setting with a mixed population via routine clinical practice.

Design. Retrospective observational cohort study.

Setting and participants. Participants were members of the Kaiser Permanente Southern California integrated health care system (KPSC) who were immunocompetent, community-dwelling adults aged ≥ 60 years between 1 Jan 2007 and 31 Dec 2009. Subjects were excluded if found to be immunocompromised (ie, with human immunodeficiency virus, leukemia, lymphoma, or having received immunosupressive agents) within 1 year before the index date of vaccine administration. Vaccinations received by members are tracked by the Kaiser Immunization Tracking System regardless of whether administered in or outside of KPSC. Vaccinated adults were matched 1:3 to unvaccinated members who were randomly sampled and paired based on date of birth (± 1 years) from the index date of herpes zoster vaccine administration.

Data collected. Patient data on demographics, services, and diagnoses are tracked in the KPSC electronic health record databases from outpatient, emergency department (ED), and inpatient services. Covariates included gender, self-reported race, health care utilization (defined as the number of hospitalizations or outpatient or ED visits), and the presence of comorbid chronic conditions (including diabetes, heart, lung, kidney, or liver disease) all 1 year prior to the index vaccination date.

Main outcome measures. The incidence of herpes zoster or ophthalmic herpes zoster diagnoses as defined by ICD-9 codes (053.xx and 053.2x) for inpatient, outpatient, and ED visits divided by the total number of person-years.

Main results. White persons, female patients, and individuals who had more outpatient visits but fewer chronic diseases were more likely to receive the zoster vaccine. The incidence of shingles for vaccinated vs. unvaccinated patients was 6.4 (95% confidence interval [CI], 5.9–6.8) vs. 13.0 (95% CI, 12.6–13.3) cases per 1000 person-years, respectively. In adjusted analyses, regardless of age stratification or chronic diseases, vaccinated patients had a 55% reduced incidence of developing herpes zoster (hazard ratio, 0.45 [95% CI, 0.23–0.61]).

Conclusion. Administration of the herpes zoster to healthy older adults (≥ 60 years) in the community setting was associated with a lower incidence of developing herpes zoster or ophthalmic herpes zoster.

Commentary

The year 2011 marked the first year that aging baby boomers began to turn 65 years old. The disproportionate number of older adults versus younger people in society will be sustained not only by the large baby-boom generation (individuals born between 1 Jan 1946 and 31 Dec 1964), but also by health and technology advances allowing people to have longer lives. Herpes zoster is the reactivation of latent varicella zoster virus in dorsal root ganglia nerves that usually manifests as a painful vesicular rash

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(shingles). It is considered a serious condition not only because of the significant and debilitating pain it causes, but also because of the complications that can result from it, including ophthalmic herpes zoster (which untreated can lead to permanent vision loss) and postherpetic neuralgia (pain that persists for greater than 30 days and may continue for many years in the area of the original rash) [1,2]. Unfortunately, 90% of US adults have the varicella zoster virus, and older age is a significant risk factor for it to resurface as herpes zoster [2]. Early therapy, including use of antiviral medications, accelerates healing time and limits the risk of complications.

Secondary to the wide array of symptoms associated with herpes zoster during the 1- to 5-day prodrome period (headache, malaise, photophobia, abnormal skin sensations ranging from itching to severe pain), early detection and treatment is difficult. Instead, preventative efforts to reduce latent eruption of the varicella zoster virus are the most effective. Studies demonstrating the success of live attenuated zoster vaccine to reduce the risk of herpes zoster are not new. To date, however, there is only low penetration of vaccine use (only 2% to 7% of older US adults are vaccinated) [3,4]. Despite the fact the vaccine was one of the first to be reimbursed by Medicare Part D, limited awareness of this coverage by physicians and their patients along with high costs of the vaccine are partially responsible for its limited use [5].

This study by Tseng et al provides further evidence that the herpes zoster vaccine can effectively reduce individual risk of developing herpes zoster and be easily disseminated in the community health care setting. Similar to data from a randomized, double-blind, placebo-controlled trial that demonstrated the effective use of the zoster vaccine to reduce herpes zoster and postherpectic neuralgia [6], this study also found equally comparable success in the reduction of these conditions when integrated into routine clinical care, and no differences in effect with old, older, and oldest patients. Patients and clinicians should advocate and promote the use of the vaccine as a part of good health prevention. The upfront cost of vaccine treatment can save costs downstream, eliminating the need for weeks to months of treatment of pain and possible complications.

Limitations of this study include the use of retrospective data that is subject to potential misidentification or misclassification of conditions (ie, herpes zoster). The KPSC study population, while large in size, was also fully insured, thus limiting the generalizablity of study findings. Additionally, KPSC provided the zoster vaccine to members at little or no charge, eliminating the challenges of costs and reimbursement that most patients now face in obtaining the vaccine as part of their routine clinical care.

Applications for Clinical Practice

The results of this study further support the use of herpes zoster vaccine to eligible older adult patients of all ages, races, and ethnicities. Prevention of shingles in the older adult population could significantly reduce the risk of developing postherpetic neuralgia and improve quality of life among the elderly. Physicians should be more aggressive about making the herpes zoster vaccine available to their healthy older adult patients.

—Review by Ula Hwang, MD, MPH

References

1. Thomas SL, Hall AJ. What does epidemiology tell us about risk factors for herpes zoster? Lancet Infect Dis 2004;4:26–33.
2. Gnann JW Jr, Whitley RJ. Clinical practice: herpes zoster. N Engl J Med 2002;347:340–6.
3. Lu PJ, Euler GL, Jumaan AO, Harpaz R. Herpes zoster vaccination among adults aged 60 years or older in the United States, 2007: uptake of the first new vaccine to target seniors. Vaccine 2009;27:882–7.
4. Schiller JS, Euler GL. Vaccination coverage estimates from the National Health Interview Survey: United States, 2008. 2009.
5. Hurley LP, Lindley MC, Harpaz R, et al. Barriers to the use of herpes zoster vaccine. Ann Intern Med 2010;152:555–60.
6. Oxman MN, Levin MJ, Johnson GR, et al. A vaccine to prevent herpes zoster and postherpetic neuralgia in older adults. N Engl J Med 2005;352:2271–84.

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