Post-Shingles Neuralgia by Any Definition Is Painful, but Is It PHN?

Shingles or herpes zoster (HZ) has received a great deal more attention since the introduction of the adult HZ vaccine. Originally approved for individuals aged 60 years and older, the vaccine is now approved for individuals aged 50 years and older who are not immunocompromised. In their landmark study of the vaccine, Oxman et al reported a mean 51.3% decrease in shingles incidence after receipt of the immunization and a 39.0% decrease in postherpetic neuralgia (PHN) among those who did develop shingles after the vaccine. These authors defined postherpetic neuralgia as pain continuing 90 days or longer after the onset of the shingles rash, and all efficacy data are based on that definition.

In the current issue of Mayo Clinic Proceedings, Klompas et al present a nicely developed algorithm for identifying shingles or acute HZ using combinations of administrative data. The ability to use administrative data without medical record review or patient contact saves time and money in studying HZ trends and vaccine effectiveness. Similar algorithms for assessing HZ incidence have been used by others. The algorithm developed by Klompas et al to identify HZ is reported to be 98% sensitive with a 93% positive predictive value. Algorithms from other authors have achieved slightly lower sensitivity and positive predictive values. Whether it is the algorithm or the data-set used that resulted in the improvements is unclear, but administrative data can clearly provide important information about shingles.

The claim by Klompas et al to have high sensitivity and positive predictive values for identifying PHN may not be as easily accepted. The problem is not their results but rather their use of a PHN definition other than the widely accepted definition of PHN used elsewhere in the literature. The definition of PHN used by Klompas et al requires only 30 days of pain, whereas the definition used by Oxman et al requires 90 days of pain after onset of the shingles rash. These widely divergent definitions of PHN leave clinicians, researchers, policy makers, and patients confused and unable to make important therapeutic and policy decisions.

The confusion begins with the prevalence of PHN. Using a definition of only 30 days of HZ-associated pain rates, Klompas et al report PHN incidences as high as 30% in people younger than 40 years and up to 74% in those older than 60 years. Using a PHN definition of HZ-associated pain lasting 90 or more days, Oxman et al reported rates of 6% in those younger than 40 years and 12% in those 60 years and older. In most longitudinal studies, more than 50% to 75% of pain present at 30 days appears to be gone by 90 days after HZ. This means that the prevalence of PHN varies 6-fold based on the definition used.

Consider the problems of assessing the efficacy or cost-effectiveness of PHN prevention. Patients, policy makers, and physicians must make calculations from which they base the value of the HZ vaccine. We know the efficacy and have multiple studies assessing the cost-effectiveness if we use the 90-day definition of PHN by Oxman et al, but no studies have assessed the vaccine efficacy of preventing HZ-associated pain between 30 and 90 days.

Consensus is needed on a definition of PHN so that results will be transparent and comparable. Absent transparency of definitions in the title of their article, Klompas et al could mislead groups eager to substitute the more easily obtained administrative data definitions of PHN compared to data based on the more traditional PHN definition. By the authors’ own statement, they do not know the value of the algorithm at 60 or 90 days.

So what should be the definition of PHN? Do we accept the 30-day definition because it is more easily measured by administrative data? Klompas et al claim that the 30-day data are sufficient for PHN surveillance work. Alternatively, do we use the 90-day definition because it was used in the registration trials for the zoster vaccine?

For now, resolution of this issue may be as simple as accurate labeling of results (ie, to emphasize the definition of PHN). Klompas et al could and probably should report their results as sensitivity for identifying HZ and 30-day HZ-associated pain rather than PHN. Or we could use labels like PHN-30, PHN-60, or PHN-90 for pain lasting at least 30, 60 or 90 days, respectively, until those with expertise in HZ, chronic pain, and PHN produce a single universally accepted definition of PHN. I hope all address these issues soon.

Barbara P. Yawn, MD, MSc
Department of Research
Olmsted Medical Center
Rochester, MN

Address correspondence to Barbara P Yawn, MD, MSc, Department of Research, Olmsted Medical Center, 210 Ninth St SE, Rochester, MN 55904 (byawn@olmmed.org).

© 2011 Mayo Foundation for Medical Education and Research

See also page 1146


