Black Children at Lower Risk of Shingles after Chickenpox Vaccine

*Genetic Explanation Is Most Likely, Researchers Think*

Philadelphia, Pa. (March 11, 2010) – Black children are less likely than white or Asian children to develop shingles (herpes zoster) after receiving the varicella vaccine to prevent chickenpox, reports a study in the March issue of *The Pediatric Infectious Disease Journal* (*ThePediatricInfectiousDiseaseJournal*). The journal is published by Lippincott Williams & Wilkins, a part of Wolters Kluwer Health, a leading provider of information and business intelligence for students, professionals, and institutions in medicine, nursing, allied health, and pharmacy.

The results are consistent with previous studies showing lower rates of herpes zoster in black versus white adults. “It is possible that genetic variation may explain some portion of varicella-zoster virus reactivation,” according to the new study, led by Dr. Hung Fu Tseng of Kaiser Permanente, Pasadena, Calif.

White and Asian Children at Higher Risk of Herpes Zoster

Using records from a large Kaiser Permanente health plan, Dr. Tseng and colleagues identified 122 children, aged 12 years or younger, who developed herpes zoster after receiving chickenpox (varicella) vaccine. Sometimes called shingles, herpes zoster is a painful, blistering rash that occurs when the varicella zoster virus (VZV), which causes chickenpox, becomes reactivated in the body.

Herpes zoster is much more common in adults than children, particularly children who have received the varicella vaccine. However, like natural VZV, the virus used in the varicella vaccine can become reactivated, causing shingles to occur later.

The 122 children with herpes zoster were matched for race, age, and sex to a group of vaccinated children who did not develop herpes zoster. Possible risk factors were analyzed.

The results suggested that black children were at significantly lower risk of developing herpes zoster. With adjustment for other factors, including time since varicella vaccination, herpes zoster risk was 60 percent lower in black children compared to white children and 70 percent lower compared to Asian children.

None of the children with herpes zoster had serious illness requiring hospitalization. Another recent study in the *Pediatric Infectious Disease Journal* (December, 2009) found that children receiving varicella vaccine are much less likely to develop herpes zoster than those with natural chickenpox and that, when the condition does occur, it is less severe.

The lower risk in black children is consistent with previous studies showing that rates of herpes zoster are lower in black than white adults. Those studies suggested several possible explanations for the lower risk of shingles in black adults, such as more infections or increased exposure to people with chickenpox.

However, none of these would account for a reduced risk of shingles in black children. Racial differences in access to health care are also unlikely in this case, since all of the children in the study were enrolled in an insurance plan providing equal access to care.
Having eliminated these possibilities, Dr. Tseng and co-authors believe that a genetic explanation is most likely. "The lower risk of herpes zoster found in both black children and adults suggests the potential of an underlying genetic factor that modifies the risk of VZV reactivation," they write. Further studies to understand the reasons for this racial difference could also lend important clues as to how VZV becomes reactivated to cause herpes zoster.

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