

Infectious Diseases Update

Abstracts of current literature on epidemiology, diagnosis, and treatment

Series Editor: Jihad Slim, MD

VARICELLA-ZOSTER VIRUS PNEUMONIA IN PREGNANT WOMEN

A case-control analysis was conducted to determine the factors associated with increased risk for developing varicella-zoster virus (VZV) pneumonia during pregnancy. Pregnant women (N = 347) who contracted primary VZV infection during any trimester were enrolled at 10 tertiary perinatal centers. VZV infection was identified clinically, and VZV pneumonia was diagnosed by the presence of dyspnea or tachypnea and radiographic findings of interstitial infiltrates or nodular densities in the lung fields. Eighteen pregnant women with VZV pneumonia were identified and then compared with 72 matched control subjects. The following baseline factors were used to evaluate the relationship between the risk factors and VZV pneumonia: maternal age, rash onset at third trimester, vesicles (< 100 or ≥ 100), multiparity, smoking during pregnancy, and drinking ethanol during pregnancy. Mean gestational age at rash onset was 25.8 ± 8.8 weeks for patients with pneumonia and 17.7 ± 10.3 weeks for control subjects. Two variables significantly correlated with an increased risk for VZV pneumonia—smoking during the pregnancy and having at least 100 skin lesions. Researchers concluded that pregnant women with VZV infection may be more likely to develop VZV pneumonia if they are smokers or develop at least 100 skin lesions.

Harger JH, Ernest JM, Thurnau GR, et al. Risk factors and outcome of varicella-zoster virus pneumonia in pregnant women. *J Infect Dis* 2002;185:422-7.

EPIDEMIOLOGY OF RUBELLA, 1990 THROUGH 1999

An analysis evaluated the epidemiology of rubella and congenital rubella syndrome (CRS) in the United States from 1990 through 1999, assessing progress toward elimination of the diseases. Researchers analyzed demographic data obtained from 1990 through 1999 involving rubella cases reported to the National Notifiable Diseases Surveillance System and CRS cases reported to the National Congenital Rubella Syndrome Registry. The median number of annual reported cases of rubella was 232 (range, 128-1412) from 1990 through 1999; between 1992 and 1999, fewer than 300 rubella cases were reported annually, except in 1998. During the 1990s, the incidence of rubella in children younger than 15 years decreased (0.63 vs 0.06 per 100,000 in 1990 and 1999, respectively), whereas the incidence in adults age 15 to 44 years increased (0.13 vs 0.24 per 100,000). Interestingly, the incidence of rubella among Hispanic persons increased to a high of 0.97 per 100,000 in 1998; from 1997 through 1999, 83% of

infants with CRS were born to Hispanic mothers, and 91% of infants with CRS were born to foreign-born mothers. Further investigation of these facts suggests that most cases of rubella (and CRS) in the United States during the 1990s occurred in persons born (or with mothers born) in countries with nonexistent or recently implemented rubella vaccination programs. The current epidemiology in the United States demonstrates the effectiveness of a successful rubella vaccination program and suggests that the country is on the verge of eliminating rubella and CRS.

Reef SE, Frey TK, Theall K, et al. The changing epidemiology of rubella in the 1990s: on the verge of elimination and new challenges for control and prevention. *JAMA* 2002;287:464-72.

VARICELLA DISEASE AFTER VACCINE INTRODUCTION

An active surveillance project was conducted in Antelope Valley, CA, Travis County, TX, and West Philadelphia, PA, to establish baseline data and monitor trends in varicella disease following introduction of the varicella vaccine. From January 1, 1995, to December 31, 2000, sites including schools, universities, child care centers, hospitals, public health clinics, correctional facilities, homeless shelters, and households reported every 2 weeks any varicella cases that had occurred. In all sites, the number of reported cases of varicella markedly decreased in 1999. In the 3 communities surveyed, the total number of varicella cases declined 71% to 84% between 1995 and 2000. The most significant decrease in cases occurred among children age 1 to 4 years, but reported cases declined in all age groups. Hospitalizations caused by varicella declined from a range of 2.7 to 4.2 per 100,000 population from 1995 through 1998 to 0.6 and 1.5 per 100,000 in 1999 and 2000, respectively. By 2000, vaccine coverage in children age 19 to 35 months in Los Angeles County, Texas, and Philadelphia County had increased to 82.1%, 73.6%, and 83.8%, respectively. Researchers concluded that varicella disease has declined significantly in surveillance areas with moderate vaccine coverage and that continued implementation of existing vaccine policies should lead to further reductions of varicella disease throughout the United States.

Seward JF, Watson BM, Peterson CL, et al. Varicella disease after introduction of varicella vaccine in the United States, 1995-2000. *JAMA* 2002;287:606-11.

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