

# Unprotected People #4 Varicella (Chickenpox)

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## Three fatal varicella cases in unvaccinated young women

*Three fatal varicella (chickenpox) cases in young adult women were reported to the Centers for Disease Control and Prevention (CDC) by state health departments during January–April 1997. All three women were susceptible to varicella, unvaccinated, and infected by exposure to unvaccinated preschool-aged children who had contracted varicella. These three cases appeared in the Morbidity and Mortality Weekly Report (MMWR), May 16, 1997, vol. 76, no. 19 and are reprinted below.*

*NOTE: There are approximately 100 deaths and 10,000 hospitalizations from varicella each year in the United States. The CDC's Advisory Committee on Immunization Practices (ACIP) recommends that all susceptible children (12 months of age and older) and all susceptible adults be vaccinated.*

### **Case 1: Death of a 23-year-old woman**

On January 19, 1997, a 23-year-old woman in good health had onset of a classic varicella rash. In early January, her 2- and 5-year-old unvaccinated children had had varicella. On January 22, she had onset of shortness of breath and hemoptysis. When she was admitted to a local hospital on January 23, a chest radiograph indicated diffuse alveolar density consistent with varicella pneumonia, and treatment was initiated with oxygen and intravenous acyclovir. Her condition worsened, and she required intubation several hours after admission. Because of increasing respiratory distress, she was transferred to a referral hospital where treatment continued with oxygen, antibiotics, and intravenous acyclovir. On January 31, her rash became hemorrhagic, and she developed disseminated intravascular coagulation (DIC) and renal failure, followed by progression to multiple system failure; she died on February 2. Varicella zoster virus was cultured from skin lesions and from a tracheal aspirate.

### **Case 2: Death of a 25-year-old woman**

On March 11, 1997, a 25-year-old woman in good

health had onset of a classic varicella rash, fever, and headache. Her 4-year-old unvaccinated child had had onset of a varicella rash on February 23. On March 12, the woman had onset of cough, and on March 13, shortness of breath. On March 14, she sought care at a local emergency department (ED) because of increasing respiratory difficulty and confusion. Chest radiograph indicated bilateral infiltrates consistent with varicella pneumonia, and arterial blood gases indicated hypoxemia. Varicella encephalitis and pneumonia were diagnosed; she was admitted to the hospital, and treatment was initiated with oxygen and intravenous acyclovir. Four hours after admission, her respiratory difficulty increased, and she required intubation. On March 15, a computerized tomography of the brain revealed severe, diffuse cerebral edema, and she developed renal failure and coma. On March 16, she was transferred to a referral hospital for renal dialysis; an electroencephalogram indicated absence of electrical brain activity, and repeat chest radiographs indicated diffuse infiltrates. She died on March 17.

### **Case 3: Death of a 32-year-old woman**

On April 3, 1997, a 32-year-old woman with Crohn's disease sought medical evaluation at a local ED because of onset of abdominal and back pain. On March 7, therapy was initiated with 40 mg prednisone daily for an exacerbation of her Crohn's disease. By April 3, her steroid therapy had been tapered to 20 mg prednisone daily. On physical examination, she had mild, generalized abdominal tenderness with no specific signs or abdominal guarding. She was afebrile, and a white blood cell (WBC) count was normal. A benign abdominal syndrome was presumptively diagnosed, and she was discharged.

Her symptoms persisted, and on April 4, she sought medical evaluation at the office of her health-care provider. Findings on physical examination were un-

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changed. Although an abdominal radiograph, abdominal and pelvic ultrasounds, and a WBC count were normal, because of her underlying medical condition, she was referred for surgical consultation. On April 5, the abdominal pain persisted, and she returned to the ED for evaluation. A WBC count was  $15,000/\text{mm}^3$  (normal:  $3200\text{--}9800/\text{mm}^3$ ), and she was admitted to the hospital. Diagnoses of colitis and ileitis with possible perforation and intraabdominal abscess were considered, and treatment was initiated with broad-spectrum antibiotics. On physical examination, a maculopapular, vesicular rash with crusted lesions was observed on her trunk,

head, and neck. Varicella was presumptively diagnosed, and she was placed in isolation. The patient reported that she had had onset of a mild macular, nonpruritic rash on her back on April 3 and that she had been exposed on March 12 and 13 to her 4-year-old unvaccinated niece with varicella. On April 6, the vesicles became hemorrhagic, and she began bleeding from intravenous sites. She rapidly developed hypotension and DIC, and died from shock the same day. On autopsy, evidence of viral inclusion bodies in multiple organs was consistent with varicella, and varicella was determined to be the cause of death.