

Rubella Immunization Policies for Health Care Personnel

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Rubella vaccination of children in the United States has resulted in a shift in the age of affected and susceptible individuals toward older age groups. In an effort to reduce the incidence of congenital rubella syndrome, the American Academy of Pediatrics and the Advisory Committee on Immunization Practices have recommended rubella vaccine for all male and female medical personnel who might contract and spread rubella to pregnant women. A survey of hospitals and outpatient practices in Little Rock, Arkansas, revealed extremely low compliance with the recommendation, suggesting the need for further education or legislation on rubella immunization for health care personnel.

Since the introduction of live rubella virus vaccine in 1969, there has been a major decline in the incidence of rubella; the decline in incidence of congenital rubella syndrome has been notable but more modest.¹ In the United States, where the emphasis has been on the vaccination of younger age groups, there has been a shift in the age of affected individuals, with a preponderance of cases now occurring in those 15 years of age and older.^{1,2} Among women of child-bearing age and among young adults in general, there has been a persistence of the 10 to 24 percent susceptibility rate to rubella,^{1,3,4} resulting in continued outbreaks

of rubella in high schools and colleges, in military establishments, and in places of employment.²

At least eight outbreaks of rubella among medical personnel have been reported in the literature. Obstetrical personnel were involved in four of them.⁵ Experiences with outbreaks among medical personnel have led to regulations in some states (Maryland, New Jersey, Rhode Island, and New York) concerning susceptibility of hospital employees to rubella,⁵⁻⁷ but the ultimate effect of these regulations is yet to be determined.

The focus of rubella vaccine delivery has changed recently to include older age groups. Specifically both the American Academy of Pediatrics (AAP) and the Advisory Committee on Immunization Practices (ACIP) have recommended rubella vaccine (LRuV) for all male and female medical personnel who might contract and spread rubella to pregnant women (Table 1).^{8,9} A number

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of mechanisms have been proposed for instituting these recommendations within medical facilities, including vaccinating all employees, vaccinating those employees who are unable to show proof of immunity (positive rubella titer or record of rubella vaccination), or screening all personnel and immunizing those with inadequate rubella titers.

In an effort to determine compliance with the AAP and ACIP recommendations, hospitals and clinics in the Little Rock area were surveyed as to rubella immunization policies for employees.

Methods

The Little Rock telephone directory was used to generate a list of 41 family medicine practices, 24 obstetrical practices, 6 pediatric practices, and 9 hospitals in the Little Rock area. Telephone contact was made with all except 4 family medicine practices, 4 obstetrical practices, and 1 pediatric practice. The following questions were asked: (1) Do you have a policy for vaccinating employees against rubella? (2) If so, do you screen for rubella susceptibility prior to vaccination, and do you immunize just women, or do you immunize men and women? (3) How many people are employed in your practice? (4) Is there a board-certified physician in your facility?

If the answer to question 1 was no, question 2 was not asked.

Results

None of the clinics contacted had a policy for vaccinating employees against rubella. The facilities ranged in size from 1 physician with 1 or 2 assistants to 6 physicians with 14 assistants. Five of the family physicians were not board certified. Five of the obstetrical practices screened and vaccinated those female employees who requested it. One family physician initiated a policy for screening and immunizing all susceptible employees (men and women) after a conversation with the author. One obstetrician has plans to initiate a

Table 1. Highlights From Advisory Committee on Immunization Practices^a

- Rubella vaccine (LRuV) is recommended for*:
1. All children 12 months of age or older or 15 months of age or older when given in combination with measles vaccine, and susceptible children, after re-evaluation of immunization status, prior to entering school or day care
 2. Susceptible adolescent and adult women of child-bearing age if they say they are not pregnant and are counseled not to become pregnant for three months after vaccination**
 3. Male and female persons entering the military, educational, or training institutions who are unable to prove their immunity
 4. Male and female persons working in hospitals and clinics who might contract and transmit rubella to pregnant patients

*Unless contraindicated
 **ACIP believes that rubella vaccination of a woman who is not known to be pregnant and has no history of vaccination is justifiable without serologic testing

policy after reading some recent literature favoring it. Comments and interest were variable, ranging from "I hadn't given it (a policy) much thought, but it sounds logical," to "I've been vaccinating children for years."

Four of the nine hospitals surveyed had some policy in effect. One group of three hospitals (all part of the same hospital system) had initiated a rubella immunization policy in mid-1982. Their plan was to screen all new employees and recommend rubella vaccination at the employee's cost to all who were susceptible. Eventually old employees would be screened and vaccinated as well. Contacts within the epidemiology department at another major hospital stated that they required women of child-bearing age working in pediatrics to be immune.

The only children's hospital in the state had no strict policy currently. Their epidemiologist stated

that all women of child-bearing age are advised to check their immunization status and be vaccinated on their own if they are working in a "high-risk area." Conversations with the head of the Department of Infectious Disease, however, revealed that plans are being made to require employees (men and women) to be immune to rubella. In this hospital, questions about informed consent and the problems surrounding mandatory vaccination policy have delayed implementation.

The remaining four hospitals surveyed had no policy for immunization. One reason mentioned was that a policy for the use of the recently developed hepatitis vaccine was requiring a great deal of time, effort, and money.

Discussion

Despite recommendation by the ACIP and AAP to immunize adults working in hospitals and clinics, this survey indicated extremely low compliance among physician practices in the Little Rock area. Several large hospitals in the community are aware of the recommendations and are taking steps to comply.

Possible explanations for the lack of compliance among physician practices emerged from remarks made during the survey. A great many private physicians were not aware of the recommendations of the ACIP and AAP. Among hospitals and private physicians, there seems to be a fairly low awareness that most rubella now occurs in those aged 15 years and older, as exemplified by the policy that requires only women of child-bearing age working in pediatrics to be immune. In fact, pregnant women working with older age groups are more likely to be exposed to rubella infection. A large number of those surveyed considered it important to screen and immunize female personnel who requested it but apparently had not thought about the possibility of male employees contracting and spreading rubella.

The Arkansas Health Department is requiring vaccination of all its employees who cannot prove their immunity. Although this policy may result in the vaccination of a number of immune people, no significant side effects have been observed in

immune people who receive the vaccine. The following side effects are seen among nonimmune patients who receive the vaccine: mild to moderate arthralgias (up to 40 percent), rash, lymphadenopathy, arthritis (less than 1 percent), and paresthesias (rare).⁸

At the Family Medical Center in Little Rock, the outpatient unit for the Department of Family and Community Medicine, free screening is provided to employees who wish to avoid unnecessary immunization. An inexpensive passive hemagglutination slide test is utilized that provides a simple "immune" or "not immune" result (Abbott, Rubicell). Those employees who are not immune or those employees who choose not to be screened receive the vaccine.

Congenital rubella syndrome is a devastating and tragic disease. It would be even more tragic should that disease be contracted as a result of negligence on the part of the profession that swears to "first do no harm." The results of this survey suggest the need for further education or legislation on rubella immunization for health care personnel.

References

1. Prelud S, Serdula MK, Frank JA, et al: Rubella vaccination in the US: A ten year review. *Epidemiol Rev* 2:181, 1980
2. Rubella and congenital rubella, United States 1977-1978. *MMWR* 27:495, 1978
3. Dales LG, Chin J: Public health implications of rubella antibody levels in California. *Am J Public Health* 72:167, 1982
4. Blouse L, Lanthrup GC, DePuy HJ, Ball RJ: Rubella screening and vaccination program for US Air Force trainees: An analysis of findings. *Am J Public Health* 72:280, 1982
5. Rolk BJ, White JA, DeGirolami PC, Modlin JF: An outbreak of rubella among hospital personnel. *N Engl J Med* 303:541, 1980
6. McLaughlen M, Gold L: The New York rubella incident. *Am J Public Health* 69:287, 1979
7. Rubella in hospital personnel and patients—Colorado. *MMWR* 28:325, 1979
8. Rubella prevention: ACIP recommendations. *MMWR* 30:37, 1981
9. Klein JO, Brunell PA, Cherry JD, Trulgineti VA: Report of the Committee on Infectious Diseases, ed 19. Evanson, Ill, American Academy of Pediatrics, 1982