Henry Ford Hospital Medical Journal

Volume 18 | Number 1 Article 11

3-1970

Rubella: Current Status of Immunization

E. L. Quinn

Frank Cox

Donald Romig

Henry Ford Hosp. Med. Journal
Vol. 18, No. 1, 1970

NOTES AND COMMENTS

Rubella: Current Status of Immunization

E. L. Quinn, M.D., Frank Cox, M.D. and Donald Romig, M.D.*

The chief cause of concern with rubella—German measles—is its effect on the fetus when the virus infects a pregnant woman. An estimated 247,-000 women in their first trimester of pregnancy contracted rubella in the 1963-64 epidemic.[1] The results: 8,000 to 30,000 fetal deaths and approximately 20,000 children born with congenital anomalies which included deafness, eye defects, mental retardation and heart lesions.

Since epidemics of rubella occur at 6 to 7-year intervals, usually in spring, U.S. authorities are concerned about the repetition of this problem in 1970-1971. Fortunately, the recent development and availability of an effective rubella vaccine may avert this tragedy if immunization is properly and widely used.

The vaccine is the direct descendant of viruses first isolated by Parkman, and independently by Weller and their co-workers in 1961. In the United States, it is expected that the vaccine will control rubella through the establishment of "herd immunity" among children, the group in which the disease is most common. It is the children who usually transmit the teratogenic virus to the 15% to 20% of pregnant women who are susceptible. Because mass vaccination programs have largely eliminated polio and sharply curtailed measles (rubeola) by the establishment of herd immunity, it is felt the same can be accomplished with the rubella vaccine. To this end, the live, attenuated rubella virus vaccine should be given to all children—boys as well as girls—between the ages of one year and extending through the elementary school population.

In addition, the physician will be requested to give the vaccine to many adult women. The susceptibility to rubella in these patients may be demonstrated by absence of specific serum hemagglutinating antibody. Since the vaccine virus can infect the fetus, immunization should be used *only* if pregnancy can be excluded in sexually-active women of child-bearing age and will be avoided for at least three months after vaccination. This requires a negative pregnancy test, administration of vaccine during a menstrual period or immediately after childbirth. Prevention of conception must be assurred by abstinence or use of effective contraceptives during the ensuing few months.

In children, reactions to vaccine are rare, ie, occasional mild fever, local soreness at the site of injection and

*Division of Infectious Diseases

arthralgia. Rash was reported in only a few instances. Spread of the vaccine virus to others has *not* been a problem.

Arthralgia and transient arthritis occur more frequently in women than in children. Further attenuation of the virus in the vaccine may reduce adverse reactions but may also reduce the vaccine's protective values. When they were adequately prewarned, patients to whom we gave the vaccine willingly accepted the possibility and occurrence of adverse reactions.

The use of the live rubella virus vaccine should be avoided in patients with altered immune states or hypersensitivity to vaccine components (indicated on the label). Also, present recommendations are that administration should be separated by at least one month from the administration of other live virus vaccines.

REFERENCES

1. Krugman, S.: Oral presentation, International Conference on Rubella Immunization, 1969.

2. Parkman, P. D.; Buescher, E. L., and Artenstein, M. S.: Recovery of rubella virus from Army recruits. *Proc Soc Exp Biol Med* 111:225, 1962.

3. Weller, T. H., and Neva, F. A.: Propagation in tissue culture of cytopathogenic agents from patients with rubella-like illness. *Proc Soc Exp Biol Med* 111:215, 1962.