Texas Preventable Disease NEWS

Vol. 49, No. 31
August 5, 1989

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ACIP: MUMPS PREVENTION--PART II*

This revised Immunization Practices Advisory Committee (ACIP) recommendation on mumps vaccine updates the 1982 recommendation. Changes include: a discussion of the evolving epidemiologic characteristics of mumps, introduction of a cutoff of 1957 as the oldest birth cohort for which mumps vaccination is routinely recommended, and more aggressive outbreak-control measures. Although there are no major changes in vaccination strategy, these revised recommendations place a greater emphasis on vaccinating susceptible adolescents and young adults.

Adverse Effects of Vaccine Use

In field trials before licensure, illnesses did not occur more often in vaccinees than in unvaccinated controls. Reports of illnesses following mumps vaccination have mainly been episodes of parotitis and low-grade fever. Allergic reactions including rash, pruritus, and purpura have been temporally associated with mumps vaccination but are uncommon and usually mild and of brief duration. The reported occurrence of encephalitis within 30 days of receipt of a mumps-containing vaccine (0.4 per million doses) is not greater than the observed background incidence rate of CNS dysfunction in the normal population. Other manifestations of CNS involvement, such as febrile seizures and deafness, have also been infrequently reported. Complete recovery is usual. Reports of nervous system illness following mumps vaccination do not necessarily denote an etiologic relationship between the illness and the vaccine.

Contraindications to Vaccine Use

Pregnancy. Although mumps vaccine virus has been shown to infect the placenta and fetus, there is no evidence that it causes congenital malformations in humans. However, because of the theoretical risk of fetal damage, it is prudent to avoid giving live virus vaccine to pregnant women. Vaccinated women should avoid pregnancy for 3 months after vaccination. Routine precautions for vaccinating postpubertal women include asking if they are or may be pregnant, excluding those who say they are, and explaining the theoretical risk to those who plan to receive the vaccine. Vaccination during pregnancy should not be considered an indication for termination of pregnancy. However, the final decision about interruption of pregnancy must rest with the individual patient and her physician.

Severe Febrile Illness. Vaccine administration should not be postponed because of minor or intercurrent febrile illnesses, such as mild upper respiratory infections. However, vaccination of persons with severe febrile illnesses should generally be deferred until they have recovered.

Allergies. Because live mumps vaccine is produced in chick-embryo cell culture, persons with a history of anaphylactic reactions (hives, swelling of the mouth and throat, difficulty breathing, hypotension, or shock) after egg ingestion should be vaccinated only with caution using published protocol. Known allergic children should not leave the vaccination site for 20 minutes. Evidence indicates that persons are not at increased risk if they have egg allergies that are not anaphylactic in nature. Such persons may be vaccinated in the usual manner. There is no evidence to indicate that persons with allergies to chickens or feathers are at increased risk of reaction to the vaccine.

Since mumps vaccine contains trace amounts of neomycin (25 μg), persons who have experienced anaphylactic reactions to topically or systemically administered neomycin should not receive mumps vaccine. Most often, neomycin allergy is manifested as a contact dermatitis, which is a delayed-type (cell-mediated) immune response, rather than anaphylaxis. In such persons, the adverse reaction, if any, to 25 μg of neomycin in the vaccine would be an erythematous, pruritic nodule or papule at 48-96 hours. A history of

contact dermatitis to neomycin is not a contraindication to receiving mumps vaccine. Live mumps virus vaccine does not contain penicillin.

Recent IG Injection. Passively acquired antibody can interfere with the response to live, attenuated-virus vaccines. Therefore, mumps vaccine should be given at least 2 weeks before the administration of IG or deferred until approximately 3 months after the administration of IG.

Altered Immunity. In theory, replication of the mumps vaccine virus may be potentiated in patients with immune deficiency diseases and by the suppressed immune responses that occur with leukemia, lymphoma, or generalized malignancy or with therapy with corticosteroids, alkylating drugs, antimetabolites, or radiation. In general, patients with such conditions should not be given live mumps virus vaccine. Because vaccinated persons do not transmit mumps vaccine virus, the risk of mumps exposure for those patients may be reduced by vaccinating their close susceptible contacts.

An exception to these general recommendations is in children infected with human immunodeficiency virus (HIV); all asymptomatic HIV-infected children should receive MMR at 15 months of age. If measles vaccine is administered to symptomatic HIV-infected children, the combination MMR vaccine is generally preferred.

Patients with leukemia in remission whose chemotherapy has been terminated for at least 3 months may also receive live mumps virus vaccine. Short-term (<2 weeks' duration) corticosteroid therapy, topical steroid therapy (eg, nasal, skin), and intraarticular, bursal, or tendon injection with corticosteroids do not contraindicate mumps vaccine administration. However, mumps vaccine should be avoided if systemic immunosuppressive levels are reached by prolonged, extensive, topical application.

Other. There is no known association between mumps vaccination and pancreatic damage or subsequent development of diabetes mellitus.

MUMPS CONTROL

The principal strategy to prevent mumps is to achieve and maintain high immunization levels, primarily in infants and young children. Universal immunization as a part of good health care should be routinely carried out in physicians' offices and public health clinics. Programs aimed at vaccinating children with MMR should be established and maintained in all communities. In addition, all other persons thought to be susceptible should be vaccinated unless otherwise contraindicated. This is especially important for adolescents and young adults in light of the recently observed increase in risk of disease in these populations.

Because access to some population subgroups is limited, the ACIP recommends taking maximal advantage of clinic visits to vaccinate susceptible persons >15 months of age by administering MMR, diphtheria-tetanus-pertussis (DTP), and oral polio vaccine (OPV) simultaneously if all are needed. Health agencies should take necessary steps, including the development, adoption, and enforcement of comprehensive immunization requirements, to ensure that all persons in schools at all grade levels and in day-care settings are protected against mumps. Similar requirements should be considered for colleges, as recommended by the American College Health Association, and selected places of employment where persons in this age cohort are likely to be concentrated or where the consequences of disease spread may be more severe (eg, medical-care settings).

In determining means to control mumps outbreaks, exclusion of susceptible students from affected schools and schools judged by local public health authorities to be at risk for transmission should be considered. Such exclusion should be an effective means of terminating school outbreaks and quickly increasing rates of immunization. Excluded students can be readmitted immediately after vaccination. Pupils who have been exempted from mumps vaccination because of medical, religious, or other reasons should be excluded until at least 26 days after the onset of parotitis in the last person with mumps in the affected school. Experience with outbreak control for other vaccine-preventable diseases indicates that almost all students who are excluded from the outbreak area because they lack evidence of immunity quickly comply with requirements and can be readmitted to school.

MUMPS DISEASE SURVEILLANCE AND REPORTING OF ADVERSE EVENTS

There is a continuing need to improve the reporting of mumps cases and complications and to document the duration of vaccine

effectiveness. Thus, for areas in which mumps is a reportable disease, all suspected cases of mumps should be reported to local or state health officials.

The National Childhood Vaccine Injury Compensation Program established by the National Childhood Vaccine Injury Compensation Act of 1986 requires physicians and other health-care providers who administer vaccines to maintain permanent immunization records and to report occurrences of certain adverse events to the US Department of Health and Human Services. Recording and reporting requirements took effect on March 21, 1988. Reportable adverse events include those listed in the Act for mumps and events specified in the manufacturer's vaccine package insert as contraindications to further doses of mumps vaccine.

Although there eventually will be one system for reporting adverse events following immunizations, two separate systems currently exist. The appropriate reporting method currently depends on the source of funding used to purchase the vaccine. Events that occur after receipt of a vaccine purchased with public (federal, state, and/or local government) funds must be reported by the administering health provider to the appropriate local, county, or state health department. The state health department completes and submits the correct forms to CDC. Reportable events that follow administration of vaccines purchased with private money are reported by the health-care provider directly to the Food and Drug Administration.

RECOMMENDATIONS FOR INTERNATIONAL TRAVEL

Mumps is still endemic throughout most of the world. While vaccination against mumps is not a requirement for entry into any country, susceptible children, adolescents, and adults would benefit by being vaccinated with a single dose of vaccine (usually as MMR), unless contraindicated, before beginning travel. Because of concern about inadequate seroconversion due to persisting maternal antibodies and because the risk of serious disease from mumps infection is relatively low, persons <12 months of age need not be given mumps vaccine before travel.

PDN Editorial Note: A recent mumps outbreak in Texas in which over 98% of the cases were appropriately immunized against mumps indicates that in some outbreaks vaccine failure may play a relatively important role.

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PRESSURE SORE RISKS IN NEW NURSING HOME RESIDENTS IDENTIFIED*

Many persons entering a nursing home for the first time have decubitus ulcers, or pressure sores, according to a new study that is the first to examine the risk of the sores being present on admission to a nursing facility. Pressure sores are of policy concern because of their effect on patient outcomes and nursing home costs. In their most serious stage, pressure sores can penetrate the deep fascia, the fibrous tissue encasing the muscles, as far down as the bone. They can lengthen a patient's recovery time and, if left untreated, reduce the likelihood of a favorable outcome. According to the investigator, William D. Spector, PhD, who is now with the National Center for Health Services Research and Health Care Technology Assessment (NCHSR), of those entering with an ulcer, more than one of every eight persons has the most severe form of ulceration. Another 16% have the second most severe stage, in which the ulceration reaches as deep as the subcutaneous fat.

The characteristic that makes a person most likely to have pressure sores is the inability to transfer, or not being able to move from bed to a chair. Such persons are nearly four times more likely to have pressure sores than new residents who can transfer. New residents' chances of having pressure sores are increased if they are male, minority, aged, bedfast, or chairfast. Also raising the odds of having sores are urinary catheter use, inability to bathe, fecal incontinence, lack of rehabilitation potential, and being admitted from a hospital.

According to Doctor Spector, who led the study while with Brown University, catching pressure sores at an early stage by flagging persons in high-risk groups can help prevent the development of serious medical problems and improve

*Adapted from: Natl Center for Health Services Research and Health Care Technology Assessment. Research Activities, March 1989, No. 115.

patient care. But reducing the problem of pressure sores also requires better monitoring and improved treatment in the hospital, where some patients develop sores before entering a nursing home. If this is not done, patients will continue to suffer needlessly and nursing homes will continue to inherit the oversight of others and be forced to deal with pressure sores that may have progressed too far to be treated effectively.

The study was based on data from a sample of nearly 5,000 new residents admitted to nursing homes during 1984. The information was obtained from 51 nursing homes using the National Health Corporation Data System. Further details about the study, which was funded by the Health Care Financing Administration, are in "Factors Associated with the Presence of Decubitus Ulcers at Admission to Nursing Homes," by Doctor Spector and fellow authors Mary C. Kapp, MPhil; Richard J. Tucker, BA; and Josef Sternberg, MD. Reprints of the article, which was published in the December 1988 Gerontologist, are available from NCHSR.

TEXAS PREVENTABLE DISEASE NEWS (ISSN 8750-9474) is a free, weekly publication of the Texas Department of Health, 1100 West 49th Street, Austin, TX 78756. Second-class postage paid at Austin, TX. POSTMASTER: Send address changes to TEXAS PREVENTABLE DISEASE NEWS, 1100 West 49th Street, Austin, TX 78756.

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