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ID CONSULT

Put Mumps Back in the Differential Dx

You may actually see cases of mumps in the coming year. It's time to get reacquainted with what it looks

like, what the complications are, and what the control measures are.

As of the first week of May, a mumps outbreak that began in December 2005 with a few reported cases at a university in eastern Iowa had grown to more than 1,500 confirmed, probable, and suspected cases in Iowa, along with several hundred additional cases reported in Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Nebraska, and Wisconsin.

Compare that with an average of just 5 mumps cases per year in Iowa since 1996 and 265 cases annually for the entire country since 2001, and it's obvious we've got a problem that could stay with us for a while.

Mumps is an acute viral illness, first described by Hippocrates in the 5th century. Approximately 40%-50% of patients present with unilateral or bilateral parotitis and fever, while another 20%-30% are asymptomatic.

Before the measles-mumps-rubella (MMR) vaccine entered the U.S. market in 1967, a physician who saw a child with parotitis would automatically think of mumps.

Today, we're more likely to suspect that submaxillary/sublingual swelling is related to lymphadenitis, and a sore throat with fever to strep throat.

Some patients complain of pain in the corner of the jaw and/or an earache, which can be confused with otitis.

For the time being at least, we need to resurrect our clinical suspicion for mumps in order to avoid giving unnecessary antibiotics.

Once you suspect mumps, you can cul-

ture the nasopharynx, throat, or urine or do a serology looking for IgM antibodies. Check with your laboratory to make sure that the viral culture they perform will identify mumps because standard shell vial culture could miss it.

Although usually self-limited, mumps can cause complications such as meningitis, encephalitis, inflammation of the testes or ovaries, myocarditis, arthritis, and deafness.

Any of these can occur in the absence of parotitis.

Symptomatic meningitis occurs in up to 15% of cases. In fact, mumps was the most common cause of viral meningitis in the prevaccine era.

Interestingly enough—and this is a clinical pearl—mumps meningitis is associated with a lymphocytic pleocytosis (inflammatory cells in the cerebrospinal fluid) that is typical of viral meningitis, but with a low glucose level.

Most children with typical summertime enterovirus meningitis have normal or low-normal CSF glucose levels, typically around 40%-50% of peripheral glucose.

In contrast, those levels might be somewhere between 10% and 25% with mumps meningitis. A low CSF glucose level might make you think of bacterial meningitis, so again, it's important to rule that out in order to treat appropriately.

In Iowa thus far, the median patient age at onset is 22 years. About one-fifth of all the patients are currently attending college.

Of 1,201 patients for whom vaccine history was investigated, 51% had documentation of receiving two MMR doses, 12% one dose, and 6% no doses. (Information was not available for the other 31%.)

It's not clear why immunized individu-

als would be contracting mumps. Although waning immunity may be a factor, in highly vaccinated populations a majority of individuals affected by a typical measles outbreak may represent vaccine nonresponders. This observation in the past led to the recommendation for two doses of MMR to be given.

Although a second dose can be given 30 days after the first, we currently give the second dose when a child starts school, potentially leaving the 1- to 5-year-old population vulnerable. Time will tell whether this age group emerges as a high-risk group.

In Iowa, the most common symptoms were parotitis in 60%, sore throat in 50%, submaxillary/maxillary gland swelling in 41%, and fever in 31%. Another 27% had headache, 9% cough, and 6% orchitis;



CDC/NIP/BARBARA RICE

0.2% (3 patients) had encephalitis. Average duration of symptoms was 5 days.

In the prevaccine era, as many as 50% of postpubertal males with mumps developed testicular inflammation and 5% of postpubertal females developed ovarian inflammation, which may be confused with appendicitis. It's not clear why more cases of those complications haven't been reported in Iowa, although it's possible the information simply hasn't been sought.

Since mumps is self-limited, there's not much we can do as clinicians other than

to make sure that our patients—as well as ourselves and our staffs—have received two doses of the MMR vaccine.

One dose of MMR is said to be 97% effective against mumps, but immunogenicity studies vary and some suggest that a single dose may protect 85%. A second dose may bring the protection rate to 90% or more. Vaccine immunity probably doesn't last more than 25 years. Mumps is similar in transmissibility to influenza and rubella, but less so than either measles or varicella.

Individuals born before 1957 are believed to be immune because they were exposed, but we're not sure about the status of those born between 1957 and the time the vaccine came into widespread use, in the mid-1970s.

The CDC has advised that the vaccine be offered to these individuals living in affected areas.

Suspected cases should be reported immediately to local public health officials, and those individuals should be isolated for 9 days after symptom onset. It is possible the CDC will make further recommendations after this column goes to press.

MMR vaccine has a good safety profile, but adult women may develop a transient arthritis/arthralgia following vaccination. Studies show that 12%-26% of adult female vaccine recipients, compared with 0%-3% of children, will have arthralgia; the rate in adolescent girls falls somewhere in between.

The majority of cases are mild and don't interfere with normal activity.

More information and updates are available from the CDC at www.cdc.gov/nip/diseases/mumps/mumps-outbreak.htm. ■

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Three More Guillain-Barré Cases Associated With Menactra

BY MARY ANN MOON
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Three additional cases of Guillain-Barré syndrome related to the Menactra MCV4 meningococcal conjugate vaccine have been reported, according to the Centers for Disease Control and Prevention, Atlanta.

Even with these additional cases, the incidence of this adverse effect does not exceed the incidence that might be expected to occur by chance alone, so the CDC has not changed its recommendations regarding the vaccine.

However, the timing of the onset of Guillain-Barré syndrome (GBS) within 2-5 weeks of vaccination "is still a concern," so monitoring continues and controlled clinical trials are planned, the CDC said.

Clinicians are advised to share information about the CDC investigation with

adolescents and parents before administering the vaccine.

Fact sheets for patients and those for health-care workers are available at www.cdc.gov.

The CDC alerted physicians to a possible association between the Menactra MCV4 vaccine and GBS in October 2005, based on five cases in teenagers that were reported to the Vaccine Adverse Events Reporting System.

The vaccine manufacturer, Sanofi Pasteur Inc., and the Food and Drug Administration updated the package insert, listing previous GBS as a new contraindication to the vaccine and warning clinicians of a possible temporal relation with GBS.

At that time the CDC and the FDA also advised clinicians to report any cases of GBS occurring in patients who had received the vaccine.

As of February 2006, three additional

cases had been reported to VAERS and confirmed.

GBS, a serious neurologic disorder involving demyelination of the peripheral nerves, is characterized by numbness or tingling in the feet or hands which often progresses to the legs and arms and is accompanied by muscle weakness or paralysis and loss of deep tendon reflexes.

The CDC provided details on two of the three newly reported cases that occurred since October 2005. Both involved teenage males who were hospitalized and treated with intravenous immunoglobulin. Both patients recovered fully (MMWR 2006;255:364-6).

The third case is undergoing detailed clinical investigation but meets the provisional case definition for GBS, the CDC said.

The CDC continues to advise that people with a history of GBS should not be vaccinated with the Menactra MCV4 vac-

cine unless they are at high risk for meningococcal disease.

The vaccine is still recommended for others at risk, including first-year college students, military recruits, travelers, scientists who are exposed to meningitis, patients with anatomic or functional asplenia, and patients with terminal complement deficiency.

Also, in February 2005, the Advisory Committee on Immunization Practices recommended routine vaccination of adolescents at the preadolescent health care visit (at ages 11-12 years).

For persons not previously vaccinated, the committee recommended vaccination before high-school entry (at approximately age 15 years).

To report adverse events related to the MCV4 vaccine or any other vaccine, clinicians should go to www.vaers.hhs.gov, send a fax to 877-721-0366, or call 800-822-7967. ■