F. E. Yazbak, a pediatrician, now devotes his time to the research of autoimmune regressive autism and vaccine injury.

**Mumps: Here And There And Everywhere**

By F. Edward Yazbak, MD, FAAP

In spite of superior MMR (measles, mumps, rubella) vaccination rates, small epidemics of mumps have occurred in distant areas. During a recent outbreak in the U.S. Midwest, college students did not seem interested in receiving additional doses of MMR vaccine. Mumpsvax, the monovalent mumps vaccine, may have been a better option.

A study by Kate Hamilton-West of the University of Kent published in *Vaccine* on April 18, 2006 examined the attitudes of college students toward MMR vaccination in the face of a mumps outbreak in the U.K. The author found that “students were unlikely to have the jab when perceived risks of immunizing were equivalent to perceived risks of not immunizing. Results suggest that public health interventions should address students’ attitudes toward the vaccine, perceptions of peer expectations, and perceptions of barriers to uptake.” The study did not examine, and it should have, what the attitude of the same cohort of students would have been toward the administration of the single or monovalent mumps vaccination, which the U.K. recklessly outlawed in 1999 in order to “push” MMR vaccination.

As usual, the medical authorities blamed the British outbreak of mumps on declining MMR vaccination rates resulting from research by Andrew Wakefield that suggested a possible link between MMR vaccination and autism. This in spite of the fact that young adults, who were mostly affected in the present outbreak, were not eligible for vaccination during the 1988 MMR vaccination program as it was limited to children born during and after 1987. Unlike the United States, the U.K. never recommended or encouraged the use of the single mumps vaccine when it became available in the late 1960s.

As previously mentioned in a Red Flags column, MMR vaccination rates for children had decreased in 1995-1997 before the Wakefield findings had been published.

Iowa had a serious outbreak of mumps in early 2006. Of the first reported 219 cases, 48 percent were 17 to 25 years old and 65 percent had documentation of receiving two doses of vaccine. Because many were college students, possibly living in crowded quarters, the Iowa Department of Public Health (IDPH) and the Centers for Disease Control and Prevention (CDC) decided to airlift thousands of doses of MMR vaccine and to offer them at low or no cost to young adults at risk.

To everyone’s surprise, college students took little interest in the vaccination campaign and much of the stock of vaccine — almost 90 percent, in fact — remained on refrigerator shelves.

Des Moines County’s Public Health Department held three vaccination clinics in one week but only administered 38 of the 400 doses it received. In Polk County, a health department spokesperson was actually “pleased” because 517 of the available 3,600 doses were administered. In Johnson County, the home of the University of Iowa — 11 colleges with an enrollment of almost 30,000 — only 262 of 1,300 CDC-provided doses were used.

No “attitude survey” was carried out in Iowa colleges to see why the students were not interested in getting a dose (or two) of MMR vaccine and the health authorities did not even consider offering Mumpsvax, the monovalent mumps vaccine.
It is likely that Iowa college students are among the best-vaccinated young adults in the U.S. Certainly elementary students in Iowa are. According to the CDC, 97 percent of children entering school in September 2004 had received two doses of MMR vaccine.

As of May 10, 2006, there had been 1,600 cases of mumps in Iowa and thousands and thousands of unused doses of MMR vaccine. Giving up on college students, the Iowa Department of Public Health decided to offer MMR to Iowans 26 to 46 years old.

Keeping in mind that Iowa's population of three million is spread over 56,275 square miles and that 89 percent of the state is farmland, one can only wonder why IDPH would think that there would be any more interest in repeat vaccination across the state than on a university campus with 30,000 students. (1)

Cases of mumps seem to be already decreasing in Iowa. This should reassure 47- to 87-year-old Iowans who otherwise would have been the next target population. To date, Iowa health officials do not know the origin of the infection but they do know that the disease has spread to neighboring Illinois, Kansas, Minnesota, Missouri, Nebraska and Wisconsin, where small outbreaks are occurring in spite of superior vaccination rates.

The present mumps situation in the Midwest is clear evidence that the two recommended doses of MMR vaccine are not guaranteed to prevent outbreaks of mumps. A recent British study published in the Journal of Epidemiology and Infection revealed that 15 percent of children born between 1991 and 1995, who would have received two doses of the triple vaccine, had low mumps antibody levels. (2)

Another study from Belgium, where a two-dose MMR vaccination program has been in effect for years, reported that there had been 105 confirmed cases of mumps in Bruges among vaccinated children 3- to 12-years-old. That study was published in Vaccine in 2004.

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The mumps “epidemic” in the United Kingdom has received much more attention than the Midwestern outbreak, essentially because it gave the press and the medical authorities a chance to blame Wakefield and his research. There was no mention of blame in Iowa because blaming a vaccine failure was neither wise nor helpful under the circumstances.

What also went unmentioned was the fact that in spite of its superior vaccination rate, Iowa had proportionately more cases of mumps in six weeks than the U.K. in 2005, the worst year to date.

When official mumps figures for England and Wales are reviewed, it is evident that the number of cases of mumps reported in the press (70,000) has been inflated and that the disease had been clinically overdiagnosed. (3)

There were 4,265 “uncorrected notified cases of mumps” in 2003, 16,494 in 2004 and 18,565 in 2005 when the populations of England and Wales were around 50 million and three million respectively.

The average percentage of laboratory confirmed cases of mumps was 39 percent of the tested cases in 2005. In other words, of the 18,565 “uncorrected notified” cases, possibly as few as 7,240 cases were actually mumps.

In Iowa, with its three million inhabitants, this number would be equivalent to around 410 cases. According to the IDPH, there were 1,539 cases of mumps recorded in Iowa between March 17
and May 8, 2006. Iowa, therefore, in spite of its superior vaccination rates had many more cases of mumps in a few weeks than the U.K. during its biggest recent year.

Reviewing the situation in the Midwest, the CDC promulgated an “Official Health Advisory” in which it stated, “The source of the current U.S. outbreak is unknown. However, the mumps strain has been identified as genotype G, the same genotype circulating in the United Kingdom (U.K.). The outbreak in the U.K. has been ongoing from 2004 to 2006 and has involved > 70,000 cases. Most U.K. cases have occurred among unvaccinated young adults. The G genotype is not an unusual or rare genotype and, like the rest of known genotypes of mumps, it has been circulating globally for decades or longer.” (4)

One must wonder why the U.K. had to be mentioned, when the source of the Iowa infection was not known and when the G genotype has been everywhere for decades or longer.

As to the “over 70,000 cases” statement, it appears to have taken a life of its own — just like the “36,000 deaths from influenza” in the United States every year.

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Like the Midwestern states, the U.K. has encouraged MMR vaccination during the recent outbreak of mumps.

A recently published Russian paper (Vaccine, March 2006), however, raises an interesting point about vaccination. (5) “Throat swab and serum samples were taken from six symptomatic mumps cases and from 13 family contacts.

Assessment of serum IgG and IgM anti-mumps virus antibodies and IgG avidity testing was performed….. All six of the symptomatic mumps cases and three contact subjects tested positive for mumps by RT-PCR. The genomic sequences tested (F, SH and HN genes) of all nine of these samples were identical to the L-3 mumps vaccine strain. All 13 contacts were asymptomatic…. The likely epidemiological source of the transmitted L-3 mumps virus was children who were recently vaccinated at the schools attended by the six symptomatic mumps patients described.”

The recent Russian study seems to contradict findings by Japanese researchers who examined carriage of vaccine-strain virus in the throat following vaccination. That research was also published in Vaccine, five years earlier. (6)

“Seven children were followed for up to 42 days post-vaccination with live mumps vaccine and 37 throat swabs were obtained serially. Viral genomic RNA was detected by reverse transcription-polymerase chain reaction (RT-PCR) in the phosphoprotein (P) and hemagglutinin-neuraminidase (HN) regions. Virus isolation was also attempted…. No adverse reaction was observed in these children. Although mumps virus was not isolated from any of the samples, viral RNA was detected in four samples from three vaccine recipients, 18, 18 and 26, and 7 days after vaccination, respectively. Detected viral RNA was identified as the vaccine strain. Our data suggests that vaccine virus inoculated replicates in the parotid glands but the incidence of virus transmission from recipients to other susceptible subjects should be low.”

Further research is evidently indicated.

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In summary, according to the CDC, known genotypes of mumps have “been circulating globally for decades or longer.” It appears that regardless of MMR vaccination rates, outbreaks of mumps
will continue to occur from time to time. Offering Mumpsvax, the monovalent mumps vaccine, to young adults may be met with more acceptance than MMR.

Maybe.

References

1. “Mumps Vaccine Eligibility Expands to Iowans 26 through 46 years old.” Iowa Department of Public Health press release, May 10, 2006. Available here
4. CDC Health Advisory: Multi-State Mumps Outbreak. April 14, 2006. Available here