



Transmission of mumps virus from mumps-vaccinated individuals to close contacts

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Abstract

During a recent mumps epidemic in the Netherlands caused by a genotype D mumps virus strain, we investigated the potential of vaccinated people to spread mumps disease to close contacts. We compared mumps viral titers of oral fluid specimens obtained by quantitative PCR from vaccinated ($n = 60$) and unvaccinated ($n = 111$) mumps patients. We also investigated the occurrence of mumps infection among the household contacts of vaccinated mumps patients. We found that viral titers are higher for unvaccinated patients than for vaccinated patients during the 1st 3 days after onset of disease. While no symptomatic cases were reported among the household contacts ($n = 164$) of vaccinated mumps patients ($n = 36$), there were cases with serological evidence of asymptomatic infection among vaccinated household contacts (9 of 66 vaccinated siblings). For two of these siblings, the vaccinated index patient was the most probable source of infection. We conclude that, in this particular outbreak, the risk of a close contact becoming infected by vaccinated patients was small, but present.

Highlights

- ▶ Mumps viral titers in oral fluid are higher for unvaccinated than for vaccinated patients. ▶ Vaccinated mumps patients can reach high viral titers in oral fluid. ▶ The risk of a close contact becoming infected by vaccinated patients was small, but present.