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Letter

Immune response and vaccine efficiency

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To the editor

Schwarzer *et al.* have presented a careful evaluation of the humoral immune response after primary immunization with different strains against MMR[1]. They have also studied the proliferative *in vitro* response after re-immunization. The authors conclude that the humoral immune response against mumps was comparable for MMR-II® and Triviraten® but that the side effects were clearly more frequent in children vaccinated with MMR-II®. However, the authors fail to discuss the numerous reports of a relatively poor vaccine efficacy in a number of well designed cohort and cross-sectional studies[2,3]. In fact, in a recent evaluation of a mumps outbreak in 1997 in Eastern Switzerland we found that children vaccinated with the Rubini strain (Triviraten®) had virtually no protection against mumps as compared to an excellent vaccine efficacy of 78 and 87% for the Jeryl-Lynn (MMR®) and Urabe (Pluserix®) strains used in approximately one half of the vaccinated population (n=165, M. Schlegel, manuscript in preparation).

In vitro studies of immune response are important for the initial evaluation of a vaccine. However, *in vitro* studies can only test a small fragment of the complex immune response. In addition, the overall efficacy is also a function of the stability of the vaccine strain. Therefore field evaluations are required to study the effect of a vaccine *in vivo*. In the case of mumps immunization, numerous epidemiological studies have now alluded to the ineffectiveness of the Rubini strain. Given the poor anti-Mumps efficacy of the Rubini and the limited toxicity of the Jeryl-Lynn strain, Triviraten should not be used for MMR immunization. The information provided by Schwarzer *et al.* is still useful since it provides evidence that children who were immunized with Triviraten can safely and effectively be revaccinated with MMR-II.

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