

## Rotavirus Vaccine ----- a need of the hour in developing countries

Madam, rotavirus infection is one of the major causes of childhood diarrhoea worldwide and has a high mortality rate associated with it (4,40,000 deaths / year). Additionally, it is responsible for 25 million medical visits and 2 million hospitalizations every year worldwide.<sup>1</sup> About 85% of all rotavirus deaths occur in Africa and Asia. Vaccine development against rotavirus infection has been a prime target over the past 20 years. The implementation of a vaccine program is expected to significantly decrease the frequency of hospitalizations and deaths due to rotavirus diarrhoea in a period of 2 to 3 years. In 1999, a rotavirus vaccine, RotaShield was licensed for use in United States, but was withdrawn from the market after a period of 9 months because of its association with a rare but potentially fatal adverse condition, intestinal intussusception.<sup>2</sup> In the developing countries like Pakistan and India, this vaccine could still have been beneficial considering the high mortality associated with rotavirus diarrhea in these countries as compared to the rare risk of intussusception (1 per 10,000 vaccinations). Debate over this issue ensued ever since the abrupt withdrawal of RotaShield, which seriously disturbed the path of vaccine development against rotavirus infection.<sup>3</sup> It was in 2005 when two new rotaviral vaccines emerged on the scene. Rotateq from Merck and Rotarix from GlaxoSmithKline, are both live oral vaccines which differ in their administration, formulation, and strains.<sup>4</sup> They are intended to be given to children at the time of vaccination for diphtheria, tetanus, and pertussis. Large Phase III clinical trials including more than

60,000 children have shown that they are not associated with intussusception.<sup>5</sup> Both these vaccines have demonstrated an impressive efficacy rate against rotavirus diarrhoea caused by the most common strains (mainly serotype G1). It is the need of the hour that these new vaccines should be effectively incorporated in the immunization programs worldwide, especially in developing countries like India and Pakistan where the disease burden of rotavirus diarrhoea is the highest. However still there are number of issues that need to be dealt with before the incorporation of these vaccines in childhood immunization programs in Southeast Asia. Vaccine efficacy, safety, and affordability have to be ensured to make this global campaign against rotavirus infection a success story in developing countries. Dedicated efforts from governmental organizations, international agencies, and vaccine manufacturers are required to make this possible.

### References

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