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EDITORIAL COMMENTARY

Hepatitis B Vaccination – Protection with and without Birth Dose?

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World Health organization recognizes hepatitis B related mortality and morbidity as a public health problem. Hepatitis B was recommended to be in the National Immunization Schedule as early as 1992. This was the 7th vaccine recommended by WHO after the initial six Expanded Program on Immunization (EPI) vaccines. It has been introduced from early 1980s to 2000 in many countries. Position paper of WHO recommends hepatitis B vaccination for children worldwide with at least 3 doses in the in National immunization schedules, including a monovalent hepatitis B at birth [1]. By 2015, 185(95%) countries have incorporated hepatitis B vaccination in the National Immunization Schedule and 97(49%) introduced the recommended birth dose [2]. Earlier the disease affects a person, more the risk of chronic infection and later on developing hepatocellular carcinoma. Mother to infant transmission can be prevented by the birth dose. In India about 20–30% carriers are due to perinatal transmission.

Puliyel et al. [3] have statistically demonstrated that birth dose does not offer additional protection in a group 2671 children tested for HbsAg and HBcAb (infected if both positive) and HbsAb in 1413 children out of 2671, from north India. HbsAg positivity was taken as carrier. Vaccination history was the basis of analysis by considering unvaccinated group as the exposed one. In a sub-analysis, the authors have considered those vaccinated without birth dose as the exposed ones (880 with birth dose and 686 without birth dose). Odds of getting infection was not statistically different in the two groups; 0.42 (CI 0.25–0.68) in those vaccinated at birth and 0.49 (CI 0.30–0.82) in those without birth dose. But it can be seen that the percentage of children protected is more in the group who received birth dose. Hence attempt should be made to administer the birth dose whenever possible. This will add to for individual protection in addition to the public health impact. The authors have assumed HbsAb as a measure of protection (70% in the vaccinated group and 40% in unvaccinated group). Antibodies levels are not the only way to predict protection. T memory cells have a role in protection after either vaccine administration or infection. Their findings are in contrast to a study which demonstrated that transmission from hepatitis B positive mothers was less when vaccinated within 1–3 d as compared to 7 d after birth; odds ratio 8.6 [4]. In a Cochrane review, protection with birth dose was demonstrated in infants born to HbsAg positive mothers when compared to placebo or no intervention [relative risk 0.28(95% CI-0.2–0.4)] [5]. Hence though we can agree with their conclusion that the government policy is protecting a number of children, birth vaccination needs to be incorporated into the immunization schedule whenever possible. With increased emphasis on hospital deliveries in the National health policy, this is feasible.

Compliance with Ethical Standards

Conflict of Interest None.

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