Readers' Forum

Q 1. I am putting following queries for clarification:

(*i*) As per WHO, diluents are vaccine specific. Can we use distilled water in case of accidental breakage of diluent ampoule?

(*ii*) How to immunize thalassemic child who is given regular blood transfusion? Can blood transfusion affect his sero-conversion?

(*iii*) WHO recommends AD syringe for immunization. But such syringe is not useful for vaccines, which are to be reconstituted.

Kamlesh R. Lala,
Ahmedabad (Gujarat)

Reply

(*i*) Yes, diluents are not only vaccine specific but of exact quantity also *vig* 0.5 mL. Now-a-days the diluents are supplied in non-breakable small containers. Distilled water is an irritant to the skin and hence should be avoided.

(*ii*) A thalassemic child has no immune deficiency, but repeated blood transfusions make them prone to blood borne infections. Hepatitis B and Hepatitis C are common among these children(1). Routine immunization schedule can be followed after regular blood transfusions. Blood transfusion does not affect sero-conversion. In fact, low dose intradermal hepatitis B vaccination has been found to be adequately effective in children with thalassemia and sickle cell disease(2). However, if immunoglobulins are to be given, 6 months of interval is needed, in respect of measles or MMR vaccine only(3).

(*iii*) Agreed. But if a policy decision is taken by the WHO and other professional bodies at individual nation level, considering the risk of blood borne diseases due to the use of recycled syringes and needles, it may be worthwhile and cost effective to use two syringes in case of lyophilized vaccine formulations.

REFERENCES

1. AI-Faway I, Ramia S. Decline in Hepatitis B infection in Sickle cell Anemia and Beta Thalassaemia Major. Arch Dis Child 1993; 69: 594-596.
2. Mok Q, Zenderhill G, Wonke B. Intradermal Hepatitis B Vaccine in Thalassemia and Sickle Cell Disease. Arch Dis Child. 1989; 64: 535-540.
3. American Academy of Pediatrics. Measles. In: Pickering LK. Ed. 2000 Red Book: Report of the Committee on Infections Diseases. 25th ed. Elk Grove village, II: American Academy of Pediatrics 2000: 390.

Q 2. There seems to be some confusion regarding the dose of HBV, which we are giving here in Mizoram. Some practitioners are consulting the vaccine maker LG chemicals who are stating that 10 µg (0.5 mL) can be given up to age 14 years. Though IAP vaccine guidelines has put the cut off point as 10 yrs. What to do?

John Malsawma,
Mizoram

Reply

Both IAP and International Recommendations for HB Vaccine dose for children ≥10 years is 20 µg only. However, certain manufacturers like LG Chemicals and GSK vaccines claim that as per the field studies conducted by them 10 µg is sufficient for children upto 14 years and 19 years

respectively. It will always be nice to follow International Recommendation by WHO and other professional bodies.

Q.3. Recently, I saw the Immunization Card issued by Government of India. I was surprised to see the card that 2nd Booster dose of OPT+ OPV at the age of 4-6 years is not mentioned in that card. Only 1st booster dose of DPT + OPV at 1½years was printed. What is the logic in it?

We pediatricians insist on 2nd booster of DPT+OPV. If there is no mention in the Immunization card issued by Government of India, people may think that only 1st booster of DPT+OPV is sufficient. This may be one of the reasons for blasé up of paralytic polio cases. There is no point in giving pulse Polio Immunization 2-3 times in a year without correcting the primary defect in the immunization card.

C.R. Dass,
Andhra Pradesh

Reply

IAP has been recommending mandatory II Booster for DTPw and a fifth dose of OPV since 1989. But Government of India advises only a single booster for DTPw at 15-18 months and DT as second booster at 5 yrs, fearing complications inherent to the pertusis component, which have totally been negated now. Hence, IAP continues to recommend to the GOI to give II Booster also and include the same in National Immunization schedule. For OPV vaccine, it is to be clearly understood that live vaccines have no booster effect and filler doses are intended only to bridge the immunity/ seroconversion gap.

Extra doses of Polio drops administered during National Immunization Days (Pulse Polio Immunization) are NOT meant for filler effect but are intended ONLY to interrupt the circulation of Wild Polio Virus as part of Polio Eradication strategy.

Q. 4. Herewith, I am writing some queries to be clarified.

1. If there is natural protection against measles in children <9 months of age, who are on breast milk; why do we advise measles vaccine in epidemics to early age i.e., at 3-4 months of age?
2. What are the methods to be adopted in epidemics of measles infection as measles vaccine alone will produce immunity 11-12 days after vaccination.
3. What are the measures to be taken to prevent the risk of close contact of a vaccine developing paralytic polio-myelitis (about 1 case per 5 million doses of OPV vaccine. (Bull WHO 62: 357).

C.R. Dass,
Andhra Pradesh

Reply

1. Yes. The natural protection against measles in breastfed infants wanes after 6 months of age and hence the need to protect them right from 6 months (and not 3-4 mo) of age only during epidemics. However, these infants have to be given a second dose of Measles vaccine either as monovalent or combination formulation *viz.*, measles vaccine at 9 mo or MMR vaccine at 12-15 mo.
2. Strict isolation measures are mandatory to protect the contacts of an index case from contracting droplet airborne infection. If preciously needed, additional security could be obtained by administering specific Measles Immunoglobulin. However, current evidence shows that if measles/ MMR vaccine is administered within 48-72 hours of contact, good protection is achieved.
3. Adults who are at an increased risk of exposure to wild-type polio virus and who previously completed primary immunization with OPV or IPV vaccine should receive a single dose of IPV vaccine. Household contacts of persons with

Immunodeficiency Disease, Altered Immune states, Immunosuppression due to therapy for other disease or known HIV infections also should receive IPV vaccine as per schedule.

REFERENCE

American Academy of Pediatrics Polio virus Infections. *In:* Pickering L.K., ed. 2000 Red Book: Report of the Committee on Infectious Diseases, 25th edn. Elk Grove village. II: American Academy of Pediatrics; 2000; p. 470.

Q. 5. I want to know why IAP Immunization Committee recommends measles vaccination at 9 mo of age. In our day to day practice we see so many cases of measles between the age group of 6-9 mo. How can we protect them from measles. The only answer I think is to vaccinate them at 6 mo of age and revaccinate with MMR at 15 months.

Nelson Text Book of Pediatrics 16th edn., Chapter 240; p. 948 clearly recommends measles vaccination for outbreak prophylaxis as early as 6 month of age. We every year see out breaks of measles. Please let me know your opinion about the above issue.

R.S. Kapoor,
Moradabad (U.P.)

Reply

The recommendation for initiating Measles vaccination at 6 months of age holds good only during epidemic situations. Routine Measles vaccination if started at 6 months will yield only 65-80% sero conversion whereas when administered at 9 months plus, the sero-conversion builds up to over 95-98%. Revaccination with MMR can be started as early as 12 months also.

However, to establish effective control of Measles infection and achieve eradication, 100% measles vaccination at 9 plus months is mandatory. If this is achieved, infants in 6-9 months age groups who invariably contract the disease from older children will also automatically escape.

Q. 6. Can rat bite transmit rabies? Is post-exposure prophylaxis recommended in such a case?

Santanu Guria,
Orissa

Reply

Theoretically, rabies can be transmitted by the bite of any warm blooded animal. The Centers for Disease Control & Prevention (CDC), Atlanta, however have not reported any case of human rabies after a rat bite in the United States. The CDC, therefore, does not recommend routine immunization against rabies after a rat bite. Similarly, WHO and Association for Prevention and Control of Rabies (APCRI) do not recommend post exposure prophylaxis for rat bites. As rabies is an incurable illness, the decision to use rabies vaccine may be taken after appropriate counseling in such situations.

Experts contributing to above replies are:

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Editor's Note: *All the issues raised in this forum have been taken up in the new IAP Guidebook on Immunization, 2005.*