Guidelines on vaccination of infants with Severe Congenital Heart Diseases

The Epidemiology unit monitors all Adverse Events Following immunization (AEFI) reported through the national AEFI surveillance system to ensure the quality and safety of all vaccines used in the National Immunization programme in Sri Lanka. All serious AEFI including deaths are reviewed by the National Expert Committee on AEFI/vaccine safety to assess the possible causality between the vaccine and the reported AEFI.

The committee having reviewed a few infant deaths following vaccination, where children had histories of severe congenital heart diseases, excluded the possibility that deaths could have been caused by the vaccine (antigen or excipient). Vaccinating children with severe congenital heart diseases is no known contraindication. Nor does the National Experts’ Committee on AEFI/vaccine safety consider severe congenital heart disease as a contraindication for vaccination. Paradoxically, it endorses the necessity of vaccination of these infants. However, contrary to this necessity, the experts’ committee opines that the vaccine or the vaccination process may have triggered the events (eg; hypotension, tachycardia), which may eventually have led to precipitating the underlying disease and causing the death of these infants. Cardiologists opinion is that these triggering events could be avoided with close monitoring and necessary prophylactic measures adopted in a hospital.
setting. Therefore the experts’ committee recommends that all infants with previous diagnosed severe congenital heart disease conditions listed below should be admitted to a hospital where a paediatrician’s service is available, for vaccination and be observed for a minimum period of 24 hours after vaccination, before being discharged.

Infants with severe congenital heart disease that need hospitalized vaccination are as follows:

1. Cyanotic defects
   a. Tetralogy of Fallot
   b. Pulmonary atresia with duct dependent pulmonary circulation,
   c. Univentricular heart with pulmonary stenosis,
   d. Tricuspid atresia,
   e. Any other condition with significant cyanosis (SaO2 <85%)

2. Any cardiac condition with significant left ventricular hypertrophy
   a. Hypertrophic cardiomyopathy,
   b. Significant valvar, supravalvar or subvalvar aortic stenosis

3. Any condition with significant LV dysfunction (EF<45%)
   a. Dilated cardiomyopathy,
   b. any other cardiac condition with significant LV dysfunction

4. Any patient with moderate/severe pulmonary hypertension

5. Cyanotic congenital heart defects palliated with systemic to pulmonary artery shunts (BT shunt) and pulmonary artery banding (PA banding)

It is recommended that cardiac monitoring (pulse, BP and SaO2) of these infants be carried out preferably for 24 hours after vaccination if the facility is available.

All children with significant cyanosis should be kept well hydrated before and after the vaccination. Blood pressure should be monitored and in the event of hypotension due to fever or vasodilatation, appropriate fluid administration should be done along with other appropriate therapeutic measures.

Please be kind enough to bring the contents of this circular to the notice of all concerned officers in your institution.

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