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WEEKLY EPIDEMIOLOGICAL REPORT

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231, de Saram Place,Colombo 01000, Sri Lanka.
Tele:(+94-011)2695112/681548/4740490/4740492,E-Mail:epidunit@sltnet.lk
Epidemiologist:(+94-011) 4740491,E-mail:chepid@sltnet.lk, Web: www.epid.gov.lk

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Immunization of HIV-infected individuals

Global Advisory Committee on Vaccine safety [GACVS] has reviewed the current policy on the use of bacilli Calmette-Guerin [BCG] vaccination for children infected with HIV in the light of new evidence. According to the new policy BCG vaccine should not be used in children who are known to be HIV infected. This article will describe the WHO position on immunization of HIV– infected individuals with special emphasis on this new change.

The epidemic of human immunodeficiency virus [HIV] infection and acquired immune deficiency syndrome [AIDS] has had a number of implications for immunization services. With some notable exceptions, immunization is generally safe and beneficial for HIV-infected children. The majority of children born to HIV-infected women do not acquire HIV infection. However, identifying those who do contract the infection requires tests that are not readily available in most countries. Screening for HIV status should therefore not be carried out before immunization.

The efficacy of immunization is variable for HIV-infected individuals. The immune suppression caused by HIV may result in less benefit from the vaccine than for children who are not infected with the virus. Most HIV-infected children have the capacity to mount both cellular and humoral immune responses during the first two years of life; decline in these responses occurs during the next two years. Studies of the immunogenicity of recommended vaccines have shown satisfactory seroconversion rates in the early stages of infection. However, the proportion of responders decreases with progression from HIV infection to AIDS.

As HIV– infection results in a deterioration of the immune system, there has been concern that the use of live vaccines could result in severe vaccine-associated disease in these individuals. To date, there have been only rare and isolated reports of adverse reactions in HIV– infected persons to the live vaccines OPV and Measles, and no increase in rates of reactions to DTP and hepatitis B vaccines [that contain no live organisms]. Although simultaneous administration of multiple antigens [even inactivated vaccines] might theoretically accelerate the HIV disease process, clinical and laboratory data do not support this.

WHO Perspective

The decreased immune response to vaccines with increasing age for HIV-infected children emphasizes the need for immunization as early in life as possible for children born to HIV-infected women. Individuals with symptomatic HIV infection can receive all the standard vaccines except for BCG and vaccine against yellow fever. As for any severely ill child, severely ill HIV-infected children should not be vaccinated.

Special issues

Earlier position on BCG : BCG should not be given to children with symptomatic HIV infection [i.e. AIDS] . In asymptomatic children, the decision to give BCG should be based on the local risk of tuberculosis:

- .Where the risk of tuberculosis is high, BCG is recommended at birth or as soon as

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possible thereafter, in accordance with the standard poli cies for immunization of non HIV-infected children.

- In areas where the risk of tuberculosis is low but BCG is recommended as a routine immunization, BCG should be withheld from individuals known or suspected to be infected with HIV.

Safety of BCG vaccine in HIV-infected children

The committee has reviewed the policy on the use of bacilli Calmette–Guérin (BCG) vaccination for children infected with HIV in the light of new evidence. Data from retrospective studies from Argentina and South Africa indicate that there is a substantiated higher risk of disseminated BCG disease developing in children infected with HIV who are vaccinated at birth and who had later developed AIDS. The reported risk associated with vaccinating HIV-infected children may outweigh the benefits of preventing severe tuberculosis, especially since the protective effect of BCG against tuberculosis in HIV-infected children is not known.

WHO currently recommends administering a single dose of BCG vaccine to all infants living in areas where tuberculosis is highly endemic as well as to infants and children at particular risk of exposure to tuberculosis in countries with low endemicity. BCG vaccine is contraindicated in people with impaired immunity, and WHO does not recommend BCG vaccination for children with symptomatic HIV infection.

Current position on BCG vaccination

GACVS has concluded that the recent findings indicated that there is a high risk of disseminated BCG disease developing in HIV- infected infants and therefore BCG vaccine should not be used in children who are known to be HIV infected.

The committee recognizes the difficulty in identifying infants infected with HIV at birth in settings where diagnostic and treatment services for mothers and infants are limited. In such situations, BCG vaccination should continue to be given at birth to all infants regardless of HIV exposure, especially considering the high endemicity of tuberculosis in populations with high HIV prevalence. Close follow up of infants known to be born to HIV-infected mothers and who have received BCG at birth is recommended in order to provide early identification and treatment of any BCG-related complication. In settings with adequate HIV services that could allow for early identification and administration of antiretroviral therapy to HIV-infected children, consideration should be given to delaying BCG vaccination in infants born to mothers known to be infected with HIV until these infants are confirmed to be HIV negative.

Measles vaccination

Children with known or suspected HIV infection are at increased risk of severe measles and should be offered measles vaccine as early as possible. Such infants should receive measles vaccine at six months of age, followed by an extra dose at nine months. The overall risk to them of the vaccine causing adverse events is low compared with the risk of measles infection and its complications. Where the chance of contracting wild-type measles virus infection is almost non-existent, countries with the capacity to monitor an individual's immune status may consider withholding measles vaccine from severely immunocompromised, HIV-infected children, but children with moderate levels of immune suppression should continue to receive measles vaccine.

OPV Vaccine

Individuals with known or suspected HIV infection should be immunized with OPV according to standard schedules.

Hepatitis B Vaccine

Early immunization is especially important because the risk of becoming a chronic carrier is higher for HIV - infected children and adults than for uninfected persons.

Varicella Vaccine

The public health impact of varicella and zoster may be increasing in regions with high rates of HIV endemicity. Indications, including the results of vaccination studies in certain immunodeficient groups, are encouraging. The public health as well as the socioeconomic impact of this vaccine would increase drastically if proved to protect against zoster in the general population. In industrialized countries considerable amounts of money are spent on medical care in complicated cases of zoster in HIV-affected areas is well documented.

Yellow fever vaccine

Individuals with symptomatic HIV infection should generally not received live, attenuated yellow fever vaccine. It should be withheld from HIV-symptomatic individuals until such time more information is available on its safety when given to HIV-infected individuals. Where the risk from yellow fever disease is high, medical practitioners may consider the risk to an individual from the vaccine to be less than that from the disease, and may consider giving the vaccine.

Referances

1. WHO (World Health Organization). 2002. *Core Information for the Development of Immunization Policy, 2002 Update* . WHO/V&B/02.28. Geneva: WHO. http:// www.who.int/vaccines-documents/DocsPDF02/ www557.pdf .

2. Weekly Epidemiological Record, World Health Organization. No 3, 2007; 82,:17-24 .

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Table 1: Vaccine-preventable Diseases & AFP

26th Jan– 1st Feb 2008 (5th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2008	Number of cases during same week in 2007	Total number of cases to date in 2008	Total number of cases to date in 2007	Difference between the number of cases to date between 2008 & 2007
	W	C	S	N	E	NW	NC	U	Sab					
Acute Flaccid Paralysis	00	00	00	00	00	00	00	00	00	00	01	07	09	-22.2%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	00.0%
Measles	00	00	00	00	00	00	01	00	00	01	00	05	00	+500.0%
Tetanus	00	00	00	00	00	00	00	00	00	00	01	03	03	00.0%
Whooping Cough	00	00	00	01 MN=1	00	00	00	00	00	01	02	02	04	-50.0%
Tuberculo-sis	102	15	00	01	05	00	00	00	02	125	123	1037	886	+17.0`%

Table 2: Newly Introduced Notifiable Diseases

26th Jan– 1st Feb 2008 (5th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2008	Number of cases during same week in 2007	Total number of cases to date in 2008	Total number of cases to date in 2007	Difference between the number of cases to date between 2008 & 2007
	W	C	S	N	E	NW	NC	U	Sab					
Chicken-pox	30	08	22	00	18	12	06	05	14	115	61	452	212	+113.2%
Meningitis	04 GM=3 CO=1	00	07 GL=2 MT=2 HB=3	00	00	13 KR=10 PU=3	01 AP=1	04 BD=2 MO=2	04 RP=2 KG=2	33	00	184	35	+425.7%
Mumps	13	01	08	00	04	07	08	05	03	49	17	236	64	+268.6%

Key to Table 1 & 2

Provinces: W=Western, C=Central, S=Southern, N=North, E= East, NC=North Central, NW=North Western, U=Uva, Sab=Sabaragamuwa.

DPDHS Divisions: CB=Colombo, GM=Gampaha, KL=Kalutara, KD=Kandy, ML=Matale, NE=Nuwara Eliya, GL=Galle, HB=Hambantota, MT=Matara, JF=Jaffna, KN=Killinochchi, MN=Mannar, VA=Vavuniya, MU=Mullaitivu, BT=Batticaloa, AM=Ampara, TR=Trincomalee, KM=Kalmunai, KR=Kurunegala, PU=Puttalam, AP=Anuradhapura, PO=Polonnaruwa, BD=Badulla, MO=Moneragala, RP=Ratnapura, KG=Kegalle.

Table 3: Laboratory Surveillance of Dengue Fever

26th Jan– 1st Feb 2008 (5th Week)

Samples	Number tested		Number positive *		Serotypes									
					D_1		D_2		D_3		D_4		Negative	
	GT	AH	GT	AH	GT	AH	GT	AH	GT	AH	GT	AH	GT	AH
Number for current week	07	01	02	00	00	00	00	00	00	00	00	00	02	00
Total number to date in 2008	23	12	02	05	00	00	00	01	00	00	00	00	02	00

Sources: Genetech Molecular Diagnostics & School of Gene Technology, Colombo [GT] and Genetic Laboratory Asiri Surgical Hospital [AH]
* Not all positives are subjected to serotyping.

NA= Not Available.

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Whooping Cough, Human Rabies, Dengue Haemorrhagic Fever, Japanese Encephali - tis, Chickenpox, Meningitis, Mumps.

Special Surveillance: Acute Flaccid Paralysis.

National Control Program for Tuberculosis and Chest Diseases: Tuberculosis.

Table 4: Selected notifiable diseases reported by Medical Officers of Health

26th Jan– 1st Feb 2008 (5th Week)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephal-itis		Enteric Fever		Food Poisoning		Leptos-pirosis		Typhus Fever		Viral Hepatitis		Human-Rabies		Returns Re-ceived Timely**
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	%
Colombo	38	195	05	20	00	03	04	19	00	44	00	09	00	00	04	14	00	00	**100**
Gampaha	24	150	07	14	00	02	01	05	00	00	02	17	00	00	02	18	00	00	**86**
Kalutara	10	58	06	41	01	01	01	05	03	03	02	15	00	01	00	04	00	00	**100**
Kandy	05	23	05	25	00	01	02	04	02	06	01	23	03	07	03	24	00	00	**83**
Matale	01	10	02	23	00	00	01	06	00	00	09	72	00	01	00	01	00	00	**50**
Nuwara Eliya	02	02	09	11	00	00	04	07	00	00	02	03	01	06	07	15	00	00	**89**
Galle	00	20	00	19	02	02	00	03	00	00	03	36	03	05	00	01	00	00	**100**
Hambantota	06	20	05	18	00	01	00	02	00	00	01	14	03	09	00	00	00	00	**100**
Matara	10	38	09	22	00	00	00	11	00	00	02	17	04	27	01	02	00	01	**94**
Jaffna	00	18	00	11	00	00	00	27	00	02	00	00	00	49	00	07	00	00	**00**
Kilinochchi	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	01	00	00	**00**
Mannar	00	00	00	00	00	00	07	26	00	00	00	00	00	00	01	02	00	00	**50**
Vavuniya	02	09	02	08	00	01	00	00	00	00	00	00	00	00	00	01	00	00	**25**
Mullaitivu	00	00	00	01	00	00	00	02	00	00	00	00	00	00	00	02	00	00	**00**
Batticaloa	09	18	02	09	00	00	00	01	00	00	00	00	00	00	02	15	01	01	**45**
Ampara	02	02	04	30	00	00	00	00	00	00	01	03	00	00	00	00	00	00	**57**
Trincomalee	06	26	03	13	00	00	01	01	00	01	01	01	01	01	02	04	00	00	**78**
Kurunegala	07	82	16	64	00	02	02	09	00	00	02	04	01	04	01	07	00	00	**89**
Puttalam	01	51	02	17	00	00	00	13	00	01	00	02	00	02	00	04	00	00	**89**
Anuradhapur	05	38	01	13	00	02	00	01	00	02	05	12	01	04	00	01	00	00	**74**
Polonnaruwa	00	14	02	16	00	01	00	02	00	01	00	03	00	00	00	03	00	00	**57**
Badulla	03	11	08	45	01	01	02	08	00	01	00	03	01	08	04	22	00	00	**100**
Monaragala	01	03	04	25	00	00	03	06	02	05	00	09	03	13	00	02	00	00	**90**
Ratnapura	02	24	04	21	02	04	07	12	00	41	00	09	02	06	00	02	00	00	**63**
Kegalle	05	35	05	51	01	09	01	03	00	00	00	10	02	08	17	31	00	00	**91**
Kalmunai	00	00	03	14	00	00	00	00	00	00	00	00	00	00	00	05	00	00	**46**
SRI LANKA	**139**	**847**	**104**	**531**	**07**	**30**	**36**	**173**	**07**	**107**	**27**	**262**	**25**	**151**	**44**	**188**	**00**	**02**	**75**

Source: Weekly Returns of Communicable Diseases (WRCD).
***Dengue Fever / DHF** refers to Dengue Fever / Dengue Haemorrhagic Fever.
****Timely** refers to returns received on or before 9 February . 2008 Total number of reporting units =290. Number of reporting units data provided for the current week: 238

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ON STATE SERVICE

Dr. M. R. N. ABEYSINGHE
EPIDEMIOLOGIST
EPIDEMIOLOGICAL UNIT
231, DE SARAM PLACE
COLOMBO 10