Archives of Disease in Childhood, 1988, **63**, 218–226

Correspondence

Human retroviruses and paediatric disease

Sir,

Thomson and Dalgleish[1] discuss the management of human immunodeficiency virus (HIV) positive children with regard to immunisation and state that 'HIV positive children should never be given live viral vaccines'. In a review of the medical records of 213 children with symptoms of acquired immune deficiency syndrome (AIDS) or AIDS related complex (ARC), 171 had been immunised with live oral polio vaccine and 63 with measles, mumps, and rubella vaccine with no adverse effects. At least 38 of them received live vaccines after the onset of symptoms related to HIV.[2] In addition, of the 71 children followed up in the European collaborative prospective study of infants born to mothers positive for HIV, 56 had received diphtheria/tetanus or diphtheria/tetanus/polio vaccine (DTP), 30 Salk, 14 Sabin, eight hepatitis B, and one mumps vaccine. Of the five children who had developed AIDS or ARC, two had received DTP, two Salk, and one Sabin vaccine. No adverse reactions were reported in any child.[3]

The potential benefit of protecting these children from natural disease before their immune system is compromised led the World Health Organization and the Immune Practices Advisory Committee of the US Public Health Service to recommend that DTP, oral live polio, and measles vaccines should be given to asymptomatic children infected with HIV.[2 4] Live vaccines (oral polio, measles, and BCG) should only be withheld from children with symptoms of AIDS or ARC because of theoretical concerns about the competence of their immune system. Children, however, who live in a household with patients with AIDS or ARC should be given inactivated polio vaccine instead of oral polio vaccine because of the risk of secondary transmission. With regard to immunisation of infants positive for HIV, it is important therefore to distinguish between those who have symptoms related to HIV infection and those who do not.

All available information must be used before reaching decisions which will have far reaching implications, and we urge that caution be exercised before statements are made which may influence policy.

References

[1] Thomson BJ, Dalgleish AG. Human retroviruses and paediatric disease. *Arch Dis Child* 1987;**62**:631–4.

[2] Immunization Practices Advisory Committee. Immunization of children infected with Human T-lymphotropic virus type III/lymphadenopathy associated virus. *Pediatr Infect Dis* 1987;**6**:209–12.

[3] Mok JQ, Giaquinto C, De Rossi A, Grosch-Wörner I, Ades AE, Peckham CS. Infants born to HIV seropositive mothers— preliminary findings from a multi-centre European study. *Lancet* 1987;**i**:1164–8.

[4] Expanded Programme on Immunization. Joint WHO/UNICEF statement on immunization and AIDS. *Weekly Epidemiological Record* 1987;**62**:53–4.

Y D Senturia *and* C S Peckham
Paediatric Epidemiology Department,
Institute of Child Health,
30 Guilford Street,
London WC1N 1EH

Sir,

Thomson and Dalgleish[1] give advice on the immunisation of HIV positive children that is at variance with current practice and likely future official recommendations. They do not distinguish between children who are HIV positive but asymptomatic, and children who have developed clinical AIDS with associated immunodeficiency. In advising that 'HIV positive children should never be given live viral vaccines or BCG' they omit any reference to pertussis vaccine, which as a killed vaccine can be used with safety. Furthermore, recent experience suggests that:

(1) Even symptomatic HIV positive children may be given live vaccines with the exception of BCG, as the benefits of protection appear to outweigh any risks from the vaccines. Inactivated vaccines should also be given in accordance with existing recommendations.

(2) Asymptomatic HIV antibody positive subjects may be given live vaccines for appropriate indications with the exception of BCG. If their parents or other household members are known to be immunocompromised (from AIDS or any other reason) the children should not receive oral polio vaccine because vaccine viruses are excreted by the recipient of the vaccine. These children should receive inactivated polio vaccine for routine immunisation.

(3) Children and young adults with AIDS or other clinical signs of HIV infection may be at risk of serious complications of infectious disease such as measles or varicella. If they are exposed to these diseases they should be given passive immunisation with appropriate immunoglobulin.

Reference

[1] Thomson BJ, Dalgleish AG. Human retroviruses and pacdiatric disease. *Arch Dis Child* 1987;**62**:631–4.

A G M Campbell
Department of Child Health,
University of Aberdeen,
Aberdeen AB9 2ZD

Drs Thomson and Dalgleish comment:

We would like to thank Dr Senturia, Professor Peckham, and Dr Campbell for drawing attention to the controversial advice pertaining to live vaccines and HIV infected children in our annotation. The advice we quoted for the

HIV infected subject has many advocates in Western communities.[1] The situation is, however, clearly different in countries where the risk of the vaccinable disease is not only high but also carries a high morbidity and mortality. Moreover the complete or partial cessation of the World Health Organisation (WHO) extended programme for immunisation because of fears of vaccinating HIV infected children would be disastrous for many countries. We did not emphasise the difference between asymptomatic HIV positive children and those with AIDS or AIDS related complex, as we had already made the point that the distinction is more difficult to make in children.

At a recent WHO meeting (11–13 August 1987) attended by AGD these issues were reviewed. There is a vast and increasing number of reports that suggest that activating or stimulating T cells in vitro may lead to increased replication of HIV. Although many aspects of HIV infection in vitro can readily be extrapolated in vivo, all the available evidence (much of it unpublished) suggests that multiple vaccinations of HIV infected children do not appear to be detrimental although it is likely that HIV infected children only respond to neoantigens before they become symptomatic. A full review of these data by WHO advisers supports the use of antigens in HIV infected individuals in those countries where the target diseases of the extended programme for immunisation remain important causes of morbidity and mortality. No distinction was drawn between asymptomatic children and those with clinical AIDS, reflecting the overwhelming importance of continued vaccination programmes in these communities.

The antigens recommended for the extended programme for immunisation include the live viruses vaccines —measles and polio, the toxoids—diphtheria, tetanus, and pertussis (DTP), and BCG. The inactivated polio vaccine is preferable to the oral preparation where possible, although the oral preparation is far cheaper and more widely available. All vaccines should be given to all children as early in life as possible in countries where HIV is endemic, especially as screening of all children may be impractical before vaccination. In areas, however, in which tuberculosis is uncommon BCG may be withheld from those children known to be HIV seropositive and should definitely not be given to those with AIDS or AIDS related complex.

We thank the above correspondents for pointing out that the word 'never' was inappropriate in the absence of a more detailed discussion.

Reference

[1] Jones P, Watson G. AIDS. In: Meadow, R. ed. *Recent advances in paediatrics*. Edinburgh: Churchill Livingstone, 1986:1–23.

Aetiology of growth hormone deficiency

Sir,

We were interested in the report by Herber and Kay on the aetiology of growth hormone deficiency.[1] We have recently reported a small study that in part addresses the pathogenesis of hypothalamopituitary damage due to birth injury and hypoxia.[2]

We studied 26 consecutive children with newly diagnosed idiopathic growth hormone deficiency. Twelve children had perinatal problems that we believe either led to or reflected trauma, hypoxia or ischaemia. Of these 12 children, 11 had an empty sella turcica on high resolution computed tomograms of the hypothalmopituitary region. We found a highly significant association between an empty sella turcica and such perinatal problems and between a full sella turcica and no such problems. In addition, an empty sella turcica was significantly more likely to be associated with multiple pituitary hormone deficiencies and a full sella turcica with isolated growth hormone deficiency.

Although our sample size was smaller than that of Herber and Kay, we were able to obtain details of perinatal events directly from our subjects' parents and from their case notes. We believe our results indicate that (idiopathic) growth hormone deficiency may be precipitated by events around birth compromising the blood supply to the pituitary gland and resulting in the empty sella turcica on computed tomograms.

References

[1] Herber SM, Kay R. Aetiology of growth hormone deficiency. *Arch Dis Child* 1987;**62**:735–6.
[2] Surtees R, Adams J, Price D, Clayton P, Shalet S. Association of adverse perinatal events with an empty sella turcica in children with growth hormone deficiency. *Hormone Res* 1987; (in press).

R Surtees
Institute of Child Health, London WC1N 1EH

D A Price
Department of Child Health, University of Manchester, Royal Manchester Children's Hospital, Manchester M27 1HA

Sir,

We read with great interest the paper by Herber and Kay.[1] We are, however, surprised by the conclusion that the strong relation noted between traumatic deliveries and subsequent growth hormone deficiency no longer exists in the United Kingdom.

We recently analysed some perinatal risk factors in 177 patients in Belgium with growth hormone deficiency.[2] We found that the frequency of non-cephalic fetal presentation was about eight times higher in patients with growth hormone deficiency (31%) than in the control population (4%). The difference is highly significant ($\chi^2=47$; $p<0{\cdot}001$).

Herber and Kay were unable to examine breech deliveries separately. We therefore suggest that due to this limitation in their study they are unable to draw conclusions about traumatic delivery and subsequent growth hormone deficiency. In our study all children with breech