

## *Case Reports*

### **Acute Toxicity of Vitamin A Administered with Measles Vaccine**

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Routine vitamin A supplementation in under five children has been recommended to improve child survival(1). The World Health Organization/United Nations Children Fund/International Vitamin A Consultative Group (WHO/ UNICEF/ IVACG) Task Force recommends universal distribution of vitamin A in countries where xerophthalmia is a significant public health problem which includes India as well (2). It is recommended to orally supplement 100,000 IU of vitamin A to infants and 200,000 IU to children between 1 year to 6 year of age every 3-6 months.

The Government of India also recommends universal supplementation of 100,000 IU of vitamin A to all children alongwith measles vaccine(3). However, the safety and efficacy of mass vitamin A administration during infancy has not been firmly established. The present report highlights acute vitamin A toxicity noticed in 3 infants who received 100,000 IU of vitamin A with measles vaccination.

### **Case Reports**

Three infants, 2 from one hospital (9 and 11 months of age) and 1 (aged 9 months) from another institution of Delhi were diagnosed to be suffering from acute vitamin A toxicity in the last 6 months (January 96-July 1996). All three infants presented with bulging of anterior fontanelle after 24 hours of oral intake of 100,000 IU of vitamin A given along with measles vaccine. Both nine month old infants also had associated excessive vomiting and irritability. There was no history of fever, convulsions, drug intake and jaundice in the recent past. General physical examination revealed normal vital functions with bulging anterior fontanelles (protrusion from the skull when the child was sitting and was quiet). Central nervous system examination showed normal motor and sensory functions including reflexes.

Investigations revealed normal CSF findings in all three infants.

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Ultra-sonography of skull in all three infants and CT scan of one patient showed normal ventricles. Two infants presenting with vomiting and irritability were treated with mannitol (1.4 g/kg/dose 8 hrly) for 24 hrs. and other child was left untreated. All three children improved within 24 hours and were discharged within 2 days.

### Discussion

This report highlights acute toxicity of vitamin A noticed in 3 infants from two major hospitals. It seems to be the tip of an iceberg and we believe that many cases occurring in the community may not be reported. Moreover the observed toxicity was bulging of fontanelle on clinical assessment. It is possible that frequency would have been higher if more sensitive technique of detection of intracranial pressure by cerebrospinal fluid cannula had been employed. Bulging of fontanelle has been noticed after supplementation with 25,000 IU-50,000 IU of vitamin A at the time of DPT/OP V immunization in two Bangladesh studies(4,5). There is a substantial support for the conclusion that exposure to 100,000 IU/day of vitamin A can produce multiple adverse effects(6) especially bulging of fontanelle as documented in the present study. A long term follow up of infants with bulging fontanelle would be important to preclude any possible neurological or developmental disorders. Moreover the efficacy of measles vaccine is reduced in infants who simultaneously receive 100,000 units of vitamin A (7).

The prevalence of vitamin A deficiency in India has declined from 2% in 1975-79 to 0.7% in 1988-90(8). Vitamin A deficiency now contributes to only 0.04% of total blindness as compared to about 2% two decades ago(9). In view of potential acute toxicity of vitamin A in infancy and marked

reduction in the reported prevalence of vitamin A deficiency, it would be prudent to reconsider the recommendations of Child Survival and Safe Motherhood (CSSM) Programmed).

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- 8 National Nutrition Monitoring Bureau. Report of Repeat Surveys (1988-90). Hyderabad, National Institute of Nutrition, 1991.
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**NOTES AND NEWS**

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**3rd EAST ZONE CONFERENCE OF IAP AND 8th BIHAR  
STATE CONFERENCE OF IAP**

These events are being organized by the Ranchi Branch of IAP on the 16th, 17th and 18th February, 1997 at the Indian Institute of Coal Management, Ranchi. The Registration forms are being individually posted to all the IAP members from the East Zone. For further details please contact: Dr. Krishna Kumar, Organizing Secretary, East Zone IAP Conference, 50 Doctors Colony, RMCH, Ranchi-834 009 (Bihar). Tel. No. (0651) 207443, 310340; Fax (0651) 205144.

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**FIFTH CONGRESS OF THE ASIAN PAN PACIFIC SOCIETY OF  
PEDIATRIC GASTROENTEROLOGY AND NUTRITION**

This international event is to be held from April 10-13, 1997 at Taipei, Taiwan. For further information please contact: The Conference Secretariat: c/o K & A International Co., Ltd. P.O. Box 55-1143, Taipei, Taiwan. Tel: (886-2) 516-3952 Fax: (886-2) 516-2516.

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**NINTH ASIAN CONGRESS OF PEDIATRICS**

This international event is to be held from 23rd-27th March 1997 at Hong Kong. For further details please contact: The Congress Secretariat, Meeting Planners (HK) Ltd., 12-A Dai Fat Street, Tai Po Industrial Estate, Tai Po, N.T., Hong Kong. Tel: (852) 2665 0990 Fax:(852)26676927.