Non-Polio AFP Rate and Polio Eradication

Certification of polio free status of any country requires non-polio AFP (acute flaccid paralysis) rate of at least 1 per 100,000 children below 15 years and at least 80% adequate stool collection rate for three consecutive years(1). Advisory Committee on Polio Eradication (ACPE), WHO, in October 2005 recommended an operational target for non-Polio AFP rate of at least 2/100 000 for all endemic countries(2).

India has made great progress towards eradicating polio and has had excellent AFP surveillance. Since 2004 there was rapid increase in the non-polio AFP rate, which reached 8 in 2007 (***Table* I**). The increase in non-polio AFP rate is mainly limited to the two polio hyperendemic states of Uttar Pradesh and Bihar(3).

Non-polio AFP rate is really the incidence of AFP caused by diseases other than poliomyelitis. Hence non-polio AFP rate cannot be increased to raise the sensitivity of surveillance beyond the maximum (expected) incidence of non-polio AFP cases. It is significant to note that ACPE did not increase the certification target. There has been no reported outbreak of paralytic neurological illness in children in those states.

Bihar has the highest non-polio AFP rate in India. In 2005 the rate was 14 with 81% adequate stool rate. In 2006 the rate was 19 with adequate stool rate of 82%. In 2007 the rate is more than 22 and 87% adequate stool rate. However in 2005 only 33% of polio cases could be confirmed though the overall adequate stool rate of AFP cases was 82%(4). A high proportion of compatibles have been found in subsequent years and also in Uttar Pradesh. Presence of compatible polio cases is an indication of weakness in the surveillance system(5). Though it is impossible to completely eliminate them, increase in sensitivity of surveillance as indicated by very high non-polio AFP rate should lead to a reduction in the number of compatible polio cases.

It appears that the inclusion of large number of 'suspected' AFP has masked genuine AFP cases reported late and maintained adequate stool rate above 80%. Unless there is some other reason to explain this anomalous situation, very high non-polio rate may have to be considered harmful to the quality of polio surveillance. and polio eradication. This discrepancy of having more than 80% adequate stool rate for AFP, with considerably less proportion of polio cases being confirmed despite very high non-Polio AFP rate has to be urgently addressed.

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TABLE I AFP SURVEILLANCE INDICATORS AND POLIO CASES- INDIA 1998-2007

	1998*	1999*	2000	2001	2002	2003	2004	2005	2006	2007†
Non-Polio AFP rate	1.45	1.84	1.99	1.76	1.87	1.97	3.11	6.43	7.34	8.45
Adequate stool rate (%)			82	84	82	81	82	81	82	85
Confirmed polio cases			265	268	1600	225	134	66	676	590

** Data before the implementation of virologic classification scheme not included. As on 5th Jan 2008*

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Cassia Poisoning Behind Mysterious Disease in Children in Uttarakhand

I would like to compliment 'Indian Pediatrics' for publishing and providing a solution to the recurrent annual outbreaks of a mysterious fatal disease affecting young children of western UP and Uttarakhand for last many years(1). This illness often labeled as 'acute viral encephalitis'by the investigating agencies and 'brain fever' by lay media has been puzzling pediatricians and public health experts for over a decade.

I am practicing in Roorkee, adjacent to the district Saharanpur, the epicenter of these outbreaks for last 15 years. For last 6-7 years, I am getting cases of acute onset of encephalopathy during September to early December months, characterized by sudden onset of vomiting, mild fever, abnormal movements and at times seizures and rapid progression of unconsciousness. All these cases were hailing from rural areas and were 2-5 years old with a slight female preponderance.

These cases used to have hypoglycemia (30%), raised SGPT (100%), and prolonged PT I.N.R. more than 1.2 (95%) but with normal serum bilirubin levels. CPK was also found to be raised.The CSF examination was normal in all these cases without any pleocytosis. On the basis of the short clinical presentation and biochemical findings, we used to diagnose and treat them as cases of Reye syndrome. The cases had very bad prognosis and majority (>90%) would die within 48 hours of presentation after a very brief illness. Those who survived would recover completely without any neurological deficit. So far, I have treated 229 (2003 – 46; 2004 – 74; 2005 – 78; 2006 – 14; 2007-17) children and out of these 212 died giving a case fatality of around 93%.

To my surprise, >50% of the cases presenting this year gave a positive history of eating the beans of *Cassia occidentalis*, before falling sick. It is a highly prevalent weed called "*Pnawad*" in local language. Even the friends of the cases who had consumed the weed along with the patient but in smaller quantity also developed mild illness with raised SGPT but without full-blown encephalopathy.

As the public awareness about the poisonous effect of the weed is scant and even pediatricians are not aware of this possibility, there is an urgent need to create mass awareness about the weed and to take measures to reduce its density so that future outbreaks can be prevented.

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