echocardiography would have had additional confirmatory value.

The use of high PEEP has been well documented to worsen hypoxemia in neonates, especially in an infant with alveolar overdistension associated with MAS. Alveolar overdistension possibly increases the pulmonary vascular resistance and secondarily increases the intra-pulmonary shunt fraction(3). This would have compounded the baby's problems.

Babies with PPHN are difficult to manage, with a mortality rate around 50%. Too rapid a decrease in the ventilator settings, can be disastrous, because of the "hypoxic flip-flop". Ventilation has to be adjusted to maintain a "critical level of $PaCO_2$" at which the PaO_2 tends to rise. The critical level of $PaCO_2$, though usually under 30 mm Hg, varies with individual babies.

In our neonatal unit, we have successfully managed cases of PPHN with hyperventilation in high oxygen concentrations, meticulous nursing care, minimum handling, use of alkali and occasional use of the pulmonary vasodilator, tolazoline and use of cardiotonic agents like dopamine.

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Reply

We thank Dr. Bhandari and colleagues for valuable comments on our case report. Several points raised by them on the diagnosis and management of neonates with persistent pulmonary hypertension and extensively covered in our review article that appeared subsequently(1).

The comments on the role of PEEP in increasing pulmonary vascular resistance are valid. Lack of reference to FiO^a (which was 1.0) alongwith the IPPV settings given in the report was an inadvertent typographical error.

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Poliomyelitis and Immunization Status

In the article entitled 'Poliomyelitis with special reference to Immunization status' by Mathur *et al.*(1) the observation of high mortality among partially vaccinated children and its interpretation as an

adverse effect of OPV appears unfounded.

OPV being a live virus vaccine, it can provide good antibody response even with one dose. The protection conferred by two doses is about 90-100%(2). The adverse effects of a drug or vaccine increases with the number of doses administered, and a severe form of illness observed in partially immunized children cannot be considered as an adverse effect. As observed by the authors the high mortality among partially immunized children were due to a severe form of the disease (bulbar involvement). As this study was not a population based prospective study, it cannot be said that this complication is more among partially immunized children. There is also a possibility of partially immunized children developing milder form of disease and not seeking admission(3).

As there were no viral studies done to detect non-polio agents, and the maintenance of cold chain or potency of vaccine were not assessed prior to vaccinations, the conclusion reached by the authors are mere speculations. These loose statements can have adverse repercussions on immunization practices in our community and should be avoided.

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Reply

In this period of three years (January, 1986-December, 1988) retrospective study factors significantly affecting the disease morbidity and mortality were studied. The present study showed that serious type of illness (bulbospinal and bulbar type) was more in partially immunized children (25%) as compared to unimmunized children (16.8%). The mortality was more than two times higher in the partially immunized (29.6%) as compared to unimmunized (11.2%)(1).

Sen *et al.* have reported the possibility of partially immunized children developing milder form of disease and not seeking admission in the hospital(2). If partially immunized children can develop mild disease why some children cannot develop severe form of poliomyelitis seeking hospitalization.

Immunization programme suffers adversely in a community if any OPV vaccinated child suffers from poliomyelitis. At this it is difficult to convince the parents and other members of the community that the child who suffered from the disease was due to other non-polio viral agents or the cold chain was defective or the vaccine was not potent.

If we want that our immunization programme improves we should not only study the logistics but also the adverse effects of OPV vaccine. It is high time that a national study should be carried out in immunized