

H1N1 Influenza in a Preterm Neonate

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Sir,

There is a swine flu pandemic worldwide. As of 28 February 2010, worldwide more than 213 countries and overseas territories or communities have reported laboratory confirmed cases of pandemic influenza H1N1 2009, including at least 16,455 deaths [1]. In India, 1,337 deaths and 29,522 cases have already been reported till 22nd February, 2010 due to H1N1 [2]. Influenza is an uncommon illness among premature infants. Here, we report a preterm with respiratory distress syndrome that developed H1N1 influenza after exposure to a resident doctor.

A 32 weeks preterm male having birth weight of 1.35 kg was referred to level III NICU of a Government hospital at 16 hour of life for prematurity. Infant was ventilated, given surfactant, started on antibiotics, trophic feeds and parenteral nutrition. Initial septic profile and blood culture was negative, chest radiograph showed mild RDS. Infant was extubated on day 4 of life. On the same day infant was exposed to one of the residents who later turned out to be H1N1 positive. After 2 days infant again developed respiratory distress, temperature instability and respiratory failure and was re-ventilated. Repeat chest radiograph showed a homogenous opacity involving right lung. Sepsis screen including blood culture, urine culture, endotracheal aspirate culture and lumbar puncture were done which were all negative. In view of suspicion and contact with H1N1 positive doctor, nasopharyngeal swab was sent for reverse transcriptase PCR, which came positive after 4 days. Infant was isolated and started on

syrup Ostelamivir 4 mg/kg /dose, twice a day and continued on antibiotics, parenteral nutrition. The Infants pneumonia kept on worsening and went into refractory shock and multiorgan dysfunction and later he succumbed to death after 10 days of reventilation.

Till date only one case of swine flu is reported in preterm neonate [4], the infant presented on day 50 of life mainly with respiratory failure but there was no obvious epidemiological exposure among patient and staff in that case. There is also report available of perinatal transmission of H1N1 from mother to fetus.

H1N1 is transmitted by droplets or fomites. The entire airway from pharynx to alveoli may be involved and can result in life-threatening pneumonia and also permit secondary bacterial invasion [3]. The infectious period for a confirmed case is defined as 1 day prior to the onset of symptoms to 7 days after onset. Incubation period of H1N1 is 2–7 days. Our infant was also presented after 2 days of exposure.

Influenza infection in premature infants is likely a result of reduced levels of passively transferred protective maternal antibodies [4]. In infants, disease is abrupt with instable temperature, apnea, tachypnea, pneumonia and clinical features difficult to differentiate with bacterial sepsis. Severe or complicated illness may lead to multi-organ dysfunction [3].

Although, our infant presented like bacterial sepsis we strongly believe that the infants' clinical deterioration was due to H1N1 infection as all other possible causes were ruled out and positive report of nasopharyngeal swab with reverse transcriptase PCR confirmed the diagnosis. It is the most specific diagnostic test available [3].

Although efficacy and safety of Ostelamivir is not known in preterm infants but its use for children less than 1 year old was recently approved in the US by the FDA under an Emergency Use Authorization (EUA) [5]. Evidence for

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benefits from the treatment is strongest when started within 48 hour of onset of illness.

Diagnosis of H1N1 in neonates needs a high index of suspicion and prompt therapy.

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