CORRESPONDENCE

Neonatal Monkeypox Virus Infection

TO THE EDITOR: The ongoing monkeypox outbreak was recently declared to be a Public Health Emergency of International Concern by the World Health Organization.[1] Young children are at risk for severe disease; therefore, early recognition and prompt treatment are important.[2]

We report a case of perinatally acquired monkeypox virus infection and adenovirus coinfection in a 10-day-old infant. After the infant's uneventful birth in late April 2022, a rash developed on day 9 of life. The rash was initially vesicular, starting on the palms and soles and subsequently spreading to the face and trunk, and gradually became pustular (Fig. 1). Nine days before the birth, the infant's father had had a febrile illness, followed by a widespread rash; the rash resolved before the infant's birth. Four days after the infant's delivery, a similar rash developed in the mother. The family lived in the United Kingdom, and there was no history of travel to Africa or of contact with any travelers.

The infant was transferred to the regional pediatric intensive care unit on day 15 of life owing to evolving hypoxemic respiratory failure (Fig. S1 in the Supplementary Appendix, available with the full text of this letter at NEJM.org). A number of diagnoses (neonatal varicella, herpes simplex virus infection, coxsackievirus or enterovirus infection, staphylococcal skin infection, scabies, syphilis, and gonorrhea) were considered. The presence of axillary lymphadenopathy, the nature of the skin lesions, and the atypical timeline of intrafamilial infection aroused concern regarding human monkeypox. Polymerase-chain-reaction testing of blood, urine, vesicular-fluid, and throat-swab samples obtained from the infant and mother led to a diagnosis of monkeypox virus infection (clade IIb). Adenovirus was also identified in the infant's respiratory secretions and blood. The infant's condition worsened, and invasive ventilation was initiated. A 2-week course of enteral tecovirimat (at a dose of 50 mg twice a day) was commenced in combination with intravenous cidofovir. After 4 weeks in intensive care, including 14 days of invasive ventilation, the infant recovered and was discharged home. The timeline of intrafamilial infection and test results is shown in Figure S2.

Reports of neonatal monkeypox virus infection are rare.[3] This was a case of neonatal monkeypox virus infection after peripartum transmission within a family cluster; transplacental transmission could not be ruled out.[4] Because this was a single case, it is not possible to attribute the clinical illness to either pathogen (monkeypox virus or adenovirus) directly, nor is it possible to attribute the improvement in the infant's clinical condition to the use of tecovirimat or cidofovir.[5] Monkeypox virus infection should be considered in the differential diagnosis of a neonatal vesicular rash.

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Disclosure forms provided by the authors are available with the full text of this letter at NEJM.org.

Figure 1. Monkeypox Skin Lesions in a Newborn Infant.

Shown are monkeypox skin lesions on the hands and feet of a newborn infant. Visible lesions range from vesicles to pustules, and lesions that were beginning to form scabs are also shown. Photographs were obtained on day 5 after the onset of rash.

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