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A Case Of Neonatal Varicella

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CLINICAL HISTORY:

A single live term male baby was delivered via emergency LSCS (i/v/o Antepartum Hemorrhage), in a tertiary care center. The maternal obstetric score was G2P1L1 and her blood group was O+ve. Antenatal history was uneventful.

Period of gestation: 40 weeks BW: 2.68 kg. APGAR: 8 & 9 at 1min and 5min respectively .

No postnatal complications. On day 14 after birth, the baby was brought to the hospital with a history of profuse fluid-filled lesions all over the body for 4 days.

The lesions were first noticed on day 10 of life as small fluid-filled lesions over the forehead which gradually spread over the entire body involving palms and soles. No history of fever, lethargy, refusal of feeds, or excessive crying.

No history of recent Varicella infection or herpes in any family member.

EXAMINATION AND INVESTIGATIONS:

General examination:

The baby was active and alert.

Head Circumference: 32CM

Length: 48cm

Weight: 2.63kg

Heart rate: 130/min, Afebrile

Eye examination:

Mild purulent discharge from both eyes and crusting of lashes noted. Cornea, conjunctiva, and pupillary reflexes were normal. Mild icterus was noted.

Skin Examination:

1-2mm clear pleomorphic vesicular lesions from head to toe (including palms and soles) with an erythematous surrounding skin.



Per Abdomen:

No organomegaly.

CNS Examination:

The tone and activity were normal.

Neonatal reflexes were present.

Cardiovascular system:

S₁ S₂ heard. No Murmurs.

Respiratory system:

Bilateral normal vesicular breath sounds. No added sounds.

Routine blood investigations such as CBC, RFT, and electrolytes were normal.

Serum total bilirubin was 13.1 mg/dl.

Tzanck smear showed acantholytic cells on a proteinaceous background.

A skin biopsy performed from the truncal skin (0.4×0.4cm), showed ballooning degeneration of epidermal keratinocytes, enlarged nuclei, and intranuclear inclusions.

The dermis was edematous and congested with neutrophil and lymphocyte infiltration.

Eye swab showed the growth of Klebsiella

FINAL DIAGNOSIS:

Differential Diagnosis:

1. Neonatal varicella
2. Neonatal pustular melanosis
3. Herpes simplex

Final diagnosis:

Neonatal varicella with Ophthalmia neonatorum.

DISCUSSION:

Varicella in neonates can present in the form of congenital varicella syndrome or neonatal varicella. Congenital varicella syndrome develops in <1% of babies whose mothers are infected in the 1st and 2nd trimester, where the offspring will have multiple anomalies. 3rd trimester poses almost no risk of congenital varicella syndrome, but the child can develop herpes zoster in the first or second year of life(1). If the mother gets infected within 3 weeks before delivery, then the risk of the baby getting a disseminated infection is about 20-50%. If the maternal infection sets within 5 days before the delivery, the infection chance is high, as maternal antibody transfer would not have occurred(2,3). Mortality in those cases would be 0-3%. However, if such cases exhibit symptoms from day 5 to 12 postpartum, the mortality rate would increase to 20%.

Transplacental infection can present up to 12 days after delivery, after which the infection is likely to be community-acquired(2). In our case, the infection has been noticed 10 days after delivery. No similar lesions were found in examining the mother. So it is likely that the infection is community-acquired. Recommended diagnostic test is viral DNA amplification

by PCR, as it has high sensitivity and specificity. Other reliable tests may include ELISA, indirect immunofluorescence, and fluorescence antibody tests. Virus-specific antibody detection is not useful as it may mimic antibodies to HSV. Moreover, maternal HSV and Coxsackievirus infections may present with a similar rash. They may serve as a differential diagnosis to neonatal varicella (2).

Neonatal varicella is treated with Acyclovir which was used in this case. Immunoglobulin can also be administered (2). A community-acquired infection has a relatively better prognosis than maternally transmitted varicella presenting from day 5-12. Prevention of neonatal varicella can be achieved by immunoglobulin (VZIG) administration to babies if the mother is diagnosed with a varicella rash, 3 weeks before or 7 days after delivery. It can prevent 50% of the symptomatic cases and reduce the severity in others(2)(4). The baby and mother need not be separated and breastfeeding is not contraindicated (2).

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