

CONGENITAL CHICKENPOX

(A Case Report)

by

PRAGNA M. PAI,* M.D., D.C.H.

and

JYOTI S. SONEJI,** M.D., D.C.H.

Congenital viral infection is defined as a disease present at birth or manifesting before the shortest known incubation period for that virus in the immediate neonatal period (Monif, 1969). Based on this definition, congenital varicella infection is defined as chickenpox occurring in a newborn baby before the tenth day of life. As most of the women have acquired the disease during childhood, chickenpox is an uncommon exanthematous infection during pregnancy in India (Tibrewala and Pai, 1972). This also explains the rarity of congenital chickenpox in the newborn babies.

CASE REPORT

M.P., a nine day old female baby was a normal full-term home delivery. Five days prior to delivery, mother had developed chickenpox, i.e. fever followed by maculopapular and vesicular rash with subsequent scab formation. (Photograph 1).

Baby had slight fever on seventh day of life. This was followed by appearance of maculopapular rash on the trunk and extremities. On examination, baby was fully mature and weighed 2.8 kgm. Neonatal reflexes were normal. There was no fever. Skin covering the trunk, extremities and perianal region showed

maculopapular rash with vesicles and scabs at places. (Photograph 2). The rash was centripetal in distribution i.e. more, on trunk and flexor aspect of the body. Systemic examination did not reveal any abnormality. The swab of vesicle fluid did not grow any organisms on culture medium. Subsequently the lesions had scab formation. With characteristic nature and distribution of rash, history of maternal chickenpox in the prenatal period and negative culture of the vesicle-fluid, diagnosis of chickenpox was made. No drugs were given to the baby as there were no complications. When seen again on 21st day of life, baby had no symptoms and weighed 3.1 kgm. All the scabs had fallen off, but the scars were still visible.

Discussion

Congenital varicella is a rare condition. In a review of literature of maternally transmitted varicella by Freud, first case dates back to 1878; subsequently there have been a few case reports (Able, 1964; Desmond, 1961; Newman, 1965; Odessky, 1954; O'Neil, 1962; Pearson, 1964).

If the fetus is affected early in gestation abortion may occur. Montef Monif (1969; Tibrewala and Pai, 1972). Infection during later pregnancy may result in premature delivery, stillbirth or clinical disease.

Diagnosis of congenital chickenpox is based on observations of the rash and the knowledge of the disease in the mother few days prior to delivery (Odessky, 1954; Raine, 1966). Majority of babies develop rash 8 days after the onset of mater-

*Professor of Pediatrics.

**Assistant Professor of Pediatrics, Department of Pediatrics, Topiwala National Medical College & B. Y. L. Nair Charitable Hospital, Bombay-400 008.

Received for publication on 4-8-1974.

nal disease. Rash of chickenpox in the mother and in the baby is usually not in the same stage of development (Monif, 1969; Newman, 1965). This discrepancy between maternal and neonatal lesions suggests that the transplacental infection does not occur at the onset of maternal disease, but it occurs during later viremic stage (Newman, 1965). This explains the delay in appearance of rash in our case.

Most of the workers feel that congenital varicella infection is thus relatively benign and has uncomplicated course. However, different mortality figures have been reported. Desmond *et al.*, (1961) report 20% mortality due to complications of congenital infection. Neonatal mortality may at times be secondary to maternal mortality, particularly if mother gets varicella pneumonia (Pearson, 1964).

Histological changes in the placenta in the form of foci of miliary coagulative necrosis, infiltration with leukocytes, mononuclear cells and foreign body giant cells have been described in maternal varicella infection. Placental study has not been possible in the present case, as this was a home delivery.

If a gravid female without history of prior disease is exposed to chickenpox, administration of gamma-globulin is indicated (Monif, 1969). Gamma-globulin therapy does not prevent the disease but it tends to reduce the complications of the disease. If mother gets the disease in the immediate prenatal period, newborn should be isolated from her and given gamma-globulin to prevent the

disease. In spite of high degree of infectiousness, low incidence of chickenpox during first 3 months of life and failure to spread in the newborn nurseries could be due to maternally acquired antibodies (Monif, 1969; Newman, 1965). Administration of gamma-globulin is not helpful once the infection is established.

Acknowledgment

We wish to thank Dr. M. S. Kekre, Dean, Topiwala National Medical College & B Y. L. Nair Charitable Hospital for his permission to report this case.

We also thank the Research Society of these institutions for its help in preparing the manuscript.

References

1. Abler C.: Neonatal varicella, *Amer. J. Dis. Child.* 107: 492, 1964.
2. Desmond M. M., Franklin R. R., Blattner R. J. & Hill, R. M.: *Ped. Clin. North. Amer.* 8: 421, 1961.
3. Freud P.: Congenital varicella. *Amer. J. Dis. Child.* 96: 730, 1958.
4. Hodgman J. E., Freedman, R. I. & Levan N. E.: Neonatal Dermatology. *Ped. Clin. North. Amer.* 8: 713, 1971.
5. Monif G. R. G.: Viral infections of the human fetus. The Macmillan Company. Collier-Macmillan Ltd., London, 1969.
6. Newmann C. G. H.: *Lancet.* 2: 1159, 1965.
7. Odessky L., Newman B. Wein G. B.: *N. Y. J. Med.* 54: 2849, 1954.
8. O'Neil R. R.: *Amer. J. Dis. Child.* 104: 391, 1962.
9. Pearson, H. E.: *Zoster Obst. & Gynec.* 23: 21, 1964.
10. Raine, D. N.: *Amer. J. Obst. & Gynec.* 94: 1144, 1966.
11. Tibrewala N. S. and Pai P. M.: *J. Obst. & Gynec. India,* 22: 418, 172.

See Fig. on Art Paper V