



CASE REPORT ON COLLODION BABY

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ABSTRACT

Lamellar Ichthyosis is also called as ichthyosis lamellaris and non-bullous congenital ichthyosis is a rare inherited skin disorder affecting 1 in 600000 people. A preterm (32 weeks) male child was born on 18th July 2016 at Khammam government hospital weighing 2.200 grams, length 48cm, head circumference 33.5cm. The mother age is 22 years and age at marriage is 19 years. No history of consanguinity marriage of parents. The membrane itself peels from day 3 revealing red colored skin underneath. Minimum handling and aseptic conditions should be maintained whenever dealing with the baby.

INTRODUCTION

Lamellar Ichthyosis is also called as ichthyosis lamellaris and non-bullous congenital ichthyosis is a rare inherited skin disorder affecting 1 in 600000 people.^[1] The term ichthyosis is derived from Greek word "Ichthys" meaning fish and refers to fish scale like appearance".^[2]

This effected babies are born in a collodion memberane a "shiny waxy" outer layer to the skin. This shed 10-14 days after birth. The main symptom of the disease is extensive scaling of the skin caused by Hyperkeratosis.^[1]

Keratinization is a complex process in which the live nucleated basal cells of the epidermis are transformed in to dead, anucleated horny cells that form the outermost layer of epidermis.^[3] Keratin, the fibrous protein forms of the cytoskeletal component of the horny cells, sometimes if there is a defect in gene or gene mutation takes place then there may be disorders of keratinization.^[4]

The most impartant clinical data concerning collodion baby is characterized by dry skin, scaling, generalized erythroderma and hyperkeratosis, reminiscent of fish

scales.^[5] At birth the thick stratum corneum results in constructive deformation, with severe ectropian of eye lids and eclabium of lips.^[6]

Collodion babies may encounter dehydration, electrolyte imbalance, temperature malfunction and increasing sepsis risk due to severe skin damage. Therefore morbidity and mortality rates are high in these types of cases. So, in order to avoid sepsis these newborns should be monitored carefully in intensive care unit (ICU) and appropriate support treatment must be given.^[7]

CASE REPORT

A preterm (32 weeks) male child was born on 18th July 2016 at Khammam government hospital weighing 2.200 grams, length 48cm, head circumference 33.5cm. The mother age is 22 years and age at marriage is 19 years. No history of consanguinity marriage of parents. The baby was referred to Mahatma Gandhi Memorial Hospital, Warangal, Telangana State. The baby was present with complaints of parchment paper like skin all over the body, ectropian of upper eyelids, and eversion of lips (eclabian). The limbs movements were restricted due to taught skin.



The baby was admitted in Neonatal intensive care unit (NICU) and was started on IV Fluids and antibiotics and application of emollients was done and the treatments given are:

R_x

1. Warm care
2. Inj. Ampicillin 110mg /IV /BID
3. Inj. Amikacin 15mg/IV/BID
4. IV fluids 10%Dextrose 40ml/IV/QID
5. 5% lactic acid ointment application
6. Minimal handling

The biochemical parameters are in normal range i.e., Renal function and liver function tests. The hematological values includes Hb-10.5gm%, WBC-6500/ μ L, Neutrophils-55%, Lymphocytes-42%, Eosinophils-01%, Monocytes-02%. The membrane itself peels from day 3 revealing red colored skin underneath. Minimum handling and aseptic conditions should be maintained whenever dealing with the baby.

The baby was discharged on 13th July 2016. The condition of the baby was Active, cry- good, Accepting feeds, pulse rate-126/min, Spo₂ - 93%, P/A-soft, Capillary filling time- normal.

DISCUSSION

The term collodion baby applies to new born who appear to have an extra layer of skin known as Collodion membrane that as a collodion likes quality. It is not a specific disease or disorder as such it is a syndrome.^[1]

~75% of collodion baby will develop an autosomal recessive i.e., Congenital ichthysioform erythroderm and lamellar ichthyosis⁸. The other 10% cases the baby sheds the layer of skin and has normal skin for the rest of life.^[9] This is known as self healing collodion baby. The remaining 15% of cases is caused by a variety of diseases involving keratinization disorders.^[8]

The exact cause is unknown etiology. But studies suggest it has been known to be inherited an autosomal recessive disorder.^[10] Placental insufficiency and post maturity are also been implicated in some forms of collodion membrane formation. This is due to defects in DNA repair and transcription gene abnormalities in prenatal life. Trichothiodystrophy (TTD), a rare recessive disorder caused by mutations in genes involved in nucleotide excision repair (NER) pathway is also implicated.

The impairment of skin barrier function leads to a number of complications such as hypernatremic dehydration, hypothermia, skin infections, fissures, conjunctivitis, sepsis, dehydration and constructive bands of the extremities results in vascular compromise and edema.^[9,11] The edema is due to hypoproteinemia (or) mechanical compression by the collodion membrane. A study showed that transepidermal water loss (TEWL) in colloidal babies is 6-7 times higher than through normal skin.^[12]

Skin impairment give rise to percutaneous infection and toxicity. Accurate monitoring of electrolytes for

hyponatremia and the appropriate adjustments of fluid intake. TEWL is measured by evaporimeter so it is essential collodion babies be placed in a humidified incubator soon after birth to prevent hypernatremic dehydration and hypothermia.

CONCLUSION

The main aim of the collodion membrane is to keep the skin soft and reduce scaling. The collodion membrane should not pull off.

In our experience through this case study, we recommend careful attention to skin care. And minimal uses of skin products like emollients and liquid paraffin. A careful attention is needed to prevent infection when caring an infant with collodion baby syndrome.

Aseptic conditions should be maintained around the collodion baby in order to avoid skin infections. Minimal handling whenever dealing with the baby.

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