The term “collodion baby” (CB) refers to the clinical entity of a newborn whose entire body surface is covered with a parchment-like membrane.1 CB is a phenotype rather than a specific disease entity. The parchment-like membrane may distort the features of the face and the extremities, causing ectropion, elcabium, pseudocontractures, hypotrichosis of eyebrows and eyelashes, sparse scalp hair, and hypoplasia of nasal and auricular cartilage. The membrane eventually detaches completely in three to four weeks, usually revealing an ichthyosis phenotype. However, due to the impaired barrier function of the CB’s skin, transepidermal water loss (TEWL) can be six to seven times higher than occurs across normal skin.2 Newborn CBs are therefore at risk for hypernatremic dehydration, hypothermia, and infection. Fortunately, the mortality rate has decreased over the years due to improvements in neonatal care. The mainstays of management appear to improve the epidermal barrier function and include providing a humidified, temperature-controlled environment via an isolette, daily bathing with only water or mild cleanser, and frequent, liberal applications of bland emollients, such as petrolatum. Placing the baby in a humidified incubator soon after birth is considered the most important decision, one that helps prevent hypothermia and hypernatremic dehydration due to excessive TEWL. Some authorities advocate a minimum of 40% to 60% humidity3 while others recommend 90% to 100% humidity.4

There are not established guidelines for the transition of CBs from humidified incubators to open cribs5, so we would like to share our experience with this transition, which might serve to inform future clinical decisions with other such infants.

We present a case of an appropriate-for-gestational age girl born at \*\* weeks’ gestation to a \*\*-year-old healthy woman, gravida 2, para 1, who had an unremarkable pregnancy. A collodion phenotype was noted within hours of birth, and physical examination showed low-set, small malformed ears appressed to the parietal scalp, mild ectropion and eclabium, and absence of eyelashes and eyebrows. To let the baby breast feed and to participate in parental bonding time, on day 2 of life, we permitted departed from an unyieldingly strict regimen of her a 30-minute “holiday” outside the isolette roughly every 3.5 hours. Therefore, during each 24-hour period, she was able to breast feed (and bond with mother) for 6 occasions, totaling roughly 4 hours, without the need for intravenous fluids Because she did well with this, we increased her time out of the isolette to six hours on day 12, which she also tolerated well. We continued this management and decreased humidity by 10% per day from 60% (under the isolette) to 20% (ambient conditions in the hospital) over the course of days 12-to-16. The baby tolerated this and continued to maintain her body temperature, have appropriate oral intake, gain weight, and maintain normal blood chemistry values. She was discharged to her home on day 16. Our experience suggests that CBs who are otherwise medically stable, can begin weaning from a humidified isolette even before two weeks of age if approached gradually and in a step-wise fashion.

We submit this single case observation to assist others who, when faced with a recommendation of maintaining the child in 60% humidity for 3-4 weeks, face challenging questions posed by family members and other providers,

References

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Letter to the Editor

The term “collodion baby” (CB) refers to a clinical entity of a newborn with a parchment-like membrane covering the whole body surface.1 CB is a phenotype rather than a disease entity. The parchment-like membrane may distort the features of the face and the extremities, resulting in ectropion, elcabium, pseudocontractures, absence of eyebrows, sparse hair, and hypoplasia of nasal and auricular cartilage. The membrane eventually peels off completely in three to four weeks, usually revealing an ichthyosis phenotype. However, due to the impaired barrier function of the skin in the CB, the transepidermal water loss (TEWL) can be six to seven times higher than that through normal skin.2 The CB is therefore at risk for hypothermia, hypernatremic dehydration, and infection during the neonatal period. Fortunately, the mortality rate has decreased over the years due to improvements in neonatal care. The mainstays of management are aimed at improving barrier function and include providing a humidified, temperature-controlled environment via an isolette, daily bathing with only water or mild cleanser, and frequent, liberal applications of bland emollients such as petrolatum-based products. Placement in a humidified incubator soon after birth is considered as the most important decision, in order to prevent hypernatremic dehydration due to excessive TEWL and hypothermia. Some advocate for a minimum of 40% to 60% humidity3 while others suggest 90% to 100% humidity.4

The incubator environment is essential, but the infant is ultimately required to make a successful transition from incubator to an open crib in order to be discharged from the hospital. Parental bonding should also be encouraged, and touching or holding the infant need not be forbidden. However, criteria for the transition from an incubator to an open crib lack a systematic approach because no clear, specific guidelines predominate in clinical practice.

We present a case of an appropriate-for-gestational age female born at \*\* weeks’ gestation to a \*\* year old white female, gravida 2?, para 1, with an unremarkable pregnancy. Apgars were 9 and 9 at 1 and 5 minutes, respectively. A collodion phenotype was noted within hours of birth, and physical exam was also remarkable for low-set, small malformed ears, mild ectropion and slight eclabium, absence of hair, eyelashes, and eyebrows, but without pseudocontractures. The infant was subsequently placed into into a humidified isolette with 60% humidity. Consultations with dermatology, with otolaryngology to evaluate the patency of the auricular canal and tympanic membrane, and with ophthalmology consult for corneal abrasions were obtained. Aquaphor was applied twice daily to the entire body surface area, and lacrilube was applied to the eyes. The infant was started on oral feedings on day \* of life. Electrolytes drawn every \* hours remained within normal limits. The infant was then weaned gradually from the isolette starting on day 2? of life. In order for the infant to receive oral feeds and participate in parental bonding time, we started with her having time out of the isolette for one hour at a time for a total of four hours in a 24 hour period. Because she did well with this, we increased her time out of the isolette to five hours on day \* of life, which she also tolerated well. We continued this management, increasing the time out of the isolette by one hour each day if tolerated, with the intention of cutting back by one hour if not tolerated. She was able to maintain her body temperature with these guidelines and her skin continued to improve. She was then discharged from the hospital on day \* of life.

References

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