

analysis revealed a statistically significant association between hearing loss and craniofacial deformities, meningitis, and duration of mechanical ventilation ($P < .001$, $P = .001$, and $P = .038$, respectively).

CONCLUSIONS: Although the study sample was limited, the hearing-loss rate that we found was in accordance with that reported in the literature. The prevalence of hearing impairment found when using AABR is high. The only risk factors directly associated with hearing impairment proved to be craniofacial deformities, meningitis, and duration of mechanical ventilation.

INFANT OUTCOME AFTER ANTENATAL STEROIDS IN PRETERM PREGNANCIES WITH ABSENT UMBILICAL END-DIASTOLIC FLOW

Submitted by Florence Murila

Florence Murila, Susan Feng, Michael Robertson, Victor Yu, Euan Wallace

Newborn Services, Monash Medical Centre, Ritchie Centre for Baby Health Research, and Department of Obstetrics and Gynaecology, Monash University, Victoria, Australia

INTRODUCTION: Absence of the end-diastolic flow (EDF) is associated with adverse neonatal outcome. Administration of β -methasone to women with a pregnancy complicated by absent EDF is associated with the transient return of EDF in up to 70% of cases.

OBJECTIVE: We aimed to compare the hospital outcome of preterm infants for whom the absent EDF returned after antenatal administration of β -methasone with those for whom the absent EDF did not return.

METHODS: At Monash Medical Center, 80 pregnant women with absent EDF were given 2 intramuscular 11.4-mg doses of β -methasone 24 hours apart. In the majority of pregnancies, EDF returned after β -methasone treatment. The preterm infants born to these 80 pregnant women had their hospital outcome ascertained retrospectively. Statistical analysis was performed by using the χ^2 and Mann-Whitney rank-sum tests.

RESULTS: The 51 infants for whom the EDF returned were compared with the 29 for whom the EDF did not return. There were no significant differences in their gestational age, birth weight, or resuscitation and ventilation needs. The former group was less acidotic at birth (mean pH: 7.4 vs 7.3 [$P < .05$]; and mean base excess: -3 vs -5 mmol/L [$P < .05$]). There was no significant difference in the incidence of respiratory disease, intraventricular hemorrhage, necrotizing enterocolitis, and mortality rates.

CONCLUSIONS: Preterm infants born after return of an absent EDF after the administration of antenatal

β -methasone were less acidotic at birth, but their hospital morbidity and mortality rates were not significantly improved compared with those for whom the absent EDF did not return.

TOPICAL COCONUT OIL APPLICATION REDUCES TRANSEPIDERMAL WATER LOSS IN PRETERM VERY LOW BIRTH WEIGHT NEONATES: A RANDOMIZED CLINICAL TRIAL

Submitted by Sushma Nangia

Sushma Nangia, Vinod Paul, Deepak Chawla, Ashok Deorari

All India Institute of Medical Sciences, New Delhi, India

INTRODUCTION: Topical emollients have been shown to reduce transepidermal water loss (TEWL). Such an effect of coconut oil (often used in traditional massage of infants in India) has not been studied.

OBJECTIVE: Our goal was to determine the efficacy of topical coconut-oil application in reducing TEWL in preterm very low birth weight (VLBW) neonates.

METHODS: Seventy-four preterm VLBW infants were randomly assigned at 12 hours of age to either 4 mL of topical coconut-oil application every 12 hours for 7 days ($n = 37$) or no oil application ($n = 37$). TEWL was measured at 12 hours of age and thereafter every 12 hours for 7 days in both groups by using a Vapometer (Delfin Technologies, Kuopio, Finland), a portable closed-chamber evaporimeter. The ambient and skin-surface relative humidity and temperature were recorded simultaneously.

RESULTS: Birth weight (1213 ± 214 vs 1164 ± 208 g), gestation (32 ± 2 vs 31 ± 2 weeks), and other baseline variables were comparable between the 2 groups. TEWL was significantly lower in the infants in the coconut-oil group at each point of measurement. Although TEWL declined for those in both groups during the first week of life, proportional reduction in TEWL in the infants in the coconut-oil group was much greater compared with controls. Significantly lower TEWL in the infants in the coconut-oil group persisted after adjusting for differences in baseline variables by using a generalized estimating equation population-averaged model (an advanced form of regression analysis) (mean difference: 6.8 g/m² per hour all during first week of life [95% confidence interval: 3.5–10.2]; $P = .000$).

CONCLUSIONS: Coconut-oil application in preterm VLBW neonates reduced TEWL by as much as 46%. Such an impact is expected to be of clinical importance, because it could reduce initial weight loss, promote better growth, and reduce fluid requirements.

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Pediatrics 2008;121;S139

DOI: 10.1542/peds.2007-2022JJJJ

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