

Title of Abstract:

Effect of Maternal Hypertension on Preterm Infant Body Composition at Discharge

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Abstract Description:

Background -Maternal hypertension has been associated with placental dysfunction and fetal growth restriction. The effect on infant body composition by discharge is unknown.

Aim -To examine the effect of in-utero exposure to maternal hypertension on the body composition of preterm infants close to discharge.

Study Population- A cohort of all 164 preterm infants 24 - 35 weeks gestation born from 2011-2016 to who were at least 2 weeks old and had routine body composition measurements close to discharge. Infants had to be on room air and in an open crib.Body composition analysis was performed by Air Displacement Plethysmography (ADP).

Results - 58% were male, 91% were inborn, 89% antenatal steroid rate, 1 % NEC, 65% were born by C-section, and 39% were exposed to maternal hypertension during pregnancy(MHT). The median maternal age was 29 years and 76% were of Hispanic origin.

Over the NICU stay the infants moved to lower growth percentiles as has been seen before.

Univariate analysis showed no significant difference in Body Mass, Fat Mass(FM), Fat %, Or Fat Free % between HT and No HT groups. However fat free mass (FFM) was 1.9746kg in exposed and 2.083kg in non exposed babies p = 0.01

It became clear that the PIH infants were going home significantly later. Thus older PIH children were being compared to younger unexposed children.

Multivariate analysis by regression controlled first with just PMA at discharge

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	B for MHT	R2	P value
FFM	-0.257	0.42	< 0.001
FM	-0.095	0.56	< 0.001

and then with both PMA at discharge and SGA status (to look for the effect on children normally grown at birth)

	B for MHT	R2	P value
FFM	-0.172	0.52	<0.001
FM	-0.067	0.60	0.004

Conclusions-

1. FFM at discharge was significantly lower in Infants exposed to MHT despite being discharge at a later post menstrual age.
2. The FFM and FM were significantly lower in MHT exposed infant at discharge after adjusting for PMA at discharge.
3. The MHT remained a significant predictor of reduction in body composition metrics after further controlling for SGA status at birth. This indicates that the discharge body composition of infants that are AGA of LGA at birth are also affected by MHT

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