

Optimum fetal growth: Is this a myth ?

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Objective

Fetuses thought to be appropriate-for-gestational-age ($> 10^{\text{th}}$ percentile) measured by Hadlock charts (BPD, HC, AC, FL), may be at increased risk of stillbirth is supported by epidemiological data. We investigated signs of poor outcome those low risk fetuses or with birthweight (BW) 10^{th} - 50^{th} percentiles can demonstrate at 30-33 weeks scan.

Methods

70 singleton pregnancies (2017-2018) had three fetal biometry scans (11-13, 20-22, 30-33 weeks). 1st hospital intake data of body mass index, parity, medical, socioeconomic status. Normal pre-eclampsia screening, normal anomaly 20-22 weeks scan and 3rd trimester: estimated fetal weight (was calculated using Hadlock formula (BPD, HC, AC, FL algorithms), EFW percentiles and Dopplers. Fetuses delivery at term.

Results

Healthy women, medium socioeconomic status, 50% nulliparous, 17-41 years old, BMI 18-34kg / m² (25,7% overweight, 8,5% obesity), all belong at National Health Service. EFW 10^{th} - 50^{th} percentiles with BW less than 50^{th} percentile, they are 55% and those with BW more than 50^{th} percentile, they are 24%. BW 10^{th} - 50^{th} percentiles with EFW 10^{th} - 50^{th} percentiles, they are 48,5% and those with EFW more than 50^{th} percentile, they are 17%. EFW 3rd Trimester 10^{th} - 50^{th} BW $< 50^{\text{th}}$ --- 95% BPD and HC $< 50^{\text{th}}$ BW $> 50^{\text{th}}$ --- 47% BPD and HC $> 50^{\text{th}}$ All but one AC parameter above 50^{th} BW 10^{th} -- 50^{th} EFW 10^{th} -- 50^{th} --- 94% BPD and HC $< 50^{\text{th}}$ EFW $> 50^{\text{th}}$ --- 66% BPD and HC $> 50^{\text{th}}$.

Conclusion

Almost 10^{th} - 50^{th} EFW percentiles and BW less than 50^{th} percentil, BPD and HC were less than 50^{th} percentile even all but one AC above 50^{th} percentile. 10^{th} - 50^{th} percentiles BW and EFW more than 50^{th} percentile, almost BPD and HC were more than 50^{th} percentile. Perinatal mortality was zero, morbidity was low. This show a positive correlation between BPD and HC and EFW even AC parameter more than 50^{th} percentile and also with BW 10^{th} - 50^{th} percentiles with a good prognosis. Each fetal Hadlock parameter and EFW have fetal growth charts ;while this methodology needs to be standardized, fetal growth itself is a biological parameter with a variation within and between populations.