

CROWN-RUMP LENGTH (CRL) AND FETAL HEART RATE (FHR) IN EARLY PREGNANCY FOR INFERTILE COUPLES CORRELATE WELL WITH PREGNANCY SUCCESS AT DELIVERY.

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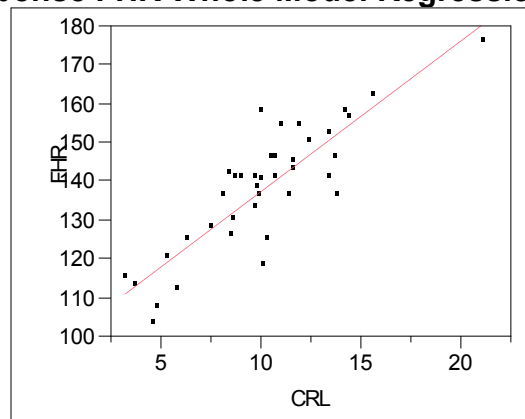
Background: Determining markers which correlate with continued success of early pregnancies is paramount for infertility physicians.

Objective: We evaluated early pregnancy ultrasounds in women undergoing ovulation induction or IVF between 2005 and 2007 who delivered at term to determine markers correlated with pregnancy success.

Methods and Materials: We identified 39 women with clear gestational age based on the administration of human chorionic gonadotropin (hCG) and early 1st trimester ultrasound between 6 and 9 gestational weeks with a fetal heart rate (FHR) between 100 and 170 who went on to term delivery of a singleton pregnancy. All ultrasounds were performed by two certified sonographers. Linear regression was used to determine the correlation between CRL and FHR.

Results: In women with successful pregnancies we noted a strong positive correlation (coefficient of 0.736, $p < 0.0001$) between the increase of fetal heart rate (FHR) and growth of crown-rump length (CRL).

Response FHR Whole Model Regression Plot



Conclusion: When counseling infertile couples, it is important to relate the prognosis of ultrasound findings with clinical outcome. Properly rising hCG levels help determine pregnancy viability only before ultrasound visualization of an intrauterine pregnancy. Similar markers are not available once an intrauterine pregnancy is confirmed. The FHR and CRL are 2 objective findings that can help in counseling patients. In our data, the FHR increased as the CRL increased in size. Our limited number of patients suggest a FHR under 100 and CRL under 3.2 mm may be concerning. As the embryo develops, the FHR and CLR increased together with a good correlation of 0.736 ($P < 0.0001$).