

After the Sonographer has measured his GSMD or BIPD, he turns the wheels to align these diameters (on the large wheel) with the date of his sonograph examination (on the small wheel) and sees at a glance the date of the Last Menstrual Period, of the end of first and second trimesters, the date of maturity of the fetus as well as the Expected Date of Confinement, i.e. the most important dates for the Obstetrician to know.

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FETAL WEIGHT ESTIMATION FROM SINGLE AND MULTIPLE ULTRASONIC MEASUREMENTS

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Ultrasonic measurements were made within 48 hours of delivery on 65 fetuses. Multiple regression analysis of birth weight and the natural logarithm of birth weight against measured variables were obtained. The formula producing the best correlation was a polynomial regression of the natural logarithm of birth weight vs trunk circumference, circumference² and a long axis measurement. The correlation was improved by excluding the first 15 patients but was not improved further by excluding the next 15. There was less variability in transverse trunk circumference measurements than in any longitudinal measurement. The best correlation was 0.944 giving a predictive error of birth weight for a 1,500 gram fetus of ± 290 grams. Substantial improvement in results is likely only if the accuracy of longitudinal measurements can be improved.

Group E

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ULTRASOUND DIAGNOSIS OF RARE ABNORMALITIES IN TWIN PREGNANCIES

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At the last AIUM Annual Meeting, I reported on ultrasound diagnosis of three rare abnormalities in twin pregnancies that led to conservative management and favorable outcome for the normal fetus. Since then, two more rare abnormalities in twin pregnancies have been diagnosed by ultrasound:

1. Epignathus, a defect in monozygotic twinning, was revealed by ultrasound as a normal fetus (autosite)

to the face of which was attached a 9 cm. size complex septated mass with double outline (parasite). Safe delivery was accomplished by caesarian section.

2. Chorioangioma was seen as a 12x10 cm. size multicystic mass attached to the fetal surface of one of the placentas of dizygotic twins. Premature delivery revealed normal placenta attached to normal infant and placenta with chorioangioma attached to infant born in cardiac failure.

Twin pregnancy is a high risk pregnancy state, as it is associated with increased incidence of maternal complications, prematurity and fetal malformations. Ultrasound can evaluate multiple gestation and delineate the rare abnormalities that may be present. Vigilant ultrasound examination yields fairly precise obstetrical diagnosis and thus removes a lot of the guess-work in Obstetrics.

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PLACENTA PREVIA: SIGNIFICANCE IN THE SECOND TRIMESTER

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A prospective study of forty-five patients was performed using grey-scale ultrasound in order to evaluate the significance of placenta previa in the second trimester. The degree of anterior or posterior previa was subdivided as total, partial, marginal and low lying. Clinical correlation included the presence of bleeding during the second and/or third trimester and the impression of the attending physician as to the likelihood of placenta previa on the basis of physical examination. The patients received follow-up ultrasound examinations in the third trimester and/or follow-up at delivery.

The data concerning the significance of the various types of placenta previa in the second trimester will be presented. These data include the fraction of patients with second trimester previa who persist with a diagnosis of previa into the third trimester. It is felt that this will assist in the identification of the patients who are at greatest risk for a significant previa. These will need a follow-up ultrasound examination in order to identify those who will need caesarean section.

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ULTRASOUND AS A DIAGNOSTIC AID FOR UTERINE MYOMAS

SUMMARY

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A retrospective study investigating the clinical utility and accuracy of the ultrasonographic diagnosis of