

better than those using measurements of BPD. Regardless of the formula used, the accuracy of the EFW decreases with increasing BW. In most recent published articles it was found that only 50-100% (median 62%) of macrosomic fetuses are successfully predicted by sonographic measurements, and 15-81% (median 67%) predicted to be macrosomic are confirmed to be macrosomic at birth.

3D US may help assessing fetal BW offering some superiority to standard 2D techniques, but we have to wait for results of studies in progress attempting to establish its clinical relevance in the practice of obstetrics.

In conclusion, it was found that sonographic estimated are no more accurate than clinical estimates of fetal weight. Regardless of method used – the higher the actual BW, the less accurate the BW prediction. To date, no management algorithm involving selective interventions based on EFW, demonstrated efficacy in reducing the incidence of either shoulder dystocia or brachial plexus injury.

## L60

### PREVENTION OF MACROSOMIA, CUT-OFF FOR C/S

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For decades Obstetricians have long debated the dilemma of how best to anticipate and manage a mother whose fetus weighs more than 4,000 gr. Macrosomia is defined as an estimated fetal weight or actual birth weight in excess of a threshold value, typically between 4000 and 4500 grams. A common recent definition is a weight of >4500 gr. Using such a definition 1.5% of births will be macrosomic, where if 4000gr is used it will be 9.9%. In contrast to macrosomia which uses an absolute cutoff, large for gestational age (LGA) is defined as actual or estimated weight in excess of a certain value standardized for gestational age. Such results are usually reported as greater than a cut-off percentile (often the 90 th percentile). A fetus at an early gestational age can be estimated to be LGA but not (yet) macrosomic. Because morbidities are related to absolute rather than relative size, macrosomia may be more important to identify than LGA.

All techniques for diagnosing macrosomic fetus has limitations. An accurate diagnosis of macrosomia can be made only weighing the newborn after delivery. Unfortunately, the prenatal diagnosis of fetal macrosomia remains imprecise.

The main risk factors for macrosomia are: prior history of macrosomia (5-10x relative risk); maternal obesity; excessive weight gain during pregnancy; multiparity, gestational age >40 weeks; ethnicity: latinas appear to be at increased risk; maternal birthweight in excess of 4000-5000gr; age <17 years and male fetus. There has been a great effort to prevent and predict fetal macrosomia specifically in diabetic mothers. Induction of labor is also a common approach for prevention of suspected fetal macrosomia and in order to reduce the risk of difficult operative delivery. Compared to expectant management, induction of labor for suspected macrosomia did not reduce the risk of cesarean section (odds ratio 0.85, 95% confidence interval 0.50 to 1.46) or instrumental delivery (odds ratio 0.98, 95% confidence interval 0.48 to 1.98). Perinatal morbidity was similar between groups induction of labor for suspected fetal macrosomia in non-diabetic women does not appear to alter the risk of maternal or neonatal morbidity (Cochrane 2000;2). For non-diabetic mothers, no clinical interventions designed to treat or curb fetal growth when macrosomias suspected have been reported.

With the exception of optimal blood glucose management in pregnancies complicated by diabetes, little is known about the prevention of macrosomia. The association between maternal weight, weight gain during pregnancy and macrosomia has led to a proposal that the optimization of maternal weight before pregnancy and limitation of weight gain during pregnancy would be useful strategies. The impact of maternal weight restrictions or outcomes is unclear.

Macrosomia remains a common complication of pregnancy; its prediction is imperfect, and there are no reliable interventions to improve outcome in uncomplicated pregnancies. Elective cesarean section is seldom a suitable alternative, and elective induction of labor appears to increase rather than decrease the cesarean section rate. Uncertainty surrounds the management of suspected fetal macrosomia in pregnant patients with diabetes concerning elective cesarean section or elective induction versus expectant management.

## L63

**MANAGEMENT OF NEONATES OF DIABETIC MOTHERS****Manuel RG Carrapato**, *Hospital S Sebastião, Santa Maria da Feira, Portugal*

The potential complications affecting the conceptus of the diabetic woman have been identified for centuries and include a multitude of problems from macrosomia/IUGR, birth asphyxia, RDS, hypoglycaemia, hypocalcaemia, polycythaemia, hyperbilirrubinaemia, heart failure and cardiomyopathy, renal vein thrombosis, etc., and these babies still require a higher rate of admission to neonatal intensive care units posing a considerable medical and financial burden

Respiratory distress syndrome (RDS) due to hyaline membrane disease (HMD) is common in the infant of the diabetic mother (IDM) and is due to either inhibited or decreased lung surfactant. RDS may also be due to transient lung adaptation, a condition often associated with caesarian section and birth asphyxia, both common in diabetic pregnancies. Although the respiratory distress is often managed with O<sub>2</sub> supplementation alone, on occasions it may require assisted ventilation (CPAP/IPPV). In addition hypoglycaemia and polycythaemia may also play a further role in the development of RDS and if the PCV is above 65-70%, with or without hyperviscosity symptoms, it may require a modified, partial, exchange transfusion to enhance respiratory function, to prevent neurological symptoms and the risk of renal vein thrombosis.

Neonatal hypoglycaemia remains controversial. Methodological problems of glucose measurement make for different definitions. Whether or not asymptomatic hypoglycaemia is less damaging than when coupled with symptoms and whether the neonate can utilize any other alternative substrates all add to the problem. Given that the sustained hyperinsulinism will make compensatory mechanisms of mobilising other fuels quite unlikely in these babies, it is recommended that blood levels should be kept in the range of  $\geq 2.6$  mmol/l regardless of gestational and postnatal age by promoting early enteral feeds and/or intravenous glucose if feeds are not tolerated. Glucagon administration may exceptionally be needed to promote glucose release from glycogen storages as well as to increase hepatic acids oxidation.

The whole spectrum of neonatal problems and complications can primarily be attributed to excessive maternal transferral of glucose to the fetus inducing fetal hyperglycaemia,  $\beta$ cell hyperplasia and sustained fetal hyperinsulinism. Therefore, the management of an IDM should start well in advance, from before conception, throughout pregnancy and delivery, with a tight metabolic control if the immediate neonatal complications are to be avoided. Moreover, in recent years it has been put forward that many adult cardiovascular disorders, as well as type 1 and 2 diabetes, may have a fetal origin in a hostile metabolic environment, placing even greater importance upon the need for good antenatal care.

## L64

**EFFICIENT, SIMPLE AND INEXPENSIVE PROGRAMME FOR PREVENTION OF VERY EARLY PREMATURITY****Erich Saling**, *Berlin, Germany*

**OBJECTIVE:** Prevention of prematurity by use of a self-care program for pregnant women consisting of self-observation of warning signs and self-measurement of the vaginal pH.

**INTRODUCTION:** Prevention of early prematurity (<32 gest.w.) and of very low birthweight infants (<1500 g) is - because of the associated considerably increased risk of mortality and morbidity - one of the most urgent tasks of perinatal medicine. Particularly ascending genital infections are the most important avoidable causes of early prematurity. Consequently our program is concentrated on their prevention.

Ascending genital infection (mostly combined with bacterial vaginosis) starts frequently with a disturbance of the vaginal milieu and then often takes its course asymptotically. Regular screening for signs of such a disturbance using vaginal pH-measurements (and if necessary further diagnostics and therapy) makes possible the detection of an "early marker" to prevent prematurity in an effective and inexpensive way.