

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 O₂ 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 ≥ 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, β 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.

Our prematurity-prevention-program was at first intended for physicians. It is based on an anamnestic assessment of prematurity risk, the early detection of warning signs (including regular measurement of the vaginal pH) and, if necessary, the appropriate therapeutic measures. It should start as early as possible after pregnancy has been diagnosed. In cases of disturbance of the vaginal milieu (only pH increase) a therapy with lactobacillus acidophilus preparations is mostly successful. In cases of bacterial vaginosis however local therapy, for example with metronidazol or clindamycin, is undertaken, and in other infections specific treatment.

DESIGN AND METHOD: As an additional measure we developed the self-care program for pregnant women which has been in use since 1993. The pregnant women receive information about risk factors and warning signs of prematurity and recommendations to measure their vaginal pH twice a week (with an indicator strip or indicator coated test-glove). She should see her doctor if the vaginal pH is elevated to more than 4.4 or any other of the warning signs occur. In our own study we had 1120 multiparae and we compared the outcome of the pregnancy with self-care activities with the outcome of the immediate previous pregnancy. Our program was then used in two prospective projects in Erfurt (Capital of Thuringia, Germany) and afterwards in the entire state of Thuringia. In Erfurt half of the practitioners motivated patients to take part in the self-care activities (no. of births: 381). All patients in Erfurt who did not take part served as control group (no. of births: 2341). In Thuringia during the first half of the year 2000 the women served as control (no. of births: 7870) and in the second half of 2000 the doctors in Thuringia encouraged their patients to take part (no. of births: 8406).

RESULTS: In all studies the rate of premature births could be considerably reduced. Most interesting are the results of the children at particularly high risk: In our collective the rate of very low birthweight infants (<1500 g) could be reduced from 7.8% in the immediate previous pregnancy to 1.3%. In Erfurt the rate of very early prematures (< 32+0 gw) amounted to only 0.3% in contrast to 3.3% in the control group. In Thuringia the rate of infants born <32+0 gw was reduced from 1,58 % to 0.99% respectively in infants < 1000g from 0.61% to 0.38%.

CONCLUSION: The self-care program for pregnant women proved to be a very efficient method for the prevention of prematurity and should be recommended to every pregnant woman. In cases where this is not possible, at least the doctors and midwives should measure the vaginal-pH at each prenatal care examination.

L65

THE ROLE OF CERVICAL ULTRASOUND IN THE MANAGEMENT OF PRETERM LABOR.

Yves Ville, Poissy, France

Background : Different strategies have been developed to refine the risk of preterm delivery in asymptomatic patients. Transvaginal sonography (TVS) has been used in this indication to measure and examine the length and shape of the cervix.

TVS of the cervix in clinical studies conducted in asymptomatic women at high risk of preterm delivery: Three ultrasound signs are suggestive of cervical incompetence : Dilatation of the internal os (I.O.); sacculation or prolapse of the membranes into the cervix (with shortening of the functional cervical length), either spontaneously or induced by transfundal pressure; and/or short cervix in the absence of uterine contractions. TVS has clearly demonstrated that cerclage leads to a measurable increase in cervical length which may contribute to the success of this procedure in reducing the risk of preterm delivery. Several non-randomized interventional studies among patients with cervical incompetence have been published. They have defined a new group of patients requiring cerclage when they show progressive cervical modifications on TVS. In other studies, cerclage performed on the basis of cervical changes on TVS did not prevent premature delivery. One prospective randomized trial in asymptomatic high-risk women has shown 2 benefits in cerclage following TVS indications : i) this would generate less prophylactic cerclages in high risk women; and ii) therapeutic cerclage before 27 weeks may reduce the incidence of premature delivery before 34 weeks.

TVS of the cervix in clinical studies among patients at low risk of preterm delivery:

The risk of preterm delivery is inversely correlated with the cervical length. Routine TVS of the cervix