

INTRAUTERINE GROWTH RETARDATION AND ROLE OF ALLYLESTRENOL (GESTANIN) IN ITS MANAGEMENT

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SUMMARY

Intrauterine growth retardation poses a great problem in the developing countries, specially in states, like ours. Modern amenities and sophistications have hardly benefited the rural Population. We found Allylestrenol (gestanin) quite helpful in the management of IUGR. Physical rest for 2-3 hours in the afternoon has shown better results.

Introduction

Perinatal mortality still remains the only accepted, though crude, yardstick of obstetric care throughout the world. The risk of SGA/LBW infants is three times greater than infants born with birth weight above 2.5 Kg. The risk is sixteen times greater among low socio-economic group. World Health Organisation study in several countries has shown 5% to 20% occurrence rate of LBW. In India 20% to 30% of babies are born with LBW, contributing to 60% of perinatal deaths. The long term risk of LBW/SGA/Dysmature infants require careful study and should draw attention from all. Sophistication and modernisation in obstetric biophysics is not a remedial measure neither would offer salvage to 22 million LBW infants born annually (1975), as these facilities will continue to be limited to those few

privileged pregnant women throughout the world. This has encouraged us to take up the present study for trying to improve the incidence of IUGR/LBW/SGA infants when detected antenatally.

Material and methods

From among the pregnant women of 20 weeks attending antenatal clinic at R.M.C. Hospital, Imphal from July 1982 to January 1984 we selected 250 subjects belonging to similar socio-economic group living under similar environments, whom we diagnosed clinically as having IUGR after three consecutive visits. These cases were given allylestrenol (Gestanin, for 16 to 18 weeks in doses of 5 to 20 mg daily and followed till delivery. Seventy of them became complicated with EPH gestosis and other diseases. We analysed only those cases who delivered in our hospital. Another 100 cases very without giving allylestrenol. In this control group only 66 cases delivered in our hospital.

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Gravidogram was employed to detect and diagnose IUGR. This included LMP, maternal weight gain, uterine fundal height, abdominal girth, clinical estimation of foetal size and liquor volume as dictated by our past experience. Routine blood Hb, grouping, urine analysis, B.P., and maternal weight were recorded. Blood urea and creatinine were estimated in 70 cases. Among the study group, only 136 women delivered in our hospital and the rest were thus excluded. At delivery, birth weight, placental morphology and weight, gestational age and foetal measurements were carefully recorded. IUD and still births among the study and control groups were critically reviewed. The findings are studied and statistically analysed.

Results

Out of 250 cases, 136 women delivered in the hospital and analysed. There were

70 women complicated with EPH gestosis (62), uterine fibroid (4), diabetes (4) and heart disease (1). Total foetal salvage was 123 live births of which 105 (77.2%) had birth weight above 2.5 Kg. (average 2.7 g) and 18 (13.2%) below 2.5 Kg. Among 100 control (non-Gestanin), 66 delivered in the hospital and only 18 (27.2%) had birth weight above 2.5 Kg. and 32 (48.5%) below 2.5 Kg., as shown in Table I. There were 13 IUD/Still births (9.5%) in the study group and 12 (18.2%) in the control group as seen in Table II. We found only slight variation in the gestational period in this series. One hundred twenty-six (92.65%) women with allylestrenol delivered after 37 completed weeks (38 to 42 weeks), 3 after 42 weeks and 7 (5.1%) before 37 weeks of gestation. Similarly, among the control group 60 (90.1%) women delivered after 37 weeks 1 after 42 weeks and 5 before 37 weeks, as shown in Table 2-3.

TABLE I
Birth weight of the infants

Weight in Kg	Study group		Control group	
	No. of infants	Percentage	No. of infants	Percentage
More than 2.5	105	77.2	18	27.3
Less than 2.5	*31	22.8	*48	72.7
Total	136	100	66	100

* This is inclusive of still births/IUD/PNM.

TABLE II
IUD and Still Births

Cases	No. of IUD/Still births	Percentage
Study group	7	5.2
Control group	12	18.2

Perinatal loss was 13 (9.5%) and 16 (24.2%) for the study and control groups respectively, indicating significant change in foetal salvage with allylestrenol administered during pregnancy as revealed in Table IV. The causes of IUD/Stillbirths are indicated in Table V. In this analysis we have

TABLE III
Gestational Weeks at Delivery

Gestational Weeks	Study group		Control group	
	No. of cases	Percentage	No. of cases	Percentage
Less than 37	7	5.15	5	7.57
Above 37 to 42	126	92.65	60	90.9
Above 42	3	2.2	1	1.51
Total	136	100	66	100

excluded all those cases who had allylestrenol for other associated conditions or early pregnancy complications like threatened abortions and irritable uterus, but continued pregnancy till term.

TABLE IV
Perinatal Loss and IUD/SB

Cases	IUD/SB	Perinatal deaths	Total	Percentage
Study group	7	6	13	9.5
Control group	12	4	16	24.2

TABLE V
Causes of Perinatal Deaths and IUD/SB

Causes	Eclampsia	RDS	Acc. Hge.	Heart disease	Total
Study group	6 (4.4%)	6 (4.4%)	1 (0.74%)	Nil	13 (9.5%)
Control group	7 (10.6%)	4 (6.1%)	4 (6.1%)	1 (1.5%)	16 (24.2%)

Discussions

The hazards of IUGR/LBW/SGA/Dys-mature infants are well recognised and in the last two decades extensive studies have been carried out without much remedial outcome. Maternal nutrition, role of physical works during pregnancy, placental insufficiency, smoking during pregnancy, multiple pregnancy, high altitude, genetic factors, drugs, infections, alcoholism and environmental factors are considered as important

causes of IUGR. Most of these factors leading to IUGR could be prevented if diagnosed in the early stage of pregnancy. This could also reduce appreciably the perinatal loss, when treated during pregnancy. Tsuy shi Kaneoka *et al* (1983) advocated day time bed rest, high protein diet, intravenous infusion of maltose or oral allylestrenol and Yoshihiko Takeda (1983) maternal maltose heparin infusion. Bed rest may play a positive role in the antenatal management of IUGR. In our long experience in

this field we have observed appreciable increase in birth weight if the pregnant woman was ensured of two to three hours of bed rest daily during the day time from 28 weeks till term, in addition to rest at night. This was advocated by many workers also (Dawn, 1982; Prema, 1983 and Mehta, 1981). It is well accepted that maternal variables and her health status invariably modify the birth weight of the infant (Devi *et al*, 1981; Singh *et al* 1980) and under unfavourable circumstances may deliver LBW/SGA/Dysmature infant, which at present we label as IUGR. Abdominal decompression with Heyns suit was once suggested without much acceptance. Long term use of oral tocolytic drugs (isoxsuprine) and administration of anticoagulants were also employed, to minimise the risks of IUGR. It is evident that low socio-economic group of mothers are prone to have IUGR infants more frequently than their educated high socio-economic status counterpart. For the later antenatal correction of faulty diet, anaemia, PIH, infections and other diseases are easily and readily done. For them extra hours of rest in bed during the day is also readily provided thus facilitating prevention and early correction of IUGR.

In our experience, women belonging to poor family with low socio-economic background could hardly afford daytime bed

rest; rather they have to work more specially in the joint family having several members in the same house. They are often deprived of adequate calorie against their requirement of dietary supplement thus leading to LBW infant at delivery. Improvement of socio-economic condition or compulsory dietary supplement (free) during pregnancy would be the only answer for long term remedy of such social hazards of IUGR/SGA/LBW infants. We have tried therapeutic measures for these mothers by giving allylestrenol for 16 to 18 weeks starting from 20 to 24 weeks of gestation with good results.

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