

THE INTRA UTERINE GROWTH RETARDED PREGNANCY

by

INDIRA RANDHAWA,* M.D., M.R.C.O.G.

and

PETER D'SOUZA,** M.B.,B.S.

Introduction

A baby born after 37 weeks of gestation and weighing less than 2500 gms, is an intra uterine growth retarded baby (IUGR). These babies account for a significant increase in the perinatal mortality, as well as neonatal morbidity. The various aetiological features of the IUGR pregnancies, and their outcome has been studied.

Material and Incidence

Three hundred and ten consecutive pregnancies resulting in 321 IUGR babies were studied from May, 1981 to 31st January, 1982, in the Department of Obstetrics and Gynaecology, H.P. Medical College, Simla. During the period of study there were 1396 deliveries, giving an incidence of 22.2 per cent of term IUGR pregnancies. All the cases were carefully evaluated regarding the duration of gestation, and examination of the newborn, before inclusion in the study. The factors studied were divided into maternal characteristics, which included parity, maternal height and weight. The risk

*Professor and Head of Department, Obstetrics and Gynaecology.

**Senior House Surgeon.

Department of Obstetrics and Gynaecology, H.P. Medical College, Kamla Nehru Hospital, Simla-171 001.

Accepted for publication on 4-5-82.

factors studied were divided into three categories, viz, past obstetric complications, maternal medical complications, and the present obstetric complications.

Observations

I. Maternal Characteristics

(a) Parity

In this study 158 out of the 310 mothers with IUGR, were primipara (50.9 per cent), in contrast to the general hospital incidence of 38.5 per cent of primiparas. It was further noted that as the parity increased the incidence of the IUGR pregnancies declined. In the 2nd, 3rd, 4th and 5th para the incidence was 23.1, 16.1, 7.7 and 1.9 per cent respectively (72, 50, 24 and 6 cases respectively).

(b) Maternal Height and Weight

It was noted that short statured and low weight mothers were more prone to have small for dates babies. It was found that 52.9 per cent (162 cases) mothers were less than 150 cms. in height, and 44.5 per cent (138 cases) were less than 100 lbs in weight at the time of delivery. The pre-pregnant weight, and the weight gain during pregnancy could not be studied, as most of the patients were unbooked and illiterate.

II. Risk Factors

(a) Past Obstetric Complications

In 38 patients (12.2 per cent) a history of two or more abortions was obtained. In 20 cases (6.4 per cent) a previous still-birth or intrauterine death of the foetus was present, and in 4 cases (1.2 per cent) there was a neonatal death. The birth weight of the previous babies was not available.

(b) Maternal Medical Complications

Anaemia was present in 12.9 per cent (40 cases), which was taken when the haemoglobin was 8 Gms% or less. Urinary tract infection and hypertension complicating pregnancy was found in 4.1 and 3.2 per cent of the cases respectively (13 and 10 cases).

(c) Present Obstetric Complications

Pre-eclamptic toxæmia was present in 44 (14.1 per cent), and placenta prævia in 12 patients (3.8 per cent). In 10 patients (3.2 per cent) bleeding in the first trimester of pregnancy was present. There was 1 triplet and 9 twin pregnancies, giving an incidence of 3.2 per cent of multiple pregnancy. Hydramnios was found in 6 cases out of which 4 had

anencephalic babies, and 2 were normal. Postmaturity was present in 9 patients (2.9 per cent).

Antenatal Care

One hundred and fifty patients (48.3 per cent) were admitted in labour, without antenatal care. The remaining 160 patients (51.6 per cent) were termed booked cases, as they had attended the antenatal clinic and/or were admitted prior to the onset of labour. In the latter group 43 patients (26.8 per cent) were diagnosed as IUGR pregnancies, and were admitted for treatment.

Labour and Delivery

Labour was successfully induced with intravenous syntocinon drip in 29 cases (18.1 per cent of the booked cases). Caesarean section was performed in 28 cases (9 per cent), in 20 it was an elective procedure. Foetal distress occurred in 23 cases (7.4 per cent).

Sex and Weight

There were 321 term IUGR babies born to 310 mothers, 168 (52.1 per cent) were male, and 153 (47.8 per cent) were female babies. The distribution of the sex and weight of the babies is given in Table I.

TABLE I
Birth Weight and Sex of the Infants

Birth Wt. in Gms.	No. of Infants	Male	Female
Less than 1000	5	1	4
1000 - 1300	10	4	6
1301 - 1600	13	5	8
1601 - 1900	24	9	15
1901 - 2200	89	39	50
2201 - 2500	180	110	70
	310	168	153

Perinatal Mortality

The perinatal mortality in the IUGR pregnancies was 93.5/1000 deliveries (29 cases), excluding the 4 anencephalic babies. The overall perinatal mortality in the hospital was 60.6/1000 deliveries. There were 18 stillbirths (62 per cent) and 11 neonatal deaths (37.9 per cent). The perinatal mortality was high in the prolonged and postmature pregnancies, and in the severe IUGR pregnancies (below 1900 gms birth weight).

Discussion

The incidence of IUGR pregnancies was 22.2 per cent, which was higher than the incidence reported by Saigal and Shrivastava (1968) and Shrivastava *et al* (1972) which was 16 and 16.8 per cent respectively. The additional factors accounting for the increased incidence may be the higher altitude of residence, more physical exertion and the smoking habits in the women of Himachal Pradesh. Galbraith *et al* (1979) from Canada reported an incidence of 4.9 per cent in the overall population, and 9.6 per cent in the women with potential risk factors.

The maternal characteristics of the IUGR pregnancy, namely primiparity, short stature and low maternal weight have been observed by Lesinki (1962), Shrivastava *et al* (1972) and Galbraith *et al* (1979). The short stature and low maternal weight suggest poor nutrition and inadequate caloric intake before and during pregnancy.

The risk factors causing IUGR babies are well known and have been observed by other workers (Bhasker Rao, 1969; Shrivastava *et al* 1972 and Galbraith *et al* 1979). It was found that anaemia was present in only 12.9 per cent of the cases,

in contrast to 26 per cent reported by Shrivastava *et al* (1972). The lower incidence of anaemia in the present study is probably due to polycythemia occurring at high altitudes. Galbraith *et al* (1979) noted hypertension as the commonest medical complication causing IUGR babies in the Canadian women, whereas in the present study it was only 3.2 per cent. Postmaturity occurred in 2.9 per cent (9 cases) of the patients. It was incidental rather than a causative feature of IUGR pregnancy. Warkony and Mousoe (1961) are also of this view. The prognosis for the foetus is poor, as two patients had intrauterine death of the foetus, and three had foetal distress during labour.

In the present study, one or more risk factors were present in 52.2 per cent (162 cases) and 28.7 per cent (89 cases) had some maternal characteristic, and in 19 per cent (59 cases) there was no obvious cause for the IUGR pregnancy.

The problem of IUGR pregnancies, especially in India seems to be a major one. Improvement of the nutrition, early and regular antenatal care, including routine measurements of the abdominal girth, fundal height and weight gain, closer observation and hospitalisation of the mothers with risk factors will help in lowering the incidence, severity and prognosis of the IUGR pregnancies.

The mode and time of delivery is also important. The prolonged and postmature pregnancies must be avoided. Termination of the pregnancy by induction of labour, or caesarean section should be done at 38 weeks, or earlier depending upon the state of the foetus. In the present study, induction of labour was done in 18.1 per cent of the booked cases, and caesarean section in 9 per cent of the patients with IUGR pregnancies.

Summary and Conclusions

The incidence of IUGR pregnancy was 22.2 per cent. The maternal characteristics and the risk factors in the IUGR pregnancies have been studied. Pre-eclamptic toxatmia (14.1 per cent), anaemia (12.9 per cent) and previous two or more abortions (12.2 per cent) were the commonest risk factors.

The perinatal mortality was 93.5/1000 deliveries, which was significantly higher than the perinatal mortality in the hospital. Improvement of the nutrition, early and proper antenatal care are important in order to reduce the incidence and

severity of the IUGR pregnancies.

References

1. Bhaskar Rao: J. Obstet. Gynaec. India. 19: 273, 1969.
2. Galbraith, R. S., Karchmar, E. J., Piercy, W. N. and Low, J. A.: Am. J. Obstet. Gynec. 133: 281, 1979.
3. Lensinki, J.: Bulletin, W.H.O. 26: 183, 1962.
4. Saigal, S. and Srivastava, J. R.: Ind. Paed. 6: 24, 1969.
5. Srivastava, R., Srivastava, D. K. and Gulati, B.: J. Obstet. Gynaec. India. 22: 231, 1972.
6. Warkony, J. and Mousoe, B. B.: J. Dis. Child. 102: 249, 1961.