
BRIEF REPORTS

Changing Trends in Intrauterine Growth Curves

P.K. Singhal

V.K. Paul

A.K. Deorari

Meharban Singh

K.R. Sundaram

Intrauterine growth curves were first constructed by Lubchenco *et al.*(1). There is as yet no such curve for universal use as normal fetal growth depends on racial, ethnic and geographical factors. It is, therefore, recommended that intrauterine growth curves based on local data should be employed for use in centres involved in perinatal care(2,3). At AIIMS, intrauterine growth curves were first constructed in 1973-74(3). These curves have been used for neonatal care at AIIMS and possibly in several other neonatal units in the country. With changes in the standards of the antenatal and perinatal services of a hospital, the cumulative pattern of intrauterine growth is likely to undergo changes with

time. It is, therefore, pertinent to re-look at the intrauterine growth charts from time to time. It is in this light, we decided to study the birth weights of babies of a more recent (1985-87) birth cohort and compare it with our previous data.

Material and Methods

The study included all singleton live born babies of both sexes delivered at All India Institute of Medical Sciences, New Delhi from 1st January, 1985 through 31st December, 1987. The gestational age was calculated weeks from the first day of the last menstrual period and confirmed by clinical assessment of gestational age using Singh's scoring system(4). When the gestational age by dates differed from clinical evaluation by more than 2 weeks, the latter was taken as gestation of the baby. The birth weight was recorded on a beam balance to the nearest 20 g using standard techniques. Means and standard deviation of birth weight for each gestational age were calculated. The data obtained was subjected to a computer based analysis to calculate percentile values for different gestational ages. The values were smoothed using adequate degree orthogonal polynomials to facilitate plotting of the curves(5).

Results and Discussion

During the above mentioned period, there were 4748 singleton live births. The Table gives mean birth weight at different gestational ages. The smoothed percentile curves are shown in the Figure.

From the Neonatal Division, Department of Pediatrics and Department of Biostatistics, All India Institute of Medical Sciences, Ansari Nagar, New Delhi-110 029.

Reprint requests: Prof. Meharban Singh, Head, Department of Pediatrics and Neonatal Division, All India Institute of Medical Sciences, Ansari Nagar, New Delhi-110 029.

Received for publication April 8, 1989;

Accepted December 31, 1990

TABLE—Mean Birth Weight (BW) and Gestation (Both Sexes Combined)

Gestation	Present study			Singh <i>et al.</i> (3)			P
	No.	Mean BW (g)	(SD)	No.	Mean BW (g)	(SD)	
26 - 27	18	812	(210)	--	--	--	--
28	45	1050	(250)	--	--	--	--
29	34	1190	(350)	--	--	--	--
30	42	1320	(230)	21	1500	(560)*	NS
31	40	1563	(392)				
32	78	1582	(330)	37	1685	(320)**	NS
33	76	1734	(325)				
34	83	2021	(460)	44	1912	(300)	NS
35	152	2190	(530)	42	2164	(410)	NS
36	280	2405	(500)	118	2352	(440)	NS
37	642	2680	(490)	184	2604	(410)	<0.05
38	941	2896	(440)	510	2740	(400)	<0.01
39	936	2990	(453)	642	2900	(410)	<0.01
40	791	3080	(430)	1309	2920	(430)	<0.01
41	195	3100	(440)	362	3040	(420)	NS
42	57	2950	(440)	155	2990	(410)	NS
43 + 44	12	2920	(410)	--	--	--	--

* Mean BW (SD) for combined gestation of 30 + 31 wk.

**Mean BW (SD) for combined gestation of 32 + 33 wk.

There is a significant trend towards higher birth weights (especially after 37 weeks of gestation) when compared with the 1973-74 data (Table)(3). The latest curves are closer to those published by Lubchenco *et al.*(1) constructed about a quarter century ago. The improved trend in the intrauterine growth pattern is likely to be due to improvements in antenatal and perinatal care services at AIIMS since the early seventies(6).

In the light of our observations, it is recommended to revise the intrauterine growth charts at an interval of 10-15 years.

REFERENCES

1. Lubchenco LO, Hansman C, Dressler M, Boyed E. Intrauterine growth as estimated from live born birth weight data at 24-42 weeks of gestation. *Pediatrics* 1963, 32: 793-799.
2. Ghosh S, Bhargava SK, Madhavan S, Taskar AD, Bhargava V, Nigam SK. Intrauterine growth of North Indian babies. *Pediatrics* 1971, 47: 826-832.
3. Singh M, Giri SK, Ramachandran K. Intrauterine growth curves of live born single babies. *Indian Pediatr* 1974, 11: 475-479.

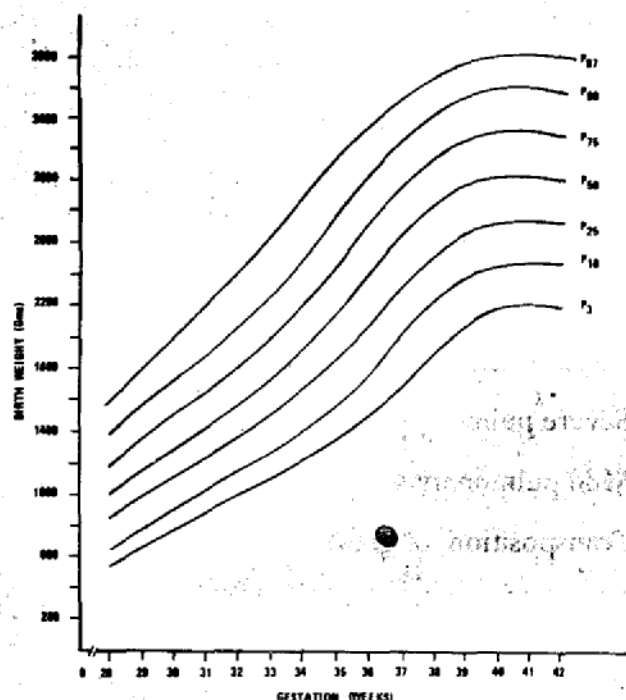


Fig. 1. Percentile weight curves for both sexes.

4. Singh M. Care of the Newborn, 3rd edn. Sagar Publications, New Delhi 1985, pp 106-114.
5. Snedecor GW, Cochran WG. Statistical Methods, New Delhi, Oxford and IBH Publishing Co, 1968, pp 460-463.
6. Obstetrics and Gynecology, 32nd Annual Report, AIIMS 1987-88, pp 306-318.

Mothers' Perception of Congenital Heart Disease

R. Khajuria
A. Grover
R. Kumar
J.S. Varma
P.S. Bidwai

Understanding of the nature of the congenital heart disease (CHD) by parents

is important in the management of children with CHD. Unfounded beliefs and wrong perceptions hinder proper treatment and induce undue anxiety on part of the parents(1-3). Usually parents' understanding of the nature of the heart disease does not correlate well with the underlying anatomic or pathophysiologic defect(2,4). We wanted to enumerate the characteristics of the parents who lacked proper knowledge about their child's illness. This would enable the physicians to identify such parents readily and educate them properly about the child's problem. Enabling the parents to gain right perspective of the illness and its long term prognosis is likely to result in their better participation in the management of the child.

Material and Methods

The study population was mothers of 101 consecutive children with CHD, attending the Pediatric Cardiology Clinic of Nehru Hospital, PGIMER, Chandigarh. A definite diagnosis of CHD and its severity had already been established in the sample population on the basis of clinical examination, electrocardiography and echocardiography. There were 66 boys and 35 girls with age ranging from 1 to 3 years. A pre-tested questionnaire was administered to the mothers by one of us (RK) who was blinded to the diagnosis. This questionnaire included social, economic, demo-

From the Departments of Cardiology, Pediatrics and Community Medicine, Postgraduate Institute of Medical Education and Research, Chandigarh-160 012.

Reprint requests: Dr. Anil Grover, Assistant Professor, Department of Cardiology, Postgraduate Institute of Medical Education and Research, Chandigarh-160 012.

*Received for publication March 2, 1990;
Accepted December 31, 1990*