Head Circumference of the Newborn Ceylonese Baby

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The measurement of the circumference of the head of the newborn child is important for the obstetrician, the paediatrician, and the anthropologist. No figures exist for the normal head circumference of the newborn Ceylonese child.

Material and Methods

The 813 infants subjected to measurement during the first week of life were born in the non-paying maternity section of the General Hospital, Kandy, during the four months from June to September 1965. Those infants with neonatal pathological conditions, such as hydrocephaly (1 case) and prematurity (28 cases), were not omitted. Infants with clinically recognizable moulding, caput succedaneum, or oedema of the scalp were, however, excluded. This series contained 4 ethnically distinct communities: the Sinhalese (673 cases), Tamils (75 cases), Muslims (48 cases), and Burghers (17 cases). In Ceylon, the standard for prematurity is considered to be 4 lb. 8 oz. (2141 g.) (Amarasinghe and Dissanayake, 1963).

The maximum circumference of the head was obtained by a line passing over the glabella and the pair of supraorbital ridges anteriorly and that part of the occiput posteriorly which gives maximal value. This supplied the fronto-occipital head circumference. Difficulties with measurement of the head circumference arise when the head has an abnormal shape as in hydrocephalus. Under these circumstances, measurement of the head size may best be made by a line crossing whatever points on the forehead and occiput give the maximal circumference.

All measurements were taken to the nearest 0.1 in. (0.25 cm.) with the tape unstretched but with all the slack eliminated. The same non-elastic tape-measure, checked for accuracy before use against a scale in inches, was employed throughout. All measurements were done by the same person.

Results

The head circumference of 813 babies (401 boys and 412 girls) was measured. The mean head circum-

ference was 13.2 in. (33.5 cm.) (range 11.0 to 14.8 in. (28-37.5 cm.)). For boys it was 13.3 in. (33.7 cm.) and for girls it was 13.1 in. (33.2 cm.). The head circumference in 712 (88%) babies was in the range of 12.0 to 13.9 in. (30-35.2 cm.). There were only 16 (2%) measuring less than 12.0 in. (30 cm.) and 85 (10%) more than 13.9 in. (35 cm.).

Analysis of the size of the head related to the birthweight revealed that the average head circumference for babies of birthweight less than 4 lb. (1814 g.) was 11.7 in. (29.6 cm.) (range 11.0 to 12.4 in. (28-31 cm.)), while the corresponding value for birthweight over 8 lb. (3628 g.) was 14.1 in. (36 cm.) (range 13.1 to 15.0 in. (33.2-38 cm.)). There was an increase in mean head size from 11.0

FIG.—This shows the increase in mean head size as mean birthweight increases, and compares these figures with a survey on Sheffield babies (O'Neill, 1961).

TABLE I
Head Circumference according to Birth Weight

Birth Weight	No. of Cases	Mean Head Circumference		Range of Head Circumference	
		Inches	Cm.	Inches	Cm.
< 3 lb. 15 oz. (< 1785 g.)	11	11·7	29·6	11·0-12·4	27·9-31·4
4 lb.-4 lb. 15 oz. (1814-2239 g.)	65	12·5	31·5	11·4-13·8	28·9-35·0
5 lb.-5 lb. 7 oz. (2267-2465 g.)	94	12·8	32·4	12·0-13·8	30·4-35·0
5 lb. 8 oz.-5 lb. 15 oz. (2494-2692 g.)	116	13·0	33·0	12·2-13·8	30·5-35·0
6 lb.-6 lb. 15 oz. (2721-3146 g.)	321	13·1	33·2	11·8-14·1	29·9-35·7
7 lb.-7 lb. 15 oz. (3175-3600 g.)	163	13·4	34·0	12·9-14·5	32·6-36·7
> 8 lb. (> 3628 g.)	43	14·1	35·7	13·1-15·0	33·2-38·1

to 15·0 in. (28-38 cm.) as birth weight increased (Table I and Fig.). The Figure also compares our findings with those of O'Neill (1961) who surveyed 901 white babies born in two maternity hospitals in Sheffield and Barnsley, Yorkshire. Her data are based on the maximum head circumference at age 7 ± 1 days.

Discussion

It is of interest to compare the mean head circumference of Ceylonese newborn babies—boys 13·3, girls 13·1 in. (33·7, 33·2 cm.), with values from elsewhere. The mean head circumference of the newborn English boy is 13·6 in. (34·5 cm.) and of the girl 13·2 in. (33·5 cm.) (Norman, 1963). Measurement of newborn babies of North European ancestry living in Boston, U.S.A., mostly from families in the lower socio-economic brackets, showed a head circumference for males and females of 13·9 (35·2 cm.) and 13·7 in. (34·7 cm.), respectively (Nelson, 1964). These contrasting figures are stimulating anthropometric revelations.

Summary

The mean head circumference measurements of

813 Ceylonese newborn children was 13·2 in. (33·5 cm.). The head circumference was related to birth weight. The mean head circumference of Ceylonese newborn babies is less than that of babies of European ancestry.

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Erratum

G. W. Chance and B. D. Bower 'Hypoglycaemia and Temporary Hyperglycaemia in Infants of Low Birth Weight for Maturity' (June 1966).

The sentence beginning on page 282, column 1, line 36, should read 'Moreover, the oral route of glucose administration was reported by Creery (1963) as unsatisfactory in raising blood sugar, unless combined with hydrocortisone.'