WEIGHTS OF CHILDREN WITH MAJOR CONGENITAL ABNORMALITIES OF THE INTESTINAL TRACT

BY

HERBERT B. ECKSTEIN

From The Hospital for Sick Children, Great Ormond Street, London

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It is widely held amongst paediatric surgeons that babies born with major congenital abnormalities remain small even after successful surgical treatment. Forshall (1960) showed that many children with certain deformities achieve normal weight after correction; but no systematic study of the pattern of their long-term development appears to have been carried out.

The purpose of this investigation was to review the weight gain of 160 children whose congenital abnormalities had been successfully treated by operation in the neonatal period. The conditions selected for review were: oesophageal atresia and tracheo-oesophageal fistula, duodenal atresia, jejunal and ileal atresia, ano-rectal agenesis and exomphalos. The weight of many children was recorded at regular follow-up visits or on readmission for after-treatment or for some other illness; in the remainder the mothers were asked to weigh the children

without clothes. The age at weighing in the cases reported varied from 4 months to 10 years and the weights were entered on percentile charts redrawn from Tanner (1958) (Figs. 1-7).

The Table shows the percentages in the various percentile groups. Patients with major cardiac abnormalities, major urinary abnormalities and mongolism are excluded, since these conditions tend to interfere with growth.

As a whole the children are smaller than the healthy children serving as standards, but about one-third of the operated children are in the over-50 percentile group and only 13% lie below the third percentile. Cases over the third percentile can be regarded from the clinical point of view as normal. The graphs give little indication of any difference in status with increasing age from 1 to 6 years, or of a substantial sex difference. Perhaps, surprisingly, children did as well after more or less

FIG. 1.—Percentile chart showing weights and ages of boys with tracheo-oesophageal fistula and atresia.

FIG. 2.—Percentile chart showing weights and ages of girls with tracheo-oesophageal atresia.

FIG. 3.—Percentile chart showing weights and ages of boys with intestinal atresia.

FIG. 4.—Percentile chart showing weights and ages of girls with intestinal atresia.

FIG. 5.—Percentile chart showing weights and ages of boys with ano-rectal agenesia.

FIG. 6.—Percentile chart showing weights and ages of boys with exomphalos.

TABLE

Lesion	Tracheo-oesophageal Fistula	Duodenal Atresia	Jejunio-ileal Atresia	Ano-rectal Agenesia	Small Exomphalos	Large Exomphalos	Total
Number	50	11	15	40	23	12	151
Percentile:							
> 97(%)	—	9	—	—	—	8	1.3
90-97(%)	8	9	—	5	13	—	6.6
75-90(%)	6	—	7	7	17	—	7.3
50-75(%)	22	9	20	10	22	—	15.9
25-50(%)	20	9	7	20	13	17	16.6
10-25(%)	22	18	20	15	17	33	19.9
3-10(%)	18	18	26	28	9	17	19.9
< 3(%)	4	32	20	15	9	25	12.6

FIG. 7.—Percentile chart showing weights and ages of girls with exomphalos.

extensive bowel resection for small intestinal atresia as after short-circuit operations (duodeno-jejuno-stomy or duodeno-duodenostomy) for duodenal atresia. The Table also shows that in exomphalos the size of the defect bears some relation to the subsequent gain in weight of the child.

One may conclude that, contrary to general belief, most children who are successfully treated for major congenital abnormalities will grow to clinically normal size.

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