

SHAPE OF NAIL IN POST-POLIOPARALYSIS

By

*G. L. PUROHIT, **R. C. TALSANIA, & ***D. N. CHHATRAPATI

The variations in the shape of nail in diseases have been reported by several workers. Cheiro (1956) has shown the predisposition of shape of nail to some diseases. Purohit and Shukla (1961) have made measurements on the rate of nail growth in young medical students. Vakil and Golwala (1967) have described broad and square nail in acromegaly and long nails in hypopituitarism. Chhatrapati and Purohit (1968) have done actual measurements of the nail and suggested two classification for the shape of the nail. They have also measured the shape of nail in tuberculosis (1968) and compared with the normals.

In the present investigation the same work has been extended to patients suffering from post-polio-paralysis.

METHOD AND MATERIAL

The present study was done in fifty children suffering from post-polio-paralysis. They were selected from patients coming for physiotherapy to the solarium attached to the Irwin Group of Hospitals, Jamnagar. Their age ranged from 5 months to 10 years. Only the patients suffering from post polioparalysis were selected and those suffering from paralysis due to other diseases were excluded from the series. All these measurements were done within a short period of one month so as to avoid seasonal changes if any. The measurements were done as described by Chhatrapati and Purohit and were tabulated and analysed on the same pattern.

OBSERVATIONS AND DISCUSSIONS

The results have been summarised, tabulated and graphically presented.

TABLE I

(Showing the age incidence in Male and Female suffering from Post polioparalysis)

Age in yrs.	Male Percentage	Female Percentage	Combined Percentage
0-1	18	10	28
1-2	10	12	22
2-3	10	12	22
3-4	10	12	10
3-5	4	—	10
5-6	—	2	2
6-7	2	—	2
7-8	—	—	—
8-9	—	—	—
9-onwards	4	2	6

*Associate Professor of Physiology. **Lecturer in Physiology, M. P. Shah Medical College Jamnagar. ***Professor of Anatomy B. J. Medical College, Ahmedabad.

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An analysis will show that fifty eight percent of the patients were male and forty two percent female. There was no marked sex difference but the percentage incidence in the female series was slightly less than in the male series. Majority of the cases (Eighty two percent) were below the age of four years.

TABLE 2

(Showing average length, breadth and L:B ratio of nails in fifty children suffering from post-polio paralysis)

	RIGHT HAND			LEFT HAND		
	Length	Breadth	L:B Ratio	Length	Breadth	L:B ratio
Thumb	0.78	1.00	1.36	0.78	1.00	1.31
Index	0.58	0.80	1.31	0.58	0.74	1.32
Middle	0.55	0.82	1.44	0.59	0.79	1.39
Ring	0.59	0.81	1.39	0.58	0.76	1.34
Little	0.54	0.61	1.22	0.53	0.63	1.23

No definite conclusion can be drawn from the length and breadth as there was a wide range of age group and the subjects were in the growing age. The sex difference will also be negligible as all the patients were in the pediatric age group.

The average L:B ratio is highest in the middle finger followed by ring, index, thumb and the little finger while in our normal series the thumb has the highest followed by middle, ring, index and little finger.

TABLE 3

(showing comparison of minimum and maximum length, breadth and L:B ratio in both the hands)

	RIGHT HAND		LEFT HAND	
	Minimum	Maximum	Minimum	Maximum
LENGTH				
Thumb	0.50	1.50	0.50	1.52
Index	0.35	1.25	0.35	1.27
Middle	0.40	1.20	0.35	1.20
Ring	0.33	1.20	0.36	1.13
Little	0.34	1.40	0.32	1.10
BREADTH				
Thumb	0.76	1.69	0.73	1.62
Index	0.52	1.20	0.52	1.20
Middle	0.59	1.30	0.55	1.26
Ring	0.60	1.20	0.52	1.20
Little	0.43	1.02	0.42	0.92
L:B ratio				
Thumb	1.01	2.00	0.96	2.01
Index	0.86	2.25	0.90	2.25
Middle	0.99	2.25	0.98	2.55
Ring	1.00	2.34	0.89	2.01
Little	0.60	1.94	0.81	1.92

The figures for length and breadth are bound to be low due to younger age group but the range for L:B ratio is also slightly less than normals.

TABLE 4

(Showing the percentage incidence of length and breadth in all the fingers)

Centimeters	Length percentage	Breadth percentage
0.26 to 0.35	3	—
0.36 to 0.45	16	1
0.46 to 0.55	21	4.60
0.56 to 0.65	27.20	18
0.66 to 0.75	16.40	22
0.76 to 0.85	6.40	23
0.86 to 0.95	3.40	12
0.96 to 1.05	3.20	9.60
1.06 to 1.15	1.00	3.40
1.16 to 1.25	1.20	3.80
1.26 to 1.35	0.40	0.40
1.36 to 1.45	0.20	0.20
1.46 to 1.55	0.60	0.20
1.56 to 1.65	—	1.00
1.66 to 1.75	—	0.20

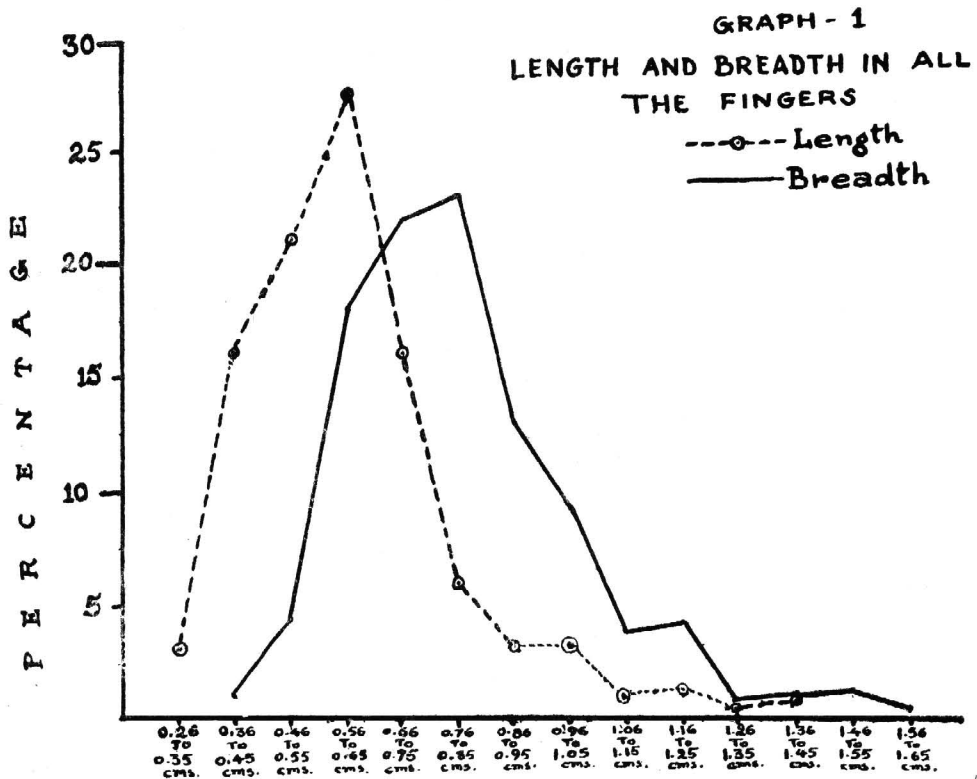
The length in eighty percent of cases ranged between 0.36 to 0.75 and the breadth in seventy five percent cases between 0.56 to 0.95.

TABLE 5

(Showing the percentage incidence of L:B ratio and the classification in all the fingers)

L:B ratio	Percentage	Classification
0.85 or less	1.00	Long gr. II
0.86 to 0.95	1.20	" " I
0.96 to 1.05	12.80	Square
1.06 to 1.15	13.20	Broad gr. I
1.16 to 1.25	18.00	" " II
1.26 to 1.35	14.00	" " III
1.36 to 1.45	11.00	" " VI
1.46 to 1.55	10.00	" " V
1.56 to 1.65	5.00	" " VI
1.66 to 1.75	4.80	" " VII
1.76 to 1.85	3.80	" " VIII
1.86 to 1.95	1.80	" " IX
1.96 to 2.05	1.40	" " X
2.06 to 2.15	1.80	" " XI

The L:B ratio in seventy nine percent of cases ranged between 0.96 to 1.55, the maximum being between 1.16 to 1.25 or the broad grade II.

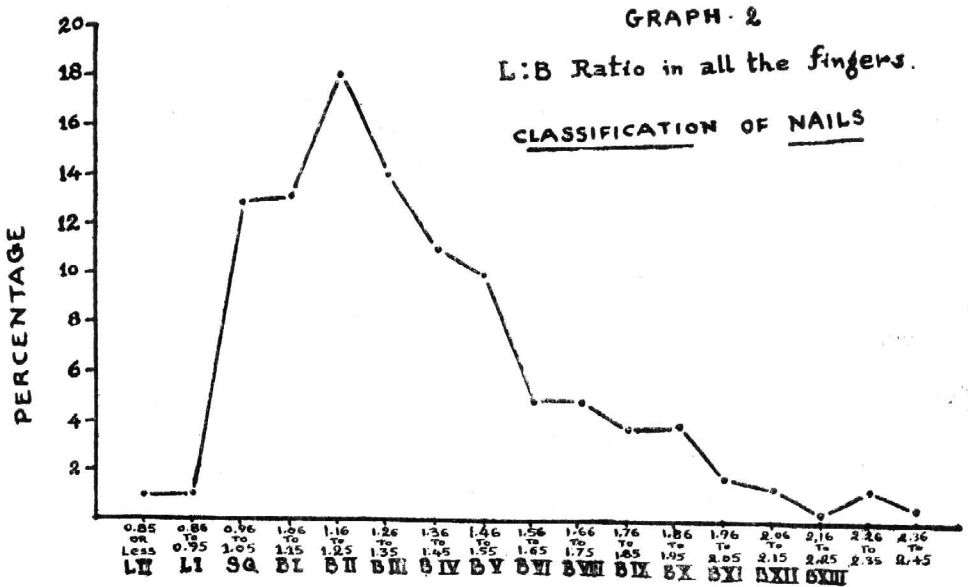


Total length and breadth have been shown in graph 1. The maximum peak in length was found in the range of 0.56 to 0.65 and for breadth from 0.76 to 0.85. There is a definite shift to the left as compared to the normals but our normals were in the adult age group while in the present series we have taken younger age group where the values are bound to be low.

The L:B ratio has been plotted in graph 2. The peak value is in the broad grade II and this corresponds to our normal series.

SUMMARY

1. The shape of nail was measured in fifty children suffering from post-polio-paralysis.
2. Eighty two percent of the cases were less than four years of age.
3. No conclusion can be drawn from the length and breadth figures as they are bound to be low in the younger age group in the present series.
4. The L:B ratio was found to be similar to our normal series with its peak in the broad grade II.
5. This shows that the shape of nail in this disease is similar to our normal series.



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