

“Comparison between the Incidence of Right and Left Sided Congenital Torticollis”

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Abstract

Congenital torticollis is an intriguing condition of unknown origin, characterized by unilateral shortening and tightness of the sternocleidomastoid muscle. Patients usually present with head tilt, facial asymmetry and plagiocephaly. A sternomastoid mass or tumor may or may not be clinically apparent. Untreated, cervical function and facial cosmesis may be severely compromised.

Objective: My study is aimed at establishing a comparison between the incidence of right versus left sided

congenital torticollis.

Method: This observational study included 30 patients of congenital torticollis that completed the questionnaire. The data was collected from patients coming to the Physiotherapy and Orthopedic departments of Children Hospital, Lahore.

Results: Results showed that right side was involved in 19 (63.3%) patients and left side was involved in 11 (36.7%) patients. Out of 30 patients, 14 (46.7%) were male, of which 8 had right sided congenital torticollis and 6 had left sided congenital torticollis, and 16 (53.3%) were female, of which right sided congenital torticollis and 5 had left sided congenital torticollis.

Conclusion: Hence it is concluded that incidence of right sided congenital torticollis is more common than left sided congenital torticollis. The incidence of congenital torticollis is higher in females than in males.

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Introduction

Congenital Muscular Torticollis (CMT) is a postural deformity of head and neck detected at birth or shortly after birth, primarily resulting from unilateral shortening of Sternocleidomastoid Muscle (SCM).¹

The right side sternocleidomastoid muscle rotates the head to the left and flexes it to the right. The left side rotates the head to the right and flexes it to the left. Both sides together flex the neck and head forward. The SCM is also an important accessory muscle of inspiration and is highly active during costal (high chest) breathing especially during rapid breathing.²

The etiology of congenital torticollis is unclear. Birth trauma or intrauterine malposition is also considered to cause damage to the sternocleidomastoid muscle in the neck. This results in a shortening or excessive contraction of the sternocleidomastoid muscle, often with limited range of motion in both rotation and lateral bending. The head is typically tilted in lateral bending toward the affected muscle and rotated toward the opposite side. The condition may be caused by scars, disease of cervical vertebrae, adenitis, tonsillitis, rheumatism, enlarged cervical glands, retropharyngeal abscess, or cerebellar tumors. The reported incidence of congenital torticollis is 0.3 – 2.0%.³

The condition is treated initially with physical therapy, with stretching to correct the tightness, strengthening exercises to achieve muscular balance, handling to stimulate symmetry. About 5–10% requires “surgical release” of the muscle if stretching fails.⁴

The aim of physical therapy is to advise the parents about specific handling and positioning, and also to design a home treatment program. Range of motion in the cervical region has to be normalized, an eventually occurring sternocleidomastoid imbalance should be treated and the spontaneous positional and movement preferences should be minimized.⁵

Methodology

Study Design

Observational study.

Sample Design

Convenience method.

Settings

The study was conducted at the Department of Physiotherapy and Department of Orthopedic, Children Hospital and Institute of Child Health, Lahore.

Duration of Study

3 months after approval of synopsis i.e. from December 2011 to February 2012.

Study Group

All patients less than 3 year of age with congenital torticollis.

Sample Size

This was a time based study of 3 months. 30 patients were included in that period of time.

Sampling Technique

Convenient and Purposive Non Random Sampling technique was used.

Sample Selection Criteria

Inclusion Criteria

All patients less than 3 year of age with congenital torticollis coming in the CH & ICH Lahore were included in the study.

Exclusion Criteria

Patients with acute torticollis, congenital anomalies of the cervical spine, spasmodic torticollis, and other forms of neurogenic, ocular, and organic torticollis were excluded from the study.

Methodology

The following information was recorded based on history and examination: gender, the age at presentation, family history, the side of the torticollis, birth history and obstetric data, presence of hip dysplasia, the presence of head tilt and craniofacial asymmetry, presence of residual band, extent of head tilt, asymmetry of skin fold, feeding problem, intolerance of prone positioning and the limitation of range of motion of the neck in rotation and side flexion as compared with the normal side.

Data Collection Tools / Instruments

Structure questionnaire guide was used to collect data. From these questionnaire data was collected about patients, gender, age and medical history of disease.

Statistical Analysis

Using SPSS v.17, the data was managed and analyzed. The continuous variables such as age were expressed as mean \pm S.D, whereas categorical variables such as mode of delivery were expressed in the form of frequency table and percentages. Histogram was also used to see the normality of quantitative data. Appropriate graphs were used to display the data.

Results

This observational study was based on 3 Months time period and 30 patients were studied. A Performa was used for each patient, which was filled out based on history and clinical examination.

All of the patients had congenital torticollis; 46.7% of the patients were male and 53.3% were female. On examination, right side was involved in 63.3% patients and left side was involved in 36.7% patients.

Patients were under the age of 3 years, with mean \pm SD of 1.3 ± 0.7 , at the time of assessment. Majority of the patients belonged to lower socioeconomic status. Family history was negative in all patients. Residual band was present in only 16.7% patients. Asymmetry of skin fold was present in 20% patients. None of the patient had hip dysplasia. In a total of 56.7% patients complained of feeding problem. 53.3% patients complained of intolerance of prone positioning.

According to history, mode of delivery was normal in 86.7% patients and caesarean in 13.3% patients. In a total of 80% patients had rotation deficit less

Table 2: Distribution of cases, according to age and socio-economic status.

Factors		Values
Age	Mean \pm SD	1.267 \pm 0.7237
Socioeconomic Status	Upper	3.3%
	Middle	30.0%
	Lower	66.7%

Table 3: Frequency and percentage distribution of different variables.

Variables	No	Yes
Family history	30 (100%)	0 (0%)
Residual band	25 (83.3%)	5 (16.7%)
Asymmetry of skin fold	24 (80%)	6 (20%)
Hip dysplasia	30 (100%)	0 (0%)
Feeding problem	13 (43.3%)	17 (56.7%)
Intolerance of prone position	14 (46.7%)	16 (53.3%)

Table 1: Percentage of Variables and Their Distribution.

Variables		Frequency	Percentage
Gender	Male	14	46.7%
	Female	16	53.3%
Mode of delivery	Normal	26	86.7%
	Cesarean	4	13.3%
SCM Tightness	Left	11	36.7%
	Right	19	63.3%
Rotation deficit	<30°	24	80%
	>30°	6	20%
Side flexion deficit	<30°	19	63.3%
	>30°	11	36.7%
Craniofacial asymmetry	None	29	96.7%
	Mild	1	3.3%
	Severe	0	0%
Head tilt	No	1	3.3%
	Mild	29	96.7%
	Severe	0	0

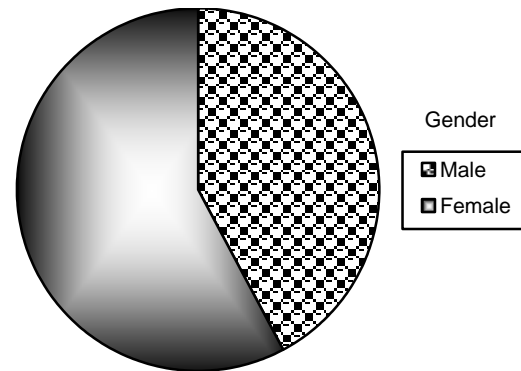


Fig. 1: Pre Slices Show Count.

than 30° and 20% patients had greater than 30° rotation deficit. Side flexion deficit was present less than 30° in 63.3% patients and greater than 30° in 36.7% patients. No craniofacial asymmetry was found in any patient. Majority i.e. 96.7% of patients had mild head tilt. Out of 14 male patients, 8 had right side congenital torticollis while 6 had left side congenital torticollis. Out of 16 female patients, 11 had right side congenital torticollis while 5 had left side congenital torticollis.

PERFORMA FOR DATA COLLECTION

1. Study Serial No. _____ 2. Date of Assessment _____

3. Name _____ 4. Age _____

5. Gender: Male Female

6. Address _____

7. Contact No. _____

8. Socioeconomic Status: Upper Middle Lower

Disease History

1. Family History: Yes No

2. Mode of Delivery: Normal Cesarean

3. Sternocleidomastoid tightness: Right Left

4. Rotation deficit: $<30^\circ$ $>30^\circ$

5. Side flexion deficit: $<30^\circ$ $>30^\circ$

6. Craniofacial asymmetry: None Mild Severe

7. Residual band: Yes No

8. Head tilt: No Mild Severe

9. Asymmetry of skin fold: Yes No

10. Hip dysplasia: Yes No

11. Feeding problem: Yes No

12. Intolerance of prone positioning: Yes No

Table 4: Gender and sternocleidomastoid tightness cross tabulation.

Gender	Sternocleidomastoid Tightness		Total
	Right	Left	
Male	8	6	14
Female	11	5	16
Total	19	11	30

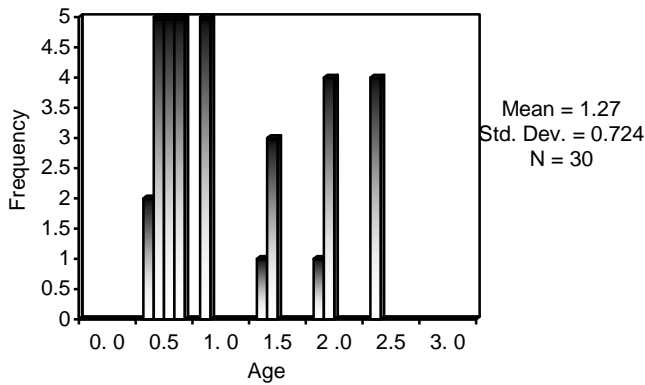


Fig. 2: Histogram.

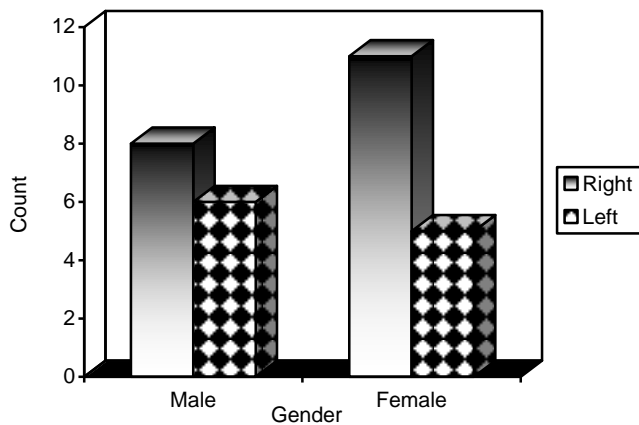


Fig. 3: Bar Chart.



Fig. 4: Bar Chart.

This study also reveals that the incidence of congenital torticollis is greater in females than in the males. Inheritance has no role in the development of this disease. There is no association of congenital torticollis with hip dysplasia.

Most of the patients present as mild cases, having mild head tilt, almost no craniofacial asymmetry or plagiocephaly. But the symptoms may be as severe as causing neurological problems due to compression of nerve roots.

Features like head tilt, residual band, asymmetry of skin fold, degree of side flexion and rotation deficit etc. help not only in diagnosis and determining severity of disease but also in the treatment plan.

Side flexion deficit and rotation deficit are the most troublesome and arduous features to deal with, causing feeding problems and thus ill health especially in neonates. Early realization of something wrong by the parents, early diagnosis and definitely early treatment is essential for ideal prognosis.

Many similar studies have been carried out with respect to this problem. I suggest that research should be done and implemented on association of obstetrics and torticollis so that etiology related to birth trauma may be controlled.

Discussion

The purpose of this study was to evaluate the distribution of right and left congenital torticollis in both genders.

This study proves that incidence of right side congenital torticollis is greater than left side congenital torticollis.

Conclusions

- The incidence of right side congenital torticollis is higher than left side congenital torticollis. (63.3% versus 36.7%).
- The incidence of congenital torticollis is higher in females than in males. (53.3% versus 46.7%).

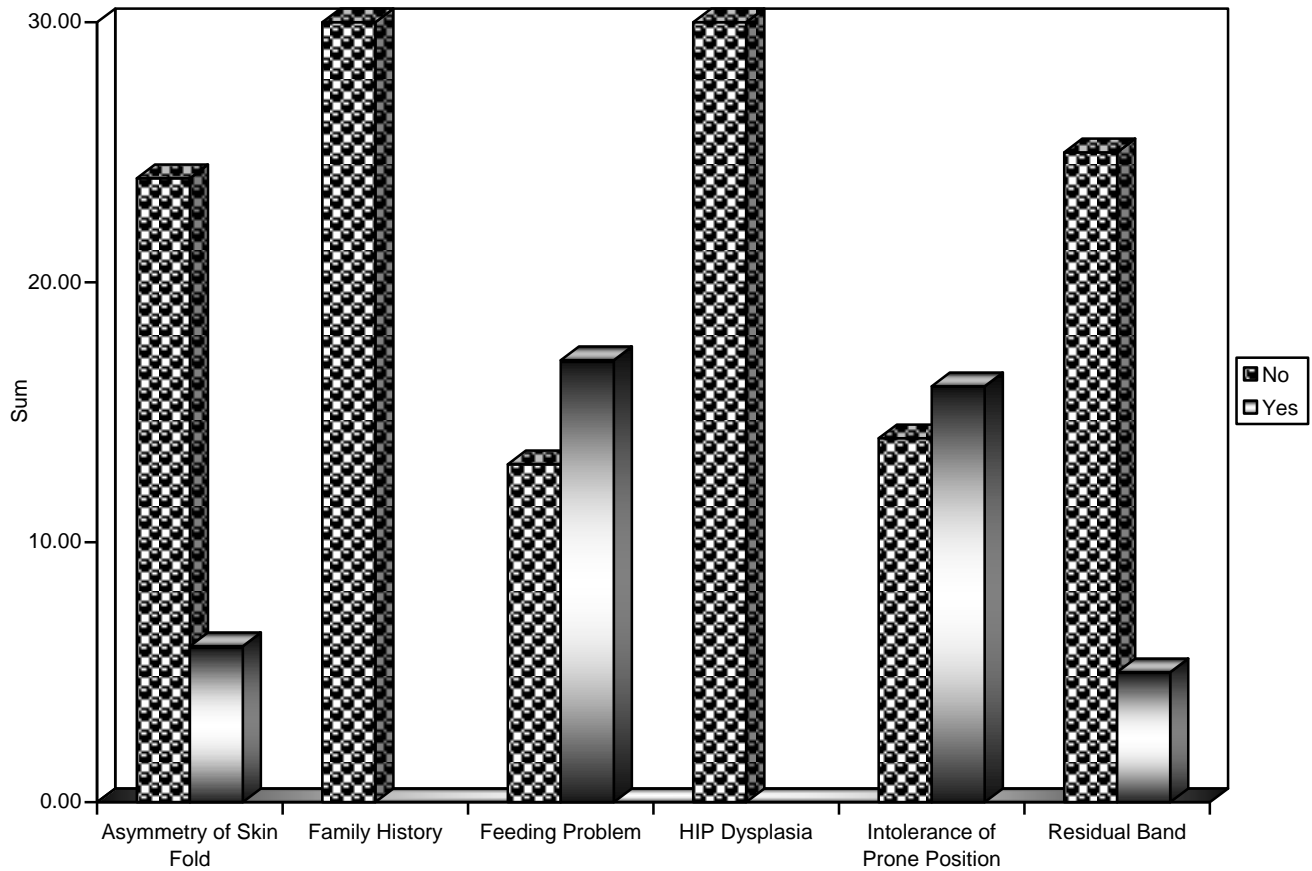


Fig. 5: Variables.

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