

Epidemiological Study of Toxoplasmosis and Cytomegalovirus among Children with Idiopathic Sensorineural Hearing Loss

Thesis

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

لَسْبَدَّانِكَ لَا عِلْمَ لَنَا
إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْعَظِيمُ

صدق الله العظيم

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List of Contents

Subject	Page No.
List of Abbreviations	I
List of Tables	II
List of Figure	V
Introduction.....	1
Aim of the Work.....	5
Review of Literature	
Chapter (1): Sensorineural Hearing Loss in Children	6
Chapter (2): Cytomegalovirus	13
Chapter (3): Toxoplasmosis	40
Materials and Method	56
Results	65
Discussion.....	92
Conclusion	101
Recommendations	102
Summary	103
References	105
Arabic Summary	—

List of Abbreviations

Abb.	Full term
ANSD	Audiotary neuropathy spectrum disorders
ABR	Audiotary brainstem response
CHL	Conductive hearing loss
CMV	Cytomegalovirus
DNA	Deoxyribonucleic acid
EBV	Epstein bar virus
ELISA	Enzyme linked immunosorbant assay
GJB2	Gap Junction beta -2 protein
IUGR	Intrauterine growth retardation
NICU	Neonatal intensive care unit
PCR	Polymerase chain reaction
RNA	Ribonucleic acid
SNHL	Sensorineural hearing loss
T. gondii	Toxoplasma gondii

List of Tables

Table	Title	Page
1	Summarizes possible antibody testing results	37
2	Measures to prevent primary <i>Toxoplasma gondii</i> infection	53
3	Age in years of the study and control groups (I & II)	66
4	Gender distribution of study and control groups (I & II)	66
5	Degree of hearing loss of study and control groups (I & II)	67
6	Laterality of hearing loss of study and control groups (I & II)	69
7	Mode of delivery of study and control groups (I & II)	69
8	Possible etiology (risk factors) of the Control Subgroup (I)	69
9	Comparison of onset of hearing loss between studygroup and control subgroup (I) (SNHL with a risk factor)	70
10	Number and percent of seropositive cases in study and control groups (I & II)	71
11	Comparison of CMV seropositive and seronegative cases between study and control groups (I and II)	72

Table	Title	Page
12	Comparison of CMV seropositive and seronegative cases between study group and control subgroup (I) (SNHL with known risk factor)	72
13	Comparison of CMV seropositive and seronegative cases between study group and control subgroup (II) (CHL)	73
14	Mean and Standard Deviation (SD) of seropositive CMV IgG titre in study and control groups (I and II)	73
15	Mean and Standard Deviation (SD) of seropositive CMV IgM titre in study and control groups (I and II)	74
16	95% confidence interval for seropositive IgG titre in control groups (I and II)	77
17	Descriptive analysis to high seropositive IgG cases in study group	77
18	Comparison of CMV seropositive IgG titre of possible active cases between study and control groups (I and II)	78
19	Comparison of CMV seropositive IgM titre of possible active cases between study and control groups (I and II)	78
20	Correlation between degree of hearing loss and onset of hearing loss in cases with active infection	80

Table	Title	Page
21	Correlation between mode of delivery and onset of hearing loss in cases with active infection	80
22	Correlation between mode of delivery and degree of hearing loss in cases with active infection	81
23	Comparison of degree of hearing loss between CMV seropositive and seronegative cases in study group	81
24	Comparison of mode of delivery between CMV seropositive and seronegative cases in study group	82
25	Comparison of order of birth between CMV seropositive and seronegative cases in study group	82
26	Number and percent of Toxoplasmosis among study and control groups (I and II)	83
27	Comparison of toxoplasma positive and negative cases between study and control groups (I and II)	87
28	Comparison of toxoplasma positive and negative cases between study and control subgroup (I) (SNHL with known risk factor)	88
29	Comparison of toxoplasma positive and negative cases between study group and control subgroup (II) (CHL)	88

Table	Title	Page
30	Mean and Standard Deviation (SD) of positive Toxo. IgG titre in study and control groups (I and II)	89
31	Mean and Standard Deviation (SD) of positive Toxo. IgM titre in study and control groups (I and II)	89
32	Comparison of degree of hearing loss between Toxoplasma gondii positive and negative cases in study group	90
33	Comparison of mode of delivery between Toxoplasma gondii positive and negative cases in study group	90
34	Comparison of order of birth between Toxoplasma gondii positive and negative cases in study group	91

List of Figures

Figure	Title	Page
1	Life cycle of toxoplasmosis	42
2	Degree of hearing loss among study group	68
3	Seropositive CMV IgG and IgM titre distribution among different age groups in study group	74
4	Seropositive CMV IgG and IgM titre distribution among different age groups in control group (I)	75
5	Seropositive CMV IgG and IGM titre distribution among different age groups in control groups (II)	76
6	Seropositive CMV IgG and IgM titre distribution among different age groups in possible active cases	79
7	Toxoplasmosis among study group	84
8	Toxoplasmosis among control subgroup (I)	85
9	Toxoplasmosis among control subgroup (II)	86

Epidemiological Study of Toxoplasmosis and Cytomegalovirus among Children with Idiopathic Sensorineural Hearing Loss

Abstract

Background: The accurate identification of the causes of sensorineural hearing impairment in children is very challenging. The recognition of the causes of sensorineural hearing impairment helps in better treatment and in possibility of prevention. The causes of hearing impairment have changed with infections being the least frequent in developed nations, whereas in developing nations they continue being a frequent risk factor. The most frequent infectious agents associated with hearing loss are Cytomegalovirus (CMV).

Aims: To study the frequency of *Toxoplasma gondii* and Cytomegalovirus (CMV) in children with sensorineural hearing impairment. To evaluate the possible role of these infectious agents on the occurrence of Idiopathic sensorineural hearing impairment.

Materials & Method: The study is an attempt to study relation between CMV and toxoplasmosis in occurrence of sensorineural hearing loss. This study was conducted on 82 children, 40 males and 42 females. Their age ranged from 1 to 15 years. Fifty two of these children (study group) had sensorineural hearing loss with unknown etiology (no risk factors), 20 children (control subgroup I) had sensorineural hearing loss but with a risk factor (possible etiology) and 10 children (control subgroup II) had conductive hearing loss.

Results: ELISA is used to detect IgG and IgM antibodies for CMV and toxoplasmosis.

Conclusion: Cytomegalovirus is a common viral infection. Majority of cases in study and control groups had past exposure to cytomegalovirus. **Recommendations:** Polymerase chain reaction (PCR) is needed to detect cytomegalovirus load in cases with hearing loss. More researches are needed to emphasis on infectious agent as a cause of hearing loss in children.

Keywords: CMV: Cytomegalovirus, ELISA: Enzyme linked immunosorbant assay. PCR: Polymerase chain reaction.



Introduction





Aims of the Work





Chapter (1)

**Sensorineural Hearing
Loss in Children**





Chapter (2)

Cytomegalovirus

