Hearing Profile In Bacterial Meningitis After Steroid Therapy In Infants And Children

Thesis

Submitted for partial fulfillment of Master Degree in Pediatrics



Presented by

Dr. Hassan Amin Mekawy Khattab

M.B., B.Ch.,

Supervised by

Jana PR

Dr. Sanaa A. Rahman Mahmoud

Assist. Prof. of Pediatrics Faculty of Medicine Ain Shams University 5297F

- DEHEND

Dr. Adham M. El Tahry
Lecturer of Pediatrics

Lecturer of Pediatrics Faculty of Medicine Ain Shams University

mis and

Dr. Someia Tawfik

Assist, Prof. of Audiology Faculty of Medicine Ain Shams University

1.12.09789 1. A

Faculty of Medicine Ain Shams University 1996

		-	
			•
			•
			· •
			-
			ī.
			7 1
			;











ACKNOWLEDGEMENT

I would like to express my sincere gratitude and deep appreciation to prof. Dr. Sanua Abdel Rahman, Assit. Prof. of Pediatrics, Faculty of Medicine, Ain-Shams University, for her continued support, kind encouragement, great help and advicesyaluable suggestion and kind assitance throughout the whole work.

I also, very grateful to *Dr. Adham ElTahry*, Lecturer of Pediatrics, Faculty of Medicine Ain-Shams University for his kind help and guidance.

Also, I would like to thank *Dr. Someia Tawflk*, Assist. Prof. of Audiology, Ain-Shams University for her generous time and kind supervision during the practical work.

It is pleasure to express my thanks to the staff members and residents of Audiology Unite. Faculty of Medicine Ain-Shams University.

Many thanks for the great help and advice of *Dr. Yehiu Sultan*, director of Abbassia Fever Hospital and all the staff members of the hospital for their kind help.



List of the contents

	Page
l. Introduction and aim of the work	1
II. Review of literature	3
Anatomy and physiology	3
Meningitis	5
. Epidemiology	14
Pathogenesis	21
Pathophysiology	23
Clinical manifestations	29
Complications	34
Laboratory diagnosis	38
Prevention	44
Management	46
Hearing profile in meningitis	53
III. Subjects and methods	58
IV. Results	62
V. Discussion	92
VI. Conculsions	104
VII. Recommendations	105
VIII. Summary	106
IX. References	108
X. Arabic summary	



List of tables

Tables of review

	Page
1. Age distribution of bacterial meningitis cases according to eti	iology 17
in Abbassia Fever Hospitals. 1977 - 1978	
2. Symptoms and signs of acute septic meningitis.	32
3. Approximate frequency of typical signs and symptoms of bact	terial 33
meningitis in children and adults.	
Tables of results	
1. The percentage of different symptoms and signs among infants	and 66
children with acute bacterial meningitis.	
2. Relation between causative organisms and age of the studied pat	ients 67
3. Daily temperature in the patients who received steroids (group 1)	and 68
the patients who did not receive steroids (group II).	
4. Duration of fever in days in patients who received steroids (gro	oup I) 68
and who did not receive steroids (group II).	
5. Mean, standard deviation (SD) and range of pure tone threshol	lds in 69
patients who received steroids (group 1) and patients who did	1 not
receive steroids (group 11) at frequencies from 250 to 8000 Hz.	
6. Mean, standard deviation (SD) and range of pure tone avarage (PTA), 70
speech reception thresholds (SRT) and word descrimination (W	VD) in
patients who received steroids (group 1) and patients who d	id not
receive steroids (group 11).	

7. Mean, standard deviation (SD) and range of immittancemetry results	71
in patients who received steroid (group 1) and patients who did not	
receive steroids (group 11).	
8. Tympanometric patterns in patients who received steroids (group 1) and	72
patients who did not receive steroids (group 11).	
9. Hearing profile in patients who received steroids (group 1) and patients	73
who did not receive steroids (group 11).	
10. Mean, standard deviation (SD) and range of pure tone thresholds	74
(dBHL) in patients with N. meningitidis who received steroids and	
patients who did not receive steroids at frequencies from 250 to	
8000 Hz.	
11. Mean, standard deviation (SD) and range of pure tone average (PTA),	75
speech reception threshold (SRT) and word descrimination (W.D.)	
in the patients with N. meningitidis who received steroids and patients	
who did not receive steroids.	
12. Mean, standard deviation (SD) and range of immittancemetry results	76
in patients with N meningitidis who received steroids and patients who	
did not receive steroids.	
13. Tympanometric patterns in the patients with N. meningitidis who	77
received steroids and who did not receive steroids.	
14. Hearing profile in patients with N.meningitidis who received steroids	77
and who did not receive steroids.	
15. Mean, standard deviation (SD) and range of pure tone thresholds in	78
the patients with S. pneumoniae who received teroids and the patients	
who did not receive steroids at frequencies 250 - 8000 Hz.	

16.	Mean, standard deviation (SD) and range of pure tone average (PTA),	79
	speech reception thresholds (SRT) and word descrimination (W.D) in	
	the patients with S. pneumoniae who received steroids and the patients	
	who did not receive steroids.	
17.	Mean, standard deviation (SD) and range of immittancemetry in the	80
	patients with S. pneumoniae who received steroids and the patients who	
	did not receive steroids.	
18.	Tympanometric patterns in the patients with S. pneumoniae who received	81
	steroids and the patients who did not receive steroisds.	
19.	Hearing profile of the patients with S. pneumoniae who received steroids	81
	and who did not receive steroids.	
20.	Mean, standard deviation (SD)and range of pure tone thretholds (dBHL)	82
	in patients with H.influenzae who received steroids and who did not	
	receive steroids at frequencies from 250 to 8000 Hz.	
21.	Mean, standard deviation (SD) and range of pure tone average (PTA),	83
	speech reception thresholds (SRT) and word descrimination (W.D.) of	
	patients with H. influenzae who received steroids and who did not	
	receive steroids.	
22.	Acoustic reflex thresholds in patients with H influenzae who received	84
	steroids and who did not receive steroids.	
23.	Tympanometric patterns in the patients with H. influenzae who received	84
	steroids and patients who did not receive steroids.	
24.	Hearing profile of patients with H. influenzae who received steroids and	85
	who did not receive steroids.	
25.	Relation between hearing loss in patients with meningitis and their	86
	physical growth.	

- 26. Comparison between the patients with normal hearing and patients with hearing impairment as regards age and weight
- 27. The CSF glucose, proteins and total leucocytic count on admission in patients with normal hearing and patients with hearing impairment.