

**PREVALENCE OF BACTERAEMIA AND SEPTICAEMIA
AMONG CHILDREN ATTENDING KANTI CHILDREN
HOSPITAL WITH SPECIAL REFERENCE TO *Salmonella* spp.**

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(MEDICAL)**

**BY
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ABSTRACT

This study was conducted in Kanti Children's Hospital, Kathmandu, Nepal among the children suspected of bacteraemia and septicaemia from June 2006 to July 2007. The main aim of this study was to find prevalence of bacteraemia and septicaemia and especially to find the incidence of *Salmonella* spp. among the children visiting Kanti Children's Hospital.

In this study, a total of 1671 blood samples were studied, out of which 10.71% showed positive culture result. The incidence of bacteraemia in indoor patient was found to be 14.28% and in outdoor patients was found to be 10.43%. Among the genders slightly high percentage of culture positivity was seen in female patients with 11.5%. However there was no significant association between gender and bacteraemia and septicaemia ($p>0.05$).

Gram negative isolates were found to be predominant among the study group (65.93%). Highest percentage of the isolates (31.28%) were obtained from the age group between 0 to 45 days and followed by 1 year to 5 years (22.91%). Among the isolates, *Salmonella* Typhi was most predominant (39.11%) followed by *Staphylococcus aureus* and *Escherichia coli* (29.05% and 13.41% respectively). *Salmonella* Paratyphi A, *Klebsiella* spp., *Streptococcus viridans* and *Streptococcus pneumoniae* accounted 7.82%, 2.79%, 2.79% and 2.23 % respectively. *Acinetobacter* spp., *Enterobacter* spp. both with 1.12% and *Proteus* spp. with 0.56% were isolated.

Among common antibiotics used against all gram negative isolates, Ofloxacin was the drug of choice with susceptibility rate of 89.83% followed by Cephotaxime with 81.35%. Cotrimoxazole was found to be resistant among most of the gram negative isolates. Cephotaxime, Amoxicillin and Ofloxacin being 100% sensitive were the drug of choice for *Salmonella* Typhi. Amoxycillin, Cephotaxime and Chloramphenicol were the drug of choice for *Salmonella* Paratyphi A.

Out of 179 isolates 43 (24.02%) were found to be Multi Drug Resistant and 18 MDR *Escherichia coli* was isolated. Among 30 Nalidixic acid resistant *Salmonella* Typhi (NARST) tested, 10 were found to moderate sensitive to Ciprofloxacin and among 9 nalidixic acid resistant *Salmonella* Paratyphi A tested, 4 were found to be moderate sensitive to ciprofloxacin. And it is found that there is significant association between the resistivity pattern of Ciprofloxacin with Nalidixic acid resistant *Salmonella* spp. statistically at $p>0.05$

Key words: Bacteraemia, Septicaemia, Salmonellae, MDR, NARST.

TABLE OF CONTENTS

Title Page	i
Recommendation	ii
Certificate of Approval	iii
Board of Examiners	iv
Acknowledgement	v
Abstract	vii
Table of Contents	viii
List of Abbreviations	xi
List of Tables	xiii
List of Figures	xiv
List of Photographs	xv
List of Appendices	xvi
CHAPTER I INTRODUCTION	1-4
CHAPTER II OBJECTIVES	5
2.1 General Objective	5
2.2 Specific Objectives	5
CHAPTER III LITERATURE REVIEW	6-46
3.1 Bacteraemia and Septicaemia	6
3.2 Blood and its defence mechanism	6
3.3 Clinical signs and symptoms	7
3.4 Complication	8
3.5 Causative organism	9
3.6 Pathogenesis	10
3.7 Source of bacteraemia	10
3.8 Clinical pattern of bacteraemia	11
3.9 Classification of bacteraemia	
3.9.1 Community Acquired Bacteraemia	13

3.9.2 Hospital acquired bacteraemia	14
3.10 Types of septicaemia	15
3.11 Risk factors	16
3.12 Salmonellae infection	
3.12.1 General reviews	17
3.12.2 Pathogenesis	20
3.12.3 Symptoms	21
3.12.4 Case definition	23
3.13 Some other bacteraemic illness	
3.13.1 Infective endocarditis	23
3.13.2 Brucellosis	24
3.13.3 Staphylococcal infection	25
3.13.4 Enterobacterial and Pseudomonads infections	26
3.14 Laboratory diagnosis	26
3.14.1 Specimen collection	27
3.14.2 Subculture from blood cultures	29
3.14.3 Identification	30
3.14.4 False positive results	30
3.14.5 Other methods	31
3.14.5 Antimicrobial susceptibility of the isolates	32
3.14.6 The effect of antimicrobials and the problem of drug resistance	33
3.15 Global scenario of bacteraemia and septicaemia	34
3.16 National scenario	39
3.17 Magnitude of Salmonellae infection	40
CHAPTER-IV	42-49
4 Materials and methods	42
4.1 Materials	42

4.2 Methods	42
4.2.1 Sample collection	42
4.2.2 Processing of the sample	43
4.2.3 Macroscopic examination of blood culture bottle	44
4.2.4 Microscopic examination	44
4.2.5 Subculture from broth culture	45
4.2.6 Identification of isolates	46
4.2.7 Antibiotic susceptibility testing	47
4.2.8 Quality control	48
4.2.11 Data analysis	48
4.2.12 Flow chart of methodology	49
CHAPTER V RESULTS	50-64
CHAPTER VI DISCUSSION AND CONCLUSION	65-76
6.1 Discussion	65
6.2 Conclusion	76
CHAPTER VII SUMMARY AND RECOMMENDATIONS	77-79
7.1 Summary	77
7.2 Recommendations	79
REFERENCES	80-92
APPENDICES	I-XXII

LIST OF TABLES

- Table 1:** Clinical diseases induced by Salmonellae
- Table 2:** Macroscopic examinations of blood culture bottle
- Table 3:** Microscopic examination of broth
- Table 4:** Age and gender wise distribution of patient
- Table 5:** Result of culture positivity among indoor and outdoor patients
- Table 6:** List of isolation pattern of bacterial isolates
- Table 7:** Distribution pattern of the bacterial isolates in blood cultures of different age group
- Table 8:** Gender wise distribution of culture positive patients
- Table 9:** Distribution of the isolates among the outdoor and indoor patients
- Table 10:** Antibiotic susceptibility pattern of *Escherichia coli*
- Table 11:** Antibiotic susceptibility pattern of *Staphylococcus aureus*
- Table 12:** Antibiotic susceptibility pattern of other gram negative isolates
- Table 13:** Antibiotic susceptibility pattern of other gram positive isolates
- Table 14:** MDR of bacterial isolates
- Table 15:** Prevalence of Salmonellae infection
- Table 16:** Age wise and gender wise distribution of *Salmonella* spp.
- Table 17:** Antibiotic susceptibility pattern of *Salmonella* Typhi
- Table 18:** Antibiotic susceptibility pattern of *Salmonella* Paratyphi A
- Table 19:** Ciprofloxacin susceptibility pattern of Nalidixic acid resistant *Salmonella* spp

LIST OF FIGURES

- Figure 1:** Age and Gender wise distribution of patient
- Figure 2:** Pattern of blood culture result
- Figure 3:** Gender wise distribution of blood culture result

LIST OF PHOTOGRAPHS

- Photograph 1:** Blood culture bottles with BHI broth
- Photograph 2:** Non Lactose Fermenting colonies of *Salmonella* Typhi on MacConkey Agar
- Photograph 3:** *E. coli* on MacConkey Agar (Lactose Fermenting colonies)
- Photograph 4:** *Streptococcus pneumoniae* colonies on chocolate agar showing Optochin sensitive (ethyl hydrocupreine hydrochloride)
- Photograph 5:** Biochemical tests for *Salmonella* Typhi
- Photograph 6:** Sets of Antisera used for typing *Salmonella* spp.
- Photograph 7:** Biochemiocal tests for *Escherichia coli*
- Photograph 8:** Antimicrobial susceptibility test for *Salmonella* Typhi on MHA
- Photograph 9:** Investigator performing the laboratory works

LIST OF APPENDICES

Appendix-I	Questionnaire
Appendix-II	List of the equipments and materials used during the study
Appendix-III	A. Composition and preparation of different culture media B. Composition and preparation of different biochemical media C. Composition and preparation of different staining and test reagents
Appendix-IV	A. Gram staining procedure B. Slide agglutination test for identification of <i>Salmonella</i> spp.
Appendix-V	Methodology of biochemical test used for the identification of bacteria
Appendix-VI	Morphological and cultural characteristic of bacteria isolated from blood sample
Appendix-VII	Distinguishing reactions of the common and pathogenic Enterobacteriaceae
Appendix-VIII	Zone size interpretation chart
Appendix-IX	Data analysis (Chi square test)

LIST OF ABBREVIATIONS

AIDS	:	Acquired Immune Deficiency Syndrome
BA	:	Blood Agar
BACTEC	:	Becton Dickinson Microbiology Systems, Md.
BHI	:	Brain Heart Infusion Agar
BSI	:	Blood Stream Infection
C-BSI	:	Community Acquired- Blood stream Infection
CDR	:	Communicable Disease Report
CFU	:	Colony Forming Unit
CRF	:	Coagulase Reacting Factor
CoNS	:	Coagulase Negative Staphylococcus
CRP	:	C- reactive Protein
DIC	:	Disseminated Intravascular Coagulation
DNA	:	Deoxyribo Nucleic Acid
EC	:	European Commission
ESBLs	:	Extended Spectrum Beta Lactamase
Gm	:	Gram
GPC	:	Gram Positive Cocci
H-BSI	:	Hospital Acquired- Blood Stream Infection
HIV	:	Human Immuno Deficiency Virus
HLA	:	Human Leukocytes Antigens
ICDDRDB	:	International Centre for Diarrhoeal Disease Research Bangladesh
IVDs	:	Intravascular Devices
LPS	:	Lipopolysachhharides
MA	:	Mac Conkey Agar
MBC	:	Minimum Bactericidal Concentration
MHA	:	Mueller Hinton Agar
MIC	:	Minimum Inhibitory Concentration
ml	:	Milliliters

Mp	:	Macrophages
NARST	:	Nalidixic Acid Resistant <i>Salmonella typhi</i>
NCCLS	:	National Committee for Clinical Laboratory Standards
PMNs	:	Polymorphoneuclear Leucocyte
SIM	:	Sulphide Indole Motility
SPS	:	Sodium Polyanethol Sulphonate
TPD	:	Tetramethyl <i>p</i> -phenylene diamine dihydrochloride
TSI	:	Triple Sugar Iron Agar
TUTH	:	Tribhuvan University Teaching Hospital
UK	:	United Kingdom
US	:	United States
WHO	:	World Health Organization
Yrs	:	Years