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CONFERENCE ABSTRACTS

**PEDIATRIC INFECTIOUS DISEASES CONFERENCE – CLINICOMICROBIAL FUSION  
2010, 24TH OCTOBER 2010**

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**INITIAL RESEARCH ON IMMUNE STATUS AND  
TREATMENT RESULTS IN PATIENTS WITH CMV  
PNEUMONIA ADMITTED TO THE RESPIRATORY  
DEPARTMENT OF THE NATIONAL HOSPITAL OF  
PEDIATRICS**

**Key words:** CMV: Cytomegalovirus, pneumomonia, immune, treatment.

**Abstract**

**Purpose:** To investigate the immune status and treatment results in patients with CMV pneumonia.

**Methods:** Descriptive study. This study focuses on 25 cases of CMV pneumonia admitted to the Respiratory Department of NHP from 9/2009 to 7/2010.

**Results:** Of 25 CMV pneumonia cases: Male/Female: 1/1.5. This disease mostly appeared in children under 6 months of age. The median age is 70.6 +/- 22.9 days old. In 80% of cases the illness already had a duration of greater than 7 days. The main clinical signs when admitted: Mild fever (68%), Cough (100%), wheezing (94.3%), difficulty breathing (100%), tachypnoea (100%), reduced breathing sound (67.92%), crackles (100%), SpO<sub>2</sub> <90% (68%). The main laboratory

findings are: Normal or mildly increased white blood cell (17.49 ? 8.5 G/l), neutrophil count (39.4 +/- 16.85%), chest x-ray: infiltration (70%), CRP < 6mg/l (92%), RT-PCR: median copies/ml (30,380 ± 20,007), ETT positive (20%), low IgA level (8/9), low IgM level 1/9.

**Hospitalization:** 39 ±14.98 days. Mortality 4% (1/25). Out of the 25 patients 24 went home in a good condition.

**Conclusion**

The population presenting to the department were very severe at presentation, with a long duration of illness. Only 9/25 were investigated for immunosuppression and of these 8/9 had low IgA levels. Therefore it would be useful to assess the IgA levels in all patients presenting with CMV pneumonia, and to carry out further research into the link between CMV pneumonia and being immunocompromised.

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**Abstract No.** S1

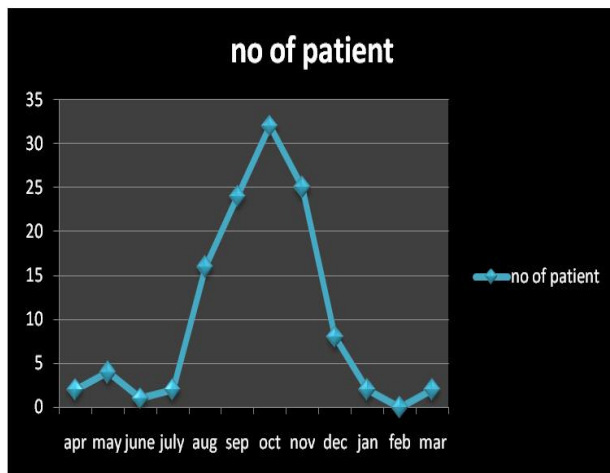
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### DIPHTHERIA- EMERGING RE-EMERGING OR STILL PERSISTING

**Key words:** Diphtheria, Myocarditis, Respiratory failure

**Abstract:**

**Background & Aims:** Diphtheria is an acute bacterial infection caused by *Corynebacterium diphtheriae* and is characterized by inflammation of the epithelial surfaces; formation of membrane over laryngeal, pharyngeal and nasal mucosa. Recently there is significant increase in no of cases occurring in Uttar Pradesh. So this study was done to-1. Study the profile of patients presenting to our institute. 2. Study the factors associated with mortality.



**Material & Method:** The records of patients of diphtheria who were admitted to our institution over April 2009 to March 2010 were retrospectively analyzed in reference to demographic pattern, age, sex, immunization status, clinical details, investigations, treatment given and outcome.

**Results:** 118/4266 patients were admitted during 1 year period (26.7/1000). Fever was the most prominent symptom present in 117(99.5%), followed by dysphagia 93(78.81%). Mean age of presentation was 4.66 yrs (0.4-13 yrs). 92/118 patients were unimmunized. Peak admission was during October (27.12%). Microbiological confirmation was only in 2 patients by staining.

Respiratory failure (61.01%) was prominent complication followed by Myocarditis (17.79). 69(58.47%) patients survived and 49(41.5%) patients expired.

**Conclusions**

1. Diphtheria still remains public health problem in some part of our country with significant mortality and morbidity.
2. Respiratory failure and Myocarditis are significantly associated with mortality.

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**Abstract No. S2**

### ENTEROCOCCUS FAECALIS CAUSING EMPYEMA: AN UNUSUAL ASSOCIATION

**Key words:** MDR, Empyema, Enterococcus, Malnutrition

**Abstract**

Empyema in childhood is commonly caused by *Streptococcus pneumoniae*, *Staphylococcus aureus*, *Streptococcus pyogenes*, *Haemophilus influenzae*, *Pseudomonas* and less commonly by anaerobes and gram negative bacteria. To the best of our knowledge this is the first series of 3 children developing empyema in which Vancomycin resistant Enterococci have been isolated. All these children had pneumonia and empyema and were receiving Cloxacillin and Cephalosporins. They were treated with Linezolid in appropriate doses and all of them recovered.

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**Abstract No. S3**

### MOLECULAR ANALYSIS OF MDR GNB ISOLATES FROM PEDIATRIC CASES

**Key words:** MDR, GNB, Genes

**Abstract**

**Aim:** Nosocomial infections due to MDR GnB is posing serious therapeutic problems. Production of Enzymes like ESBL, AmpC, Carbapenamase confer the MDR nature. Correct identification of these isolates is vital in the management

**Method:** 31 E.coli & 12 K. pneumoniae isolated from blood & urine were identified as beta lactamase producers by screening methods. These were subjected for PCR analysis to detect drug resistant genes like blaCTX-M, blaSHV & blaTEM.

**Results:** Only 16 E.coli & 8 K.pneumoniae showed the presence of one of these genes. More than one gene was seen in 3 E.coli. All these were resistant to cephalosporins.

**Conclusion**

MDR GNB nosocomial pediatric infections are increasing. Early & accurate detection by genomic analysis is important. More than one gene confers MDR nature

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**Abstract No. S4**

**HEMORRHAGIC CYSTITIS IN TWO CASES OF NOVEL INFLUENZA A (H1N1) INFECTION**

**Key words:** H1N1, macroscopic hematuria, hemorrhagic cystitis

**Abstract**

Hemorrhagic cystitis has been described in patients suffering from influenza A 1. There is a scarcity of data describing renal involvement in influenza A and in H1N1 influenza. Renal localization has in fact never been reported in children with influenza A infection 2. There is a single case report describing a child with glomerulonephritis and hemorrhagic cystitis as a complication of H1N1 influenza 3. In their case, the hematuria preceded the respiratory symptoms. We describe two cases of confirmed H1N1 influenza infection who developed hemorrhagic cystitis after the onset of respiratory symptoms. To the best of our knowledge, this is the first case report of hemorrhagic cystitis in a H1N1 positive from India.

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**Abstract No.** S5

**SPECTRUM OF INFECTIONS IN AGAMMAGLOBULINEMIA PATIENTS ON IMMUNOGLOBULIN REPLACEMENT THERAPY- A RETROSPECTIVE ANALYSIS OF 6 PATIENTS**

**Key words:** agammaglobulinemia, immunoglobulin transfusion, recurrent pneumonia, bronchiectasis, sinusitis

**Abstract**

**Background and Aims:** To evaluate the different types of infection and their outcome in agammaglobulinemia patients receiving immunoglobulin replacement therapy

**Methods:** Retrospectively evaluation of 6 patients

**Results:** Mean follow up of 10 years (4 to 15 years). The considerable delay in diagnosis of last decade (mean 5 year) is reduced now (mean 1.5 years). Pneumonia (6/6) was presenting infection in all patients whereas followed by otitis media (4/6). Case 2 also had pyogenic arthritis whereas Case 6 had necrotizing fasciitis requiring skin grafting before diagnosis. 4/6 patients were evaluated for recurrent pneumonia. 4/6 patients were on regular transfusion with serum IgG level > 500mg/dl, had no admission for invasive bacterial illness after starting therapy though case 3 developed myocarditis with SVT at 2 year even on regular IVIG. He also had troublesome diarrhea by Giardia which require repeated antiparasite treatment. Patients above 6 years (4/6) had evidence of sinusitis even on IVIG. 2 of our patients were diagnosed late and were on irregular transfusion, developed permanent

Results - clinical and immunological features of the 6 patients is presented in table below

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Age till followup	15 years at death	13 years	12 years	11 years	6 year	4 years
Age at diagnosis	5 years	5 year	17 years	15 year	3 year	13 years
Investigations						
IgG	50	33	<333	<100	<100	<100
CD19	0%	0%	46%	1%	0%	0%
CD 20	-	-	0%		-	-
BTK(CD14)						
Mother	69%	65%	70%	74%	70%	75.9%
Childs	*1%	<2%	<1%	2%	<1%	<1%
Infection at presentation	Pneumonia	Pneumonia	Pneumonia	Pneumonia	Pneumonia	Pneumonia
Infection before diagnosis	1) Recurrent Pneumonia 2)JOM	1) Recurrent Pneumonia 2)Pyogenic arthritis 3)JOM	1) Recurrent Pneumonia 2)JOM	1) Recurrent Pneumonia	1)JOM 2)Diarrhea	1) Necrotising facitis
Treatment Ivlg	Irregular + Antibiotic prophylaxis	irregular,	Regular Ivlg Growth Hormone Sulfasalazine Steroid bisphosphonate	3 weekly	Regular 3 weekly	3 weekly
Co morbidity	1)Pansinusitis, 2)Bronchiectasis 3) death due to pneumonia and septicemia by staphylococci	1)Bronchiectasis and sever pulmonary hypertension 2) sinusitis	1)Viral myocarditis 2)Crohn's disease at 7 years 3)severe osteoporosis with Z score of -2.5 at 9years 4) sinusitis	sinusitis	Nil	Nil
Growth	Height age of 11 year at the tune of death	Stunted and wasted height age of 5 years	Now normal	Normal	Normal	Normal

respiratory morbidity in the form of sinusitis and bronchiectasis with frequent exacerbation which were reduced after starting Cotrimoxazole prophylaxis (from 3 to 4 / year to 1-2 /year). Staphylococcus was most common organism causing respiratory infections.

**Conclusion**

Respiratory symptoms are the most common infections in agammaglobulinemia and are causes of frequent morbidity. Early diagnosis and regular IVIG transfusion is critical for preventing permanent damage. Regular IVIG transfusion prevent against invasive bacterial infections but not entirely against viruses, parasites and bronchiectasis exacerbation.

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**Abstract No.** S6

**FULMINANT LATE ONSET NATIVE VALVE ENDOCARDITIS DUE TO METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) IN A NEONATE**

**Key words:** Infective endocarditis, neonate, MRSA

**Abstract:**

Infective endocarditis (IE), a rare entity in newborns is associated with very high mortality rates.

The clinical manifestations of IE in a newborn are nonspecific and variable. We report a case of IE in a 16-day-old male neonate, full term normal delivery with a birth weight of 3.5 kgs, presenting with elements of sepsis syndrome and an indurated swelling on the lower right thigh. He had no anatomical cardiac defects and did not undergo any invasive procedure while he was admitted. He had an episode of generalized convulsions on the day of admission. An echocardiogram done on the fourth day of admission for a harsh murmur at the tricuspid area showed extensive involvement of the tricuspid and aortic valves with large vegetations. The blood cultures sent on the second day of admission grew Methicillin Resistant Staphylococcus aureus (MRSA). An ultrasound of the right thigh showed an echogenic fluid collection along the deep intramuscular compartment of the lower medial thigh, which also grew MRSA on Day 23 after birth. The disease progressed rapidly with multiple embolic episodes to the central nervous system and the periphery. Despite appropriate antimicrobial therapy, the baby succumbed 41 days after birth, due to pulmonary hemorrhage and massive pulmonary embolism. Staphylococcus aureus is the second common etiologic agent reported to cause IE in pediatric patients. MRSA is a rare but emerging pathogen causing neonatal infective endocarditis. This case highlights the virulence of this pathogen in causing sepsis and native valve endocarditis despite the absence of risk factors.

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**Abstract No. S7**

**PURULENT MENINGITIS IN NHP WITHIN 5 YEARS (2003-2008): CAUSATIVE AGENTS AND OUTCOME**

**Key words:** Purulent meningitis, causative, outcome

**Abstract**

Purulent meningitis (PM) is a neurology infection with high rate of mortality and sequel.

**Aims of the study:** To analyze causative of PM within 5 year (2003-2008) and evaluate the outcome of PM.

**Objectives:** Medical records of 186 patients with diagnosis PM and age from 01 month old up to 15 years old was treated in ID-NHP from 01/Jan/2003 - 01/Jan/2008.

**Study method:** Retrospective study.

**Results:** At that time the most common causative of purulent meningitis still are HiB (64%) and S.pneumonia (19%) while N.meningitis less. All most cases under 3 years old (92.4%) and tend to predominant in the winter and spring. Among causative agent HiB showed good response to medication therapy, S.pneumonia often lead to hydrocephalus and hypertonic, loss, less conscious.

**On CT-Scan:** S.pneumonia showed hydrocephalus; HiB show subdural effusion.

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**Abstract No. S8**

**NEONATAL SEPSIS: A PROSPECTIVE STUDY AT A TERTIARY CARE HOSPITAL IN AURANGABAD**

**Key words:** neonatal sepsis, blood culture, bacteriological profile

**Abstract**

**Objective:** To assess the bacteriological profile of septicemic neonates with their antibiogram.

Setting - referral centre

**Patients:** A total of 2002 neonates were screened for bacterial sepsis. Out of these, 612 were diagnosed clinically as having septicemia. Detail clinical profile of all babies was recorded. Culture and sensitivity of blood samples of these 612 were performed as per the standard techniques.

**Result:** Low birth weight was found to be the commonest risk factor associated with neonatal sepsis. 197 were culture positive. Escherichia coli was the predominant pathogen followed by Staphylococcus aureus. Amoxicillin-clavulanic acid combination was found to be best for Gram positive cocci and Enterobacteriaceae isolates in our study whereas Pseudomonas isolates were the most sensitive to Amikacin.

### Conclusion

Blood culture is of utmost importance in the diagnosis and effective management of neonatal sepsis. A detail clinical profile always helps in correlating the laboratory findings.

Antibiotic policy should be followed for proper management of these cases.

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**Abstract No.** S9

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### A STUDY TO EVALUATE THE PREVALENCE OF HOSPITAL ACQUIRED INFECTIONS AND ANTIBIOTIC USAGE IN ICU & WARDS

**Key words:** Hospital acquired infections, nosocomial infections, microbial resistance

#### Abstract:

Hospital acquired infection (HAI) also called "Nosocomial Infection" are defined as an infection occurring in a patient in a hospital or other healthcare facility in whom the infection was not present. Endogenous sources include body sites inhabited by microorganisms include the nasopharynx, intestinal, or genitourinary tracts. Exogenous sources include those that are not part of the patient like visitors, medical personnel, equipment and the healthcare environment. Healthcare-associated infections result in excess length of stay, mortality and healthcare costs.

**Objective:** This was to determine the pattern of infections in ICU and their impact on duration of stay.

**Method:** This was a prospective observational study included 37 patients

**Results:** Five different sites were found to be infected with HAI, and respiratory tract infection was the highest (42%) followed by surgical site infection, blood stream infections, urinary tract infection and skin. *Acinetobacter* species were common and caused infections in 22% patients. The average length of stay was highest for blood stream infections. The numbers of patients in whom 3 or more than 3 antibiotics prescribed were 21.

#### Conclusion:

There is a strong need to evolve strategies to prevent these infections. Implementation of antibiotic guidelines alone is unlikely to solve the issue. We need to be more vigilant on scientific and rational use of antibiotics to prevent the emergence of multidrug resistant organisms.

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**Abstract No.** S10

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### VIRAL ETIOLOGY OF ASEPTIC MENINGITIS AMONG CHILDREN, SOUTHERN IRAN

**Key words:** aseptic meningitis, viral disease, polymerase chain reaction, children, Iran

#### Abstract:

**Background:** Aseptic meningitis refers to a clinical syndrome of meningeal inflammation, in which common bacterial agents cannot be identified in the cerebrospinal fluid (CSF).

**Aims:** The viral etiology and the epidemiological, clinical and laboratory characteristics of aseptic meningitis among children aged 2 months to 15 years in Shiraz, southern Iran were determined.

**Methods:** From May 2007 to May 2008, 65 patients were hospitalized with aseptic meningitis.

Having extracted nucleic acid from CSF samples, the seven viruses; were investigated by commercially available polymerase chain reaction (PCR) methods.

**Results:** The viruses were detected in 30 (46.2%) patients of which NPHEV and mumps virus were detected in 13 (43.3%) and 11 (36.7%), respectively. The remaining 6 (20%) of the cases were caused by HSV, VZV, HCMV and HHV-6. *Haemophilus influenzae* type b and NPHEV were detected in one patient simultaneously. The viral meningitis was found more frequent during spring and summer. The majority (66.6%) of the patients had been hospitalized for 10 days and received antibiotics as the cases of bacterial meningitis.

**Conclusions:** In this region, NPHEV are the most common etiology of viral meningitis and mumps is the second. Rapid diagnosis of viral meningitis using PCR on CSF can help shorten the hospitalization, avoid unnecessary use of antibiotics and thus, could be cost effective.

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**Abstract No.** S11

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