
# CODE PEM


*IAP- Pediatric Emergency Medicine Chapter's Quaterly Bulletin* *Issue 1/ Nov 2022*

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## *HIGHLIGHTS*

# President's Message

I am pleased to be associated with IAP Chapter on Pediatric Emergency Medicine (PEM) since its inception in 2022. We are truly thankful to Central IAP leadership and the Executive Board to recognize this as unique pediatric subspecialty. Almost one and a half decade back, a small group of paediatricians from India and USA joined hands to make the Pediatric Emergency Care a reality in India. The seed sown a decade back has grown into small tree which is ready to bear the fruits. I have firm belief that this specialty will see a great evolution because of its applicability and relevance to pediatric practice. A beginning has been made and progress is the only way. All the hurdles in development are set to turn into milestone. A selected number of institutions have already started pediatric emergency rooms and fellowships. However, it is only a start and there is need to take such training program across India to make a perceptible change in pediatric emergency care. We also need to develop training programmes for administration, research and teaching in addition to establishing prehospital emergency care, toxicology and poison centre and disaster planning and management centres. Some of the public tertiary health care centres have already started a DM program in Pediatric Emergency Medicine and many private sector institutions are providing as short-term training fellowship in this important pediatric subspecialty. National Board of Examination is also looking at the possibility of creating a FNB (Fellowship of National Board) program in PEM. IAP Chapter on Pediatric Emergency Medicine will provide a platform where experts and opinion maker across the country and globe will come together to promote and endorse quality pediatric emergency medical care in India. Emergency Care must be treated as a fundamental right of a child and made available to all who seek.

IAP PEM Chapter has already constituted its Executive Board, Academic Council, and Editorial Board. All these committee and members of chapter are very enthusiastic to work for the growth and advancement of this pediatric subspecialty.

Editorial Board of IAP PEM Chapter is publishing its first E-bulletin to connect with all the chapter members and paediatricians across the country. This E-bulletin will a stage to inform, promote, connect and educate all the concerned stake holder regarding pediatric emergency related issues in our country. I wish all the success to the editorial team in this academic endeavour. I am certain that their efforts will have domino effect in the progress of pediatric emergency care in India.

**Dr (Prof) Suresh Gupta**,
Chairperson, IAP PEM Chapter

# From the Editor's Desk

Pediatric Emergency Care is perhaps the fastest growing specialty of paediatrics attracting the attention of a growing number of young doctors to provide excellence in acute care medicine. Across our nation, Pediatric emergency physicians and nurses are becoming increasingly essential in nursing homes and large volume hospitals.

The Society of Trauma and Emergency Paediatrics (STEP-India) was initially created to providing its members with a national platform to explore special issues and unique challenges faced by emergency nurses and doctors. Over the last 12 years 12 National congresses in the field of Pediatric Emergency Medicine (NAPEM) has been conducted. In November 2021, IAP gave approval to form a new chapter for the specialty of Pediatric Emergency Medicine. It was decided to dissolve the erstwhile STEP-India and register IAP-PEM. IAP-PEM chapter will be advocating the cause of the critically ill and injured child during the golden hour of management. It will be a platform to create an awareness in field of education, practise and in establishing a continuum of care from entrance of the hospital to the wards & ICUs.The following committee members have taken leadership of IAP-PEM.

**Chairperson**: Dr. Suresh Gupta; **Vice Chairperson**: Dr. Sanjay Bafna
**Hon Secretary**: Dr. Anil K Goel; **Joint Secretary**: Dr. Bharat Choudhary
**Treasurer:** Dr. Debasis Das Adhikari

Over the past decade and a half, STEP-India, has also created a strong fellowship program in Pediatric Emergency Care. The academic council of IAP-PEM headed by Dr. Prerna and Dr. Radhika will handle the details of the fellowship program.

The hugely popular National Assembly in Pediatric Emergency Care (NAPEM) with faculty from India and abroad will now become the responsibility of the IAP-PEM. The 1st NAPEM of IAP-PEM will be conducted at Raipur on November 4th to 6th 2022 (See brochure at the end for details).

As we move ahead, it is my hope that the IAP-PEM would attract more youngsters to take of the cause of saving young children's lives and get them back on track.

Wishing this IAP-PEM chapter and the new team great success.

Thank you and Jai Hind,
**Dr. Indumathy Santhanam**,
Editor-in-chief.

# IAP- Pediatric Emergency Medicine Chapter

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## Inaugural Meeting- A Great Beginning !

First meeting of core members and stakeholders of Indian Academy of Pediatrics, Pediatric Emergency medicine Chapter was held virtually through ZOOM platform on 19/11/2021 at 9 PM. The agenda of the meeting was to introduce each other and formation of core committee and allocation of roles, responsibilities and future planning. The meeting was chaired by Dr Suresh Gupta and following members attended this meeting.

| Sl.No | Name of Faculty | Designation |
|---|---|---|
| 1 | Dr Suresh Gupta | In-charge Pediatric Emergency Medicine, Institute of Child Health, Sir Ganga Ram Hospital, Delhi. |
| 2 | Dr Sanjay Bafna | Senior consultant- Pediatrics and Paediatrics Critical Care, Jehangir Apollo hospital, Pune, Paediatric Pulmonologist, Bharati Medical College hospital, Pune |
| 3 | Dr Indumathy S | Project Coordinator- Regional Collaborative Center, Institute of Child Health, Madras Medical College, Chennai. |
| 4 | Dr Radhika Raman | Senior Consultant, Dept of Pediatric Emergency Medicine, Kanchi Kamakoti CHILDS Trust hospital, Chennai |
| 5 | Dr Prerna Batra | Director Professor, Department of Pediatrics, UCMS and GTB Hospital, Delhi |
| 6 | Dr Abhijieet Saha | Prof of Pediatrics, LHMC & KSCH, New Delhi |
| 7 | Dr Sharda Sathish | Consultant and Head, Department of Pediatric Emergency Medicine, Mehta Multispecialty Hospitals India Pvt Ltd, Chennai. |
| 8 | Dr Anil K Goel | Prof & Head Pediatrics and PEM, AIIMS Raipur |
| 10 | Dr Debasis Adhikari | Professor & Head, Paediatric Emergency Medicine, CMC Vellore, TN |
| 11 | Dr Bharat Choudhary | Associate Professor, Pediatric Emergency Medicine AIIMS, Jodhpur |
| 12 | Dr Neha Rai | Assistant Professor, Department of Pediatric Medicine, Dr Ram Manohar Lohia Institute of Medical science, Lucknow |
| 13 | Dr Sibabratta Patnaik | Associate Professor, Dept of Pediatrics, KIMS, Bhubaneswar |
| 14 | Dr Gunda Srinivas | Consultant Pediatric Emergency & Pediatrics, Aster RV Hospital, JP Nagar, Bangalore. |
| 15 | Dr Akila Sivakumar | Consultant, Mithun child clinic, Gowriwakkam, Chennai |

## Editorial Board of IAP- PEM Chapter

| | |
|---|---|
| **Editor-in-Chief** | Dr. Indumathy Santhanam |
| **Members** | Dr. Sharada Satish, Dr. Neha Rai, Dr. Akila Sivakumar, Dr. Gunda Srinivas, Dr. Sibabratta Patnaik, Dr. Indira Jayakumar. |

## Review Article

# Rational use of Antibiotics & Golden hour of Emergency Management

Samreen Yusuf[1], Anil K Goel[2]

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Infectious diseases represent a major cause of morbidity and mortality in India and are responsible for a large proportion of hospital admissions, particularly in children [1]. Infection is one of the most common causes for admission in Pediatric emergency in India accounting for 63% of the total admission. [2] Serious bacterial infections include bacteremia, meningitis, urinary tract infections and pneumonia. The incidence of serious bacterial infection in young infants is 7-11%. [3] Little is known which signs and symptoms are important for early diagnosis of infection. [4] Globally, 5.4 million children die before the age of 5 years and approximately 50% of the mortality is caused by infectious diseases, many of which present with fever.[5] Fever is one of the leading causes for medical admission and hospitalization, and also a common reason for antibiotic overuse [6]. The common presentation of children with bacterial infection are breathlessness in 80%, poor feeding in 75%, irritability in 75%, weight loss in 92%, common cold in 71% of patients [7]. A “sick-looking/toxic looking” child is a common general examination finding in children with confirmed bacterial infections [8,9,10].

A comprehensive literature search across databases like PubMed, EMBASE, and MEDLINE was carried out with keywords children, pediatrics, antibiotics and infection. An additional filter of age group between 0-14 years was kept in each of the searches.

**India stand point**

Infectious diseases have always been a major challenge to the health system worldwide and especially in developing countries like India. About 60% of all mortality among children accounts to infections. [19] The highest burden of bacterial disease in the world is found in India.[11] Consequently, antibiotics will play a critical role in limiting morbidity and mortality in the country. Many of these deaths occur because of the inaccessibility to life-saving antibiotics when and where these are needed. At the other extreme, antibiotics are inappropriately used in situations where these cannot be expected to improve the condition of the patient, particularly as treatment for the common cold, uncomplicated cases of diarrhea and certain inflammatory conditions. In India, antimicrobials may account for 50% of total value of drugs sold, but the prevalence of antimicrobial use and resistance had varied across surveys.[12] The association of resistance with the use of antimicrobial agents has been documented in both in- and out-patient settings[13,14]. WHO has declared antimicrobial

resistance as one of the top 10 global public health threat facing humanity. It has also been observed that nearly every patient admitted in the pediatric emergency, irrespective of the clinical presentation receives at least one shot of antibiotic at the time of admission. [15]

**Clinical factors associated with infections and its outcome**

Many clinical features have been found to be associated with infections. Although fever is a common cause of concern for caregivers, the prevalence of serious bacterial infection in industrialized nations is low, but in an emergency setting this figure may be as high as 25%.[16] A study on 1099 children with fever conducted by Kiemde F et al (2018) showed that high axillary temperature (≥39.5'C), diarrhea, dehydration, edema, convulsion, pallor, splenomegaly and hepatomegaly had a significant association to bacterial infection. Among the basic hematology data only hemoglobin <8g/dL had a significant association to bacterial infection,[17]

**Specific infective diseases in the emergency**

Gastrointestinal and respiratory tract involvement was the presenting concern in 23% each, followed by central nervous system 16% The etiology was found to be infectious in 49.6%. Among the gastrointestinal causes, 75% had diarrhea; 57%, 26.8% and 6.73% were infective etiology in respiratory, CNS and systemic respectively for of the total emergency admissions.[18]

**Necessity of antibiotic use in the emergency**

Due to the high prevalence of infectious cases in the pediatric emergency, antibiotics become an integral part of management. Empiric antibiotic therapy is usually prescribed until a bacterial cause can be ruled out even though the majority of acute infections in children are viral in origin.[19] Judicious use of antibiotics, prescribed following guidelines has shown to improve patient outcome and keep in check antimicrobial resistance.[20,21] Children presenting with evidence of severe sepsis or in septic shock and getting treated with antibiotics within 1hour of recognition showed a decrease in mortality.[22]

**Antimicrobial resistance due to irrational use**

For common bacterial infections, higher rates of resistance against antibiotics frequently used to treat these infections have been observed worldwide. Hence, we are becoming short of effective antibiotics.[23] Globally antimicrobial resistance has been found to be maximum in the European region. Studies on antimicrobial resistance and their surveillance are lacking in India due to the insufficiency of surveillance system for antimicrobial resistance, though the resistance levels have been worryingly high wherever studies have been conducted.[24]

The prevalence of anti-microbial use was 80% with the majority of children within 4 years of age and the most common indication being pneumonia (10.2%) followed by other lower respiratory tract infections (9.4%). Among the antimicrobials prescribed for respiratory tract infections; the majority were cephalosporins or other β-lactams followed by vancomycin and amikacin [25]. Of 265 isolates of Acinetobacter, >80% were resistant to second and third generation cephalosporins.[26] Similar outcomes were found for Pseudomonas, Klebsiella and E coli species.[27, 28]

**Conclusion**

Use of antibiotics is a bi-edged sword, especially in an emergency setting and that too in children, when the signs and symptoms very much overlapping and nonspecific. The development of antibiotic resistance is a major concerned worldwide and focus on AMSP. The Emergency physician should, make a reasonable balance before attempting to start antibiotics and golden hour management of sick patients in ER.

**REFERENCES**


1. Chandy SJ, Thomas K, Mathai E, Antonisamy B, Holloway KA, Stalsby Lundborg C. Patterns of antibiotic use in the community and challenges of antibiotic surveillance in a lower-middle-income country setting: a repeated cross-sectional study in Vellore, South India. Journal of antimicrobial chemotherapy. 2013 Jan 1;68(1):229-36.
2. Massin MM, Montesanti J, Gerard P, Lepage P. Spectrum and frequency of illness presenting to a pediatric emergency department. Acta clinica Belgica. 2006 Aug 1;61(4):161-5.
3. Biondi EA, Byington CL. Evaluation and management of febrile, well-appearing young infants. Infectious Disease Clinics. 2015 Sep 1;29(3):575-85.
4. Van den Bruel A, Bruyninckx R, Vermeire E, Aerssens P, Aertgeerts B, Buntinx F. Signs and symptoms in children with a serious infection: a qualitative study. BMC family practice. 2005 Dec;6(1):1-8.
5. Reiner RC, Olsen HE, Ikeda CT, Echko MM, Ballestreros KE, Manguerra H, Martopullo I, Millear A, Shields C, Smith A, Strub B. Diseases, injuries, and risk factors in child and adolescent health, 1990 to 2017: findings from the Global Burden of Diseases, Injuries, and Risk Factors 2017 Study. JAMA pediatrics. 2019 Jun 1;173(6):e190337-.
6. McDougall P, Harrison M. Fever and feverish illness in children under five years. Nursing Standard. 2014 Mar 26;28(30).

7. Pathak A, Upadhayay R, Mathur A, Rathi S, Lundborg CS. Incidence, clinical profile, and risk factors for serious bacterial infections in children hospitalized with fever in Ujjain, India. BMC infectious diseases. 2020 Dec;20(1):1-1.

8. De S, Williams GJ, Hayen A, Macaskill P, McCaskill M, Isaacs D, Craig JC. Accuracy of the "traffic light" clinical decision rule for serious bacterial infections in young children with fever: a retrospective cohort study. Bmj. 2013 Feb 13;346.

9. Brent AJ, Lakhanpaul M, Thompson M, Collier J, Ray S, Ninis N, Levin M, MacFaul R. Risk score to stratify children with suspected serious bacterial infection: observational cohort study. Archives of disease in childhood. 2011 Apr 1;96(4):361-7.

10. Craig JC, Williams GJ, Jones M, Codarini M, Macaskill P, Hayen A, Irwig L, Fitzgerald DA, Isaacs D, McCaskill M. The accuracy of clinical symptoms and signs for the diagnosis of serious bacterial infection in young febrile children: prospective cohort study of 15 781 febrile illnesses. Bmj. 2010 Apr 20;340.

11. World Health Organization. World health statistics 2010. World Health Organization;2010.

12. Badar VA, Navale SB. Study of prescribing pattern of antimicrobial agents in medicine intensive care unit of a teaching hospital in central India. J Assoc Physicians India. 2012 Apr 1;60(4):20-3.

13. McGowan Jr JE. Antimicrobial resistance in hospital organisms and its relation to antibiotic use. Reviews of infectious diseases. 1983 Nov 1;5(6):1033-48.

14. Priyadharsini R, Surendiran A, Adithan C, Sreenivasan S, Sahoo FK. A study of adverse drug reactions in pediatric patients. Journal of pharmacology & pharmacotherapeutics. 2011 Oct;2(4):277.

15. Gopal MB, Thiyagarajan P, Venugopal V, Kumar VN. A study on antibiotic prescription among the hospitalized pediatric patients at a referral center in Puducherry, India. International Journal of Contemporary Pediatrics. 2017 May;4(3):700-5.

16. Nijman RG, Vergouwe Y, Thompson M, van Veen M, van Meurs AH, van der Lei J, Steyerberg EW, Moll HA, Oostenbrink R. Clinical prediction model to aid emergency doctors managing febrile children at risk of serious bacterial infections: diagnostic study. Bmj. 2013 Apr 2;346.

17. Kiemde F, Tahita MC, Lompo P, Tinto H, Mens PF, Schallig HD, van Hensbroek MB. Can clinical signs or symptoms combined with basic hematology data be used to predict the

presence of bacterial infections in febrile children under-5 years. BMC pediatrics. 2018 Dec;18(1):1-9.

18. Singhi S, Jain V, Gupta G. Pediatric emergencies at a tertiary care hospital in India. Journal of tropical pediatrics. 2003 Aug 1;49(4):207-11.

19. Honkinen M, Lahti E, Österback R, Ruuskanen O, Waris M. Viruses and bacteria in sputum samples of children with community-acquired pneumonia. Clinical microbiology and infection. 2012 Mar 1;18(3):300-7.

20. Schuts EC, Hulscher ME, Mouton JW, Verduin CM, Stuart JW, Overdiek HW, van der Linden PD, Natsch S, Hertogh CM, Wolfs TF, Schouten JA. Current evidence on hospital antimicrobial stewardship objectives: a systematic review and meta-analysis. The Lancet infectious diseases. 2016 Jul 1;16(7):847-56.

21. Fishman N. Antimicrobial stewardship. American journal of infection control. 2006 Jun 1;34(5):S55-63.

22. Sherwin R, Winters ME, Vilke GM, Wardi G. Does early and appropriate antibiotic administration improve mortality in emergency department patients with severe sepsis or septic shock? The Journal of emergency medicine. 2017 Oct 1;53(4):588-95.

23. World Health Organization Antimicrobial Resistance: Global report on surveillance 2020. Geneva, Switzerland: WHO;2020.

24. Global Antibiotic Resistance Partnership (GARP)-India Working Group. Rationalizing antibiotic use to limit antibiotic resistance in India+. The Indian journal of medical research. 2011 Sep;134(3):281.

25. Baidya S, Hazra A, Datta S, Das AK. A study of antimicrobial use in children admitted to pediatric medicine ward of a tertiary care hospital. Indian journal of pharmacology. 2017 Jan;49(1):10.

26. Gaur A, Garg A, Prakash P, Anupurba S, Mohapatra TM. Observations on carbapenem resistance by minimum inhibitory concentration in nosocomial isolates of Acinetobacter species: an experience at a tertiary care hospital in North India. Journal of health, population, and nutrition. 2008 Jun;26(2):183.

27. Wattal C, Goel N, Oberoi JK, Raveendran R, Datta S, Prasad KJ. Surveillance of multidrug resistant organisms in tertiary care hospital in Delhi, India. J Assoc Physicians India. 2010 Dec 1;58(Suppl):32-6.

28. Mehta A, Rosenthal VD, Mehta Y, Chakravarthy M, Todi SK, Sen N, Sahu S, Gopinath R, Rodrigues C, Kapoor P, Jawali V. Device-associated nosocomial infection rates in intensive care units of seven Indian cities. Findings of the International Nosocomial Infection Control Consortium (INICC). Journal of Hospital Infection. 2007 Oct 1;67(2):168-74.

# What's new in CPR?

## CPR- UPDATED GUIDELINES

**Dr Indira Jayakumar**, Senior Consultant, Paediatric Intensive Care & Emergency Unit, Apollo Speciality Hospitals, Chennai, Tamilnadu.

***"To improve is to change ; To be perfect is to change often"***

The key changes in the 2020 American Heart Association (AHA) Guidelines for Cardiopulmonary Resuscitation (CPR) are listed below-

**INCREASE in ASSISTED VENTILATION RATE**- The recommended assisted ventilation rate has been increased to ***1 breath every 2 to 3 seconds (20-30 breaths per minute)*** for all paediatric resuscitation scenarios. New data show that higher ventilation rates of at least 30/min in infants (younger than 1 year) and at least 25/min in children are associated with improved rates of ROSC ( return of spontaneous circulation) and survival.

***PUSH HARD, PUSH FAST***

One person CPR - 30:2 (to minimise interruption)

Two person CPR -15:2

**Advanced airway**- continuous compressions and **give a breath every 2-3 secs**

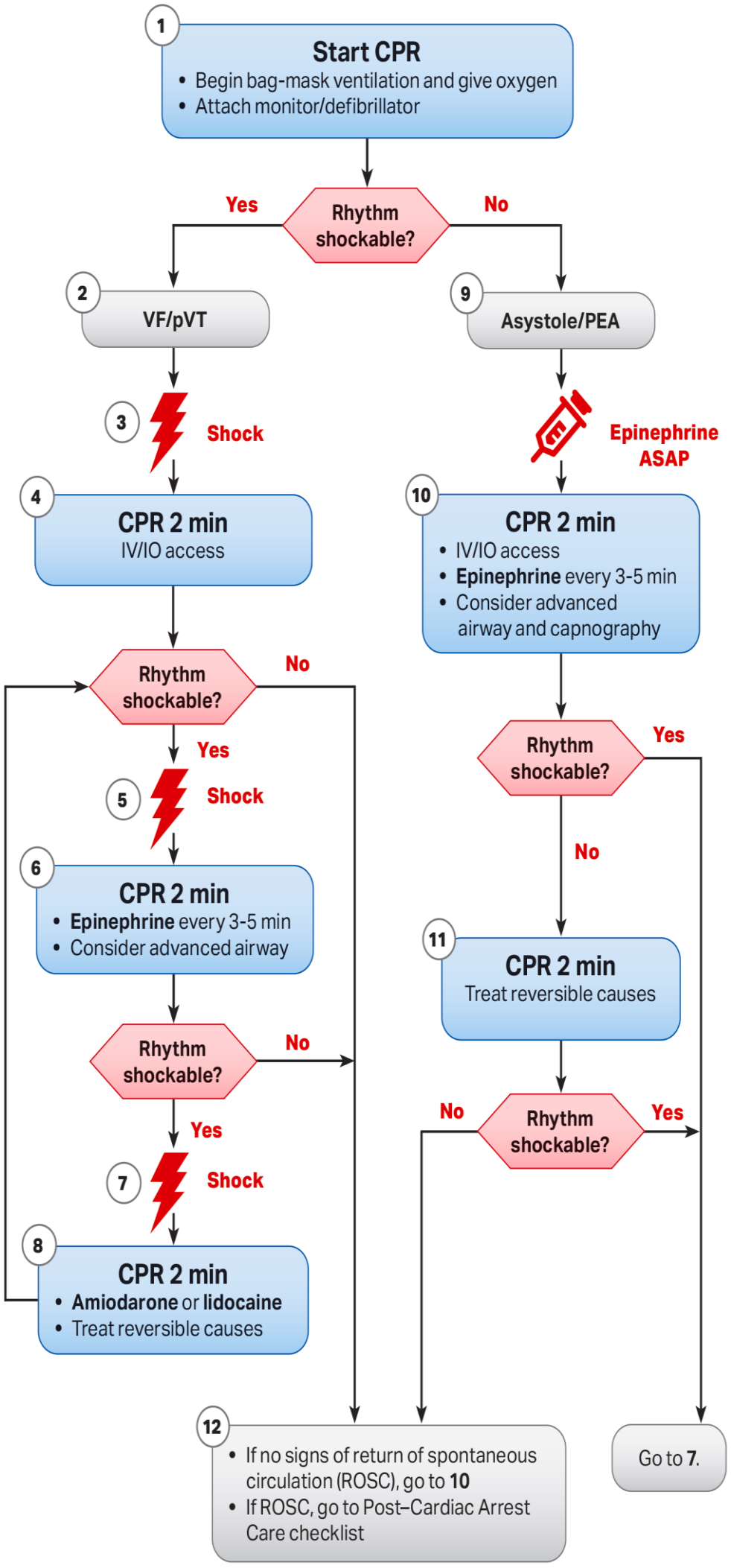
**Emphasis on EARLY EPINEPHRINE Administration-** There is emphasis on giving epinephrine ***as early as possible***, particularly when the rhythm is nonshockable -asystole and pulseless electrical activity. Administer the initial dose of epinephrine within 5 minutes from the start of chest compressions. Every minute of delay in administration of epinephrine resulted in significant decrease in ROSC, survival at 24 hours, survival to discharge, and survival with favourable neurological outcome.

**USE CUFFED ET tubes**- ***Cuffed ETTs reduce air leak***, decrease aspiration risk and need for tube exchanges. Subglottic stenosis is rare in children provided attention is paid to appropriate ETT size, position, and cuff inflation pressure (usually <20-25 cm H2O).

**NO CRICOID pressure-** New studies have shown that routine use of ***cricoid pressure reduces intubation success rates*** and does not reduce the rate of regurgitation.

**DIASTOLIC Blood Pressure to Assess CPR Quality-** For patients with arterial lines in place, rates of survival with favourable neurologic outcome was improved, if the ***diastolic blood pressure was at least 25 mm Hg in infants and at least 30 mm Hg in children.***

**SEIZURES-** After ROSC, convulsive & nonconvulsive seizures have to be detected and treated.




## CPR Quality

- Push hard (≥⅓ of anteroposterior diameter of chest) and fast (100-120/min) and allow complete chest recoil
- Minimize interruptions in compressions
- Change compressor every 2 minutes, or sooner if fatigued
- If no advanced airway, 15:2 compression-ventilation ratio
- If advanced airway, provide continuous compressions and give a breath every 2-3 seconds

## Shock Energy for Defibrillation

- First shock 2 J/kg
- Second shock 4 J/kg
- Subsequent shocks ≥4 J/kg, maximum 10 J/kg or adult dose

## Drug Therapy

- **Epinephrine IV/IO dose:** 0.01 mg/kg (0.1 mL/kg of the 0.1 mg/mL concentration). Max dose 1 mg. Repeat every 3-5 minutes. If no IV/IO access, may give endotracheal dose: 0.1 mg/kg (0.1 mL/kg of the 1 mg/mL concentration).
- **Amiodarone IV/IO dose:** 5 mg/kg bolus during cardiac arrest. May repeat up to 3 total doses for refractory VF/pulseless VT
  *or*
  **Lidocaine IV/IO dose:** Initial: 1 mg/kg loading dose

## Advanced Airway

- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement

## Reversible Causes

- **H**ypovolemia
- **H**ypoxia
- **H**ydrogen ion (acidosis)
- **H**ypoglycemia
- **H**ypo-/hyperkalemia
- **H**ypothermia
- **T**ension pneumothorax
- **T**amponade, cardiac
- **T**oxins
- **T**hrombosis, pulmonary
- **T**hrombosis, coronary

## Interesting Case scenario

# Non-Hodgkin's Lymphoma presenting as an intra-cardiac mouse: A case report

**Samreen Yusuf[1], Swasti Keshri[1], Santosh Rathia[2], Varun Anand[2], Anil K Goel[3]**

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**Abstract**

Involvement of heart is uncommon in Non-Hodgkin's Lymphoma (NHL)[1]. Here we report a case of NHL presenting as right sided heart failure. We discuss the importance of simple tools such as bedside ECHO and ECG, which may help prevent delay in diagnosis of such challenging cases in Emergency Room (ER). This may subsequently help in early initiation of goal directed treatment which play an important role in prognosis of the disease and overall survival of the patient.

**Case Report**

A 7-year-old, male child with 18-month history of swelling over face and abdomen, abdominal pain, dyspnoea on exertion and palpitations, presented to the paediatric emergency unit with features of right sided heart failure. On examination, there was left ventricular apex, and he had a grade IV pan-systolic murmur in 3rd and 4th left parasternal area. He had multiple healed burn marks (branding marks) over the abdomen, a local practice and belief in Chhattisgarh and central India to relieve pain and distension of abdomen [(2)]. A nodular mass measuring 1×1cm in size was present in the epigastric region. ECG showed evidence of right atrial enlargement and nonspecific low voltage QRS complexes, suggesting a possibility of pericardial effusion, pericarditis or myocarditis. He was initially managed with decongestive measures. Possibility of Myocarditis or pericarditis with tricuspid regurgitation with heart failure was considered; the aetiology being rheumatic. There was increased dyspnoea on bending forward, hence possibility of intracardiac mass was also considered. Bedside ECHO on admission showed homogenous right atrial mass with pericardial effusion (Figure 1). Chest X-ray showed cardiomegaly. On day 2 of hospital stay, ECHO findings done by cardiologist confirmed the presence of a large right atrial myxoma of 40×28mm, with dynamic RV outflow obstruction and moderate pericardial effusion. Surgical excision was done on the 5th day of hospital stay. On the following day histopathology report suggested large B cell Lymphoma. Postoperative period was uneventful. PET scan revealed Stage III Non-Hodgkin's Lymphoma. Bone marrow was done

and metastasis ruled out. The child has been started on LMB 96 protocol for Non-Hodgkin's Lymphoma

**Discussion**

Congestive heart failure may arise from diverse aetiologies which vary with age. The common causes of CHF are volume or pressure overload (or both) secondary to congenital or acquired heart disease and myocardial disease. Among the cardiac aetiologies of heart failure, congenital heart disease only accounts for 60% followed by rheumatic heart disease (15.3%) and among the non-cardiac causes, anaemia accounts for 72.73%.[3] Cardiac tumours are a rare cause for CHF in children. [4]

Here we report and discuss a case of intracardiac mass presenting as CHF. There were a few pointers towards a cardiac tumour in the history like exacerbation of dyspnoea on bending forward and history of weight loss in the form of loosening of clothes. The child was started on decongestive measures but only mild improvement was noticed. Considering the common causes for CHF in this age group, we had kept rheumatic heart disease as a possibility. On detailed examination the murmur was exclusively in the tricuspid area. Since isolated tricuspid regurgitation is rare in RHD our diagnosis was reconsidered. Bedside ECHO was done which revealed mass in the right atrium.

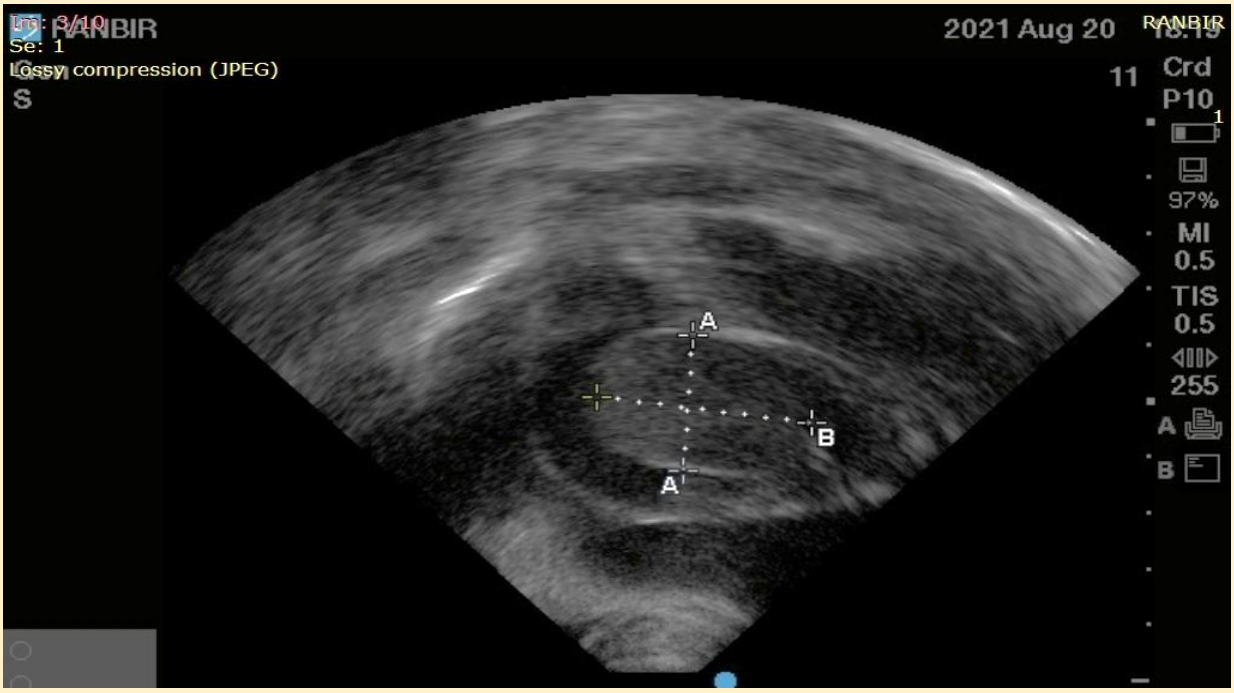
Majority of cardiac tumours in children are benign, the most common being rhabdomyoma followed by fibroma, myxoma, haemangioma and intracardiac teratoma.[1] In our case, the tumour was pedunculated and located in the atrium, hence myxoma was considered. [5] Since surgery is the only treatment for cardiac tumours that require intervention, immediate surgery was done and biopsy of the specimen revealed Non-Hodgkin's Lymphoma.

Lymphoma is the 3rd most common cancer in children and NHL is 1.5 times more common than Hodgkin's Lymphoma in young children, affecting boys 3 times as frequently as girls. Abdomen (31.4%), head and neck (29%) and mediastinum (26%) are the most frequently involved primary sites. [6] The heart, as in our case, is described as one of the rare sites of involvement. Evaluation of mediastinal and cardiac involvement is by Chest Xray, Echocardiography, CT scan, MRI and rarely by mediastinography and thoracotomy. Tissue diagnosis is by open biopsy or FNAC. Accurate staging is essential before initiation of therapy and the mainstay of treatment is multiagent chemotherapy. [7] With modern therapy, the prognosis is good for most forms of disease.

**Conclusion**

Our case was an interesting case and gives an insight that, heart failure in children of cardiac origin may not always be rheumatic or congenital in origin, the common thought

process of every Paediatrician. Common and curable diseases like NHL could be present in an uncommon manner, making diagnosis challenging and simple tools like bedside ECHO may help us in the early diagnosis and initiation of therapy in such situations, which is widely emphasized in the primary assessments and survey as adjuncts.




## References


1. Careddu L, Oppido G, Petridis FD, Liberi R, Ragni L, Pacini D, Angeli E, Gargiulo G. Primary cardiac tumours in the paediatric population. Multimedia manual of cardiothoracic surgery: MMCTS. 2013 Jan 1;2013:mmt013
2. Goel A, Murmu SK, Shah S, Chawla GS. Role of cultural practices in neonatal sepsis. Int J Med Sci Public Health.2015;4(5):680-683
3. Murugesan K, Sivakumaran D. Etiological profile of congestive cardiac failure in children in a tertiary care center in Tamil Nadu. Int J Sci Study. 2017 Jun 1;5(3):34-41.
4. BURCHELL HB. Unusual causes of heart failure. Circulation. 1960 Mar;21(3):436-43.
5. Cohen MV. Left atrial myxoma: echocardiographic identification. The Journal of the Medical Society of New Jersey. 1979 Mar 1;76(3):213-5.
6. Hudsan MM, Sandlund JT. Lymphomas in children. *In:* Nelson Textbook of Pediatrics, 15th edn. Eds Behrman RE, Kleigman RM, Philadelphia, W.B. Saunders Company, 1996; pp 1457-1460.
7. Anderson JR, Wilson JF, Jenkin RDT. Childhood NHL: The results of a randomized therapeutic trial comparing a 4 drug regimen (COMP) with a 10 drug regimen (LSA2-L2). N Engl J Med 1983; 308: 558-5

First Announcement on the First National Conference of IAP-PEM Chapter

# NATIONAL ASSEMBLY ON PEDIATRIC EMERGENCY MEDICINE

# NAPEM -2022

## 4th to 6th November 2022

*Pre - Conference workshop : 4th November 2022*

*Conference: 5th and 6th November 2022*

**Organized By:**

Department of Pediatrics
All India Institute of Medical Sciences
Raipur (Chhattisgarh)

Venue: Auditorium, AIIMS Raipur

**Conference Secretariat**

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**Prof. (Dr.) Eli Mohapatra**
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**Organizing Secretaries**

**Dr. Tushar B. Jagzape**
**Dr. Santosh K. Rathia**

**Organizing Chairperson**

**Prof. (Dr.) Anil K. Goel**

**For Further Details Visit: www.napem2022.com**

## Preconference Workshop

- Pediatric Trauma Life Support-PTLS
- Point of care Ultrasound (POCUS) in Pediatric Emergency
- TRIAGE in Pediatrics Emergency Pediatric Emergency and Resuscitation Learning-PEARL

## Registration Fee Details

**Registration fees (CONFERENCE):**
**For PG Students :Rs. 2000** (Till 31 Aug 2022)
**For PG Students : Rs. 3000** (After 31 Aug 2022)
**For Others :Rs. 3000** (Till 31 Aug 2022)
**For Others :Rs. 4000** (After 31 Aug 2022)
**Spot Registration :Rs. 5000**
**For Workshop :Rs. 2000** (Till 31 Aug 2022)
**For Workshop :Rs. 2500** (After 31 Aug 2022)

## Highlights of the Conference

- ★ A great opportunity for the practicing pediatricians, emergency physicians, OPD practitioners facing office emergency, and for Pediatric residents to revise there knowledge and learn new emergency concepts.
- ★ Listen to the panel discussion from the experts on day-to-day.
- ★ common problems encountered in pediatric emergency.
- ★ Enlighten your knowledge with the guest lectures from the international and national renowned speakers.
- Refresh your knowledge with the Quiz

## Who Can Attend?

- ★ Pediatricians, Emergency Physicians, Pediatric residents, Medical officers and Anesthetists

*Present your Research papers and interesting cases for bridging the gaps of knowledge and win exciting prizes.*

## INVITED FACULTIES

### INTERNATIONAL FACULTIES

Dr. Binita Shah
Dr. Prashant Mahajan
Dr. Shobhit Jain
Dr. Ami P Shah

### NATIONAL FACULTIES

Dr. Santosh T Soans
Dr. Sanjeev Bhoi
Dr. Suresh Gupta
Dr. Jayashree Muralidharan
Dr. Debasis Das Adhikari
Dr. Prerna Batra

### NATIONAL FACULTIES

Dr. Indumathy Santhanam
Dr. Abhijeet Saha
Dr. Arun K Baranwal
Dr. Bharat Choudhary
Dr. Anil K. Goel

## PLACES TO VISIT IN CHHATTISGARH

Chhattisgarh beholds many under explored tourist attractions like Chitrakot (Niagara of India) and Tirathgarh waterfalls, Kutumsar caves(largest limestone caves in India), Barnavapara wildlife sanctuary, Bhoramdeo temple, Sirpur temple complexes, Champaran and many more. Raipur city has Jungle safari, Purkhauti Muktangan(Open museum of Chhattisgarh's culture) which are swarmed by the tourists. Amarkantak, Kanha national park, Bandhavgarh national park, Hirakund dam, Huma temple (leaning temples), Maa Samaleswari temple are some other famous tourist places in the neighboring states of Chhattisgarh.





www.chhattisgarhtourism.in & www.mptourism.com, www.odishatourism.gov.in

**For Further Details Visit: www.napem2022.com**

**Indian Academy of Pediatrics**

**Pediatric Emergency Medicine Chapter**

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