Sishu Paripalan

THE KANCHI KAMAKOTI CHILDS TRUST HOSPITAL NEWSLETTER

ISSUE 1- OCTOBER,2024

From the Medical Director's desk

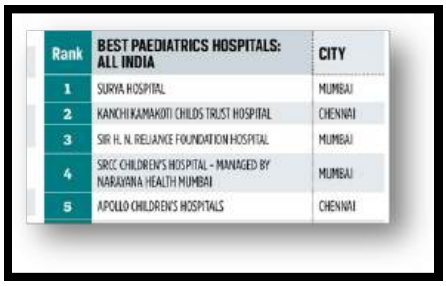
Dear Colleagues,

It gives me great pleasure to reintroduce our Quarterly Newsletter, a vital platform for sharing knowledge, insights and updates within our Pediatric community. This publication serves as a reflection of our collective effort, showcasing the remarkable work happening across all departments.

In our fast-paced environment, staying connected with advancements in medical research, patient care and team achievements is essential. The newsletter will not only highlight significant milestones of our hospital but also encourage the exchange of ideas, fostering a culture of continuous learning and collaboration

Dr.Janani Sankar, Medical Director, KKCTH

AWARDS AND ACCOLADES!



Rank	BEST PAEDIATRICS HOSPITALS: ALL INDIA	CITY
1	SURYA HOSPITAL	MUMBAI
2	KANCHI KAMAKOTI CHILDS TRUST HOSPITAL	CHENNAI
3	SIR H. N. RELIANCE FOUNDATION HOSPITAL	MUMBAI
4	SRCC CHILDREN'S HOSPITAL - MANAGED BY NARAYANA HEALTH MUMBAI	MUMBAI
5	APOLLO CHILDREN'S HOSPITALS	CHENNAI

BEST PEDIATRIC HOSPITAL IN INDIA- OUTLOOK EXPRESS SURVEY 2024

Dr.S.Ramesh,HOD, Department of Anesthesia, delivered the Dr.A.M.Deshpande oration (Pediatric Anesthesia - Thinking back, Stepping forward) at PROACT PUNECON

Dr.Haritha and Dr Mounika, DNB postgraduates secured the second place in the Ramachandra Hematology and Oncology (R-HOPE) Pediatric Hematoncology quiz, conducted on 17.08.24.**Dr.Mounika, Second year DNB postgraduate** secured second place in the State Wide Quiz Competition for 'Academic champion of Tamira Pedicon 2024' held through online platform in July 2024.***Dr. Kokilavani, DNB pediatric surgery postgraduate***, won the second prize in award session - "Innovative thinking in hypospadias repair" at SPUCON 2024, Kolkata.(Topic: Megalo-urethra, a case series).***Dr Haritha, DNB pediatric postgraduate*** won the first prize in the Hematology quiz conducted by MGM Cancer institute on 3.9.2024.

Our Postgraduates ***Dr.Sneha, Dr.Drija & Dr.Lavanya Devi*** won the best posters award at the Pediatric Dermatology update held at Bangalore on September 28th and 29th 2024.Appreciation to our Senior Consultant dermatologist ***Dr. Ramkumar Ramamoorthy*** for his guidance and mentorship.

RECENT UPGRADATIONS

New Beginning!- Women's health & Maternity centre at KKCTH

Dr. Usha Vishwanath
Senior Consultant & Director
OBG, KKCTH

Dr. Nirmala K
Senior Consultant OBG,KKCTH

Dr.Sneha Sethumadhavan
Senior Consultant OBG,KKCTH

We are highly privileged to have Dr. Usha Vishwanath, an experienced clinician and an administrator par excellence join the department as the Director. Our department has been actively partaking in various activities such as organizing the "Pregnancy & Post natal wellness program" during the breast-feeding awareness week, August 2024 which was well received by mothers from across the city. We also conducted "MANASVI" – a medical camp which consisted of a holistic approach of consultation, anemia screening, breast examination and cervical cancer screening on 17 th August 2024. We were thrilled to have close to 20 women benefitting from the camp. We were delighted to inaugurate the new "LabourSuite" on the 6th floor of KKCTH on 5th September 2024 in the presence of our beloved MD Dr. Janani and all the consultants of various departments of KKCTH. Till date, we have had 12 deliveries with happy and healthy mothers and babies going back home. We have also commenced gynecological services and successfully done 2 abdominal hysterectomies and various other OP procedures such as PAP smear, endometrial aspiration and copper-T insertion. We hope to expand the services and scope of the department with the support of everyone at KKCTH. Our aim is to set a benchmark for Women's health in this country by providing ethical and evidence based care.

You can always reach us out for obstetric and gynaecology emergencies on +9940408163 or 42001800

Centre of Excellence in Pediatric Airway Surgeries(CEPAS)

Children with rare malformations of the airway, are seen routinely at our hospital. They pose a real challenge for the different specialists involved. The management is challenging for several reasons, the most obvious being that airway reconstructions are technically challenging. Besides, decision making in selecting the most appropriate treatment for a given patient requires refined judgement. In addition, a multi-disciplinary approach is norm, and even in tertiary hospitals, that comes with practical difficulties. A multidisciplinary team of different medical professionals is required to deliver comprehensive care for these difficult cases.

The multidisciplinary team of experts at KKCTH has the experience of treating more than 1000 children with airway problems over the past 10 years. The Chennai Airway Team headed by Pediatric Airway Surgeon Dr. Thirunavukkarasu is now collaborating with the team from Great Ormond Street Hospital (GOSH), London, headed by lead tracheal Surgeon Dr. Nagarajan Muthaialu, to open 'Centre of Excellence for Pediatric Airway Surgery (CEPAS)' at KKCTH. CEPAS was inaugurated by ***Mr.Ma.Subramanian, the Honorable Health Minister,Govt.of Tamilnadu*** on 19th June 2024. Through this initiative CEPAS at KKCTH will provide one stop medical and surgical treatment for all children with complex airway problems from the nose down to the bronchi. CEPAS is the first of its kind centre in Asia serving children with airway problems across all social strata and several nationalities. The tracheal team (airway team) of Great Ormond Street Hospital serves as the National centre for critical airway diseases in UK, with referrals from all over Europe and across continents for opinions and management. The lead surgeon, Mr Nagarajan Muthialu has extensive experience on complex airway surgeries, with experience in operating and training many centres across the world for airway surgeries.

Pediatric Rehabilitation unit at KKCTH

Pediatric rehabilitation unit at KKCTH in collaboration with NICE team has begun its services from APRIL 2024.Every interaction, whether a therapy session or an assessment, is a step towards helping these children achieve better developmental outcomes

Every child's journey begins with a referral from you based on your assessment of the child's need for a neurodevelopmental challenge.Our Neurodevelopmental team is equipped with the expertise of Developmental Pediatrician, Clinical psychologist, Speech Language Pathologist, Occupational Therapist, Behavioral Therapist and Special Education specialist who work together as a team to put together a plan for optimizing the outcomes for them. Our Social Work team provides the overarching layer of connectedness between the families, referring doctors and other stakeholders by keeping everyone informed of the progress. The Pediatric Rehabilitation Unit at KKCTH is more than a healthcare facility; it's a place of hope and transformation. This only motivates us to continue to improve the lives of the children under our care.

You can always reach out to us at +91 75388 42737
nicerehabilitationservice@gmail.com

INTERESTING CASE REPORT

BRAIN CYSTS IN CHILDREN

Dr.N.P.Nivek,Dr.K.Dhanalakshmi,Department of Paediatric Infectious Diseases

10 year old girl, previously healthy and immunized, evaluated elsewhere in March 2024 for fever, cough and altered bowel habits, with no contact with TB. She had intestinal obstruction and CECT abdomen showed dilated small bowel loops, distal ileal thickening, mesenteric lymphadenopathy and free fluid in paracolic gutter. Omental biopsy showed granulomatous inflammation and AFB was detected in peritoneal fluid. CXR showed multiple miliary nodules. CT chest showed cavity in left lungs and hilar lymph nodes. With diagnosis of TB of lungs and abdomen, she was started ATT.

In June 2024, she was referred to KKCTH with Subacute intestinal obstruction and poor weight gain. Fundus showed resolving retinitis in right eye. Due to suboptimal response to ATT and absence of drug sensitivity, further evaluation was done. BAL detected AFB, with very low TB load in CBNAAT,sensitive to Rifampicin.LPA showed sensitivity to INH and Rifampicin.In view of intestinal TB, poor drug absorption was considered and was continued with first line ATT and she improved.

After 2 weeks, she came with Left focal seizures progressing to Status epilepticus. With new onset seizures following initial good treatment response, paradoxical upgrading reaction was considered. Fundus showed healed retinal lesions. MRI Brain showed multiple ring enhancing cystic leisions, with possibility of NCC or Toxoplasmosis. CSF was normal. She was empirically started on albendazole,steroids and co-trimoxazole. Serological test were negative for Toxoplasmosis and Neurocysticercosis. Brain cyst biopsy revealed a well-delineated mass with no surrounding inflammation. Histopathological analysis showed a necrotic center and cyst walls showing epithelioid histiocytes, indicating a tuberculous etiology and thus confirming Tuberculosis–associated immune reconstitution inflammatory syndrome (TB IRIS.)Albendazole and co-trimoxazole were stopped and was continued on Steroids and ATT and she improved significantly.

7-year-old boy , previously healthy, immunized, had unprovoked right focal seizure. MRI Brain revealed a well-defined ring-enhancing lesion at the grey-white matter junction of the left occipital lobe, with vasogenic edema, suspected to be a caseating tubercular granuloma with central liquefaction.RGA was negative for AFB.He was brought to KKCTH for further evaluation.He had no symptoms of TB and no contact with TB.His fundus examination was normal.Possibility of Tuberculoma or neurocysticercosis (NCC) were considered. Magnetic resonance spectroscopy (MRS) showed a prominent lactate peak, and MRI screening confirmed the presence of a scolex.He was diagnosed to have NCC and was treated with oral steroids followed by Albendazole. He recovered completely.

DIFFERENTIAL DIAGNOSIS OF RING ENHANCING LESIONS IN MRI BRAIN IN CHILDREN

FEATURE	NEUROCYSTICERCOSIS	TUBERCULOMA	TOXOPLASMOSIS
Number	Single/multiple.	Often multiple	Multiple nodular or ring-enhancing lesions
Site	Grey-white matter junction.	Anywhere More common in posterior fossa.	More in Basal ganglia, frontal and parietal lobes
Mural Nodule	Seen	Absent	Eccentric nodule
MRS	Multiple amino acid peaks,lactate peak.Moderately diminished N-acetyl aspartate,Absence of a lipid peak	Lipid peak Grossly diminished N-acetyl aspartate peak.	Increased lactate, lipids, choline (In some) Reduced Cho, Cr and N

LUNG LAVAGE - DEPARTMENT OF PULMONOLOGY, KKCTH

Total lung lavage was done for 3.5 years old child with progressive worsening respiratory problems for a year. He had hypoxia in room air(SpO2 - 70%) , respiratory distress and was failing to thrive. CXR - showed diffuse opacity and CT chest revealed- crazy paving pattern with ground glass opacities suggestive of pulmonary alveolar proteinosis.It was a long procedure done by **Dr Vijayakumar, Consultant Pulmonologist, KKCTH** along with PICU team led by ***Dr.BalaRamachandran and Anaesthesia team led by Dr.Ramesh.S***. Post procedure child is thriving well on follow up and is saturating 95- 97% in room air.

"ONCE YOU CHOOSE HOPE,ANYTHING IS POSSIBLE!" — CARDIAC TRANSPLANT SURVIVOR KKCTH- Dr.BalaRamachandran,Dr.K.Ravikumar,Dr.Sudeep,Dr.N.Chandrakumar,Dr.Vaanathi.V

This is the story of an infant with non-compaction cardiomyopathy whose survival was at stake. Imagine the life of parents and their kid whose survival was thought to be near impossible which changed to a smiling, playful child and tears of joy of parents. Such magic occurred with perseverance from the KKCTH medical team, the determination of parents, and excellent teamwork.

This baby was referred from a rural town in Andhra Pradesh and was admitted to KKCTH NICU for respiratory problems. He was diagnosed with non-compaction cardiomyopathy in KKCTH. He required mechanical ventilation and was started on anti-failure medications. He was stabilized gradually and discharged with heart failure medications. Heart failure was refractory to medicines and the child was readmitted to the hospital in a month. The child was on enalapril.He was getting readmitted to the hospital at monthly intervals for the next 3 months. This time it was just the change of place to PICU instead of NICU. Except for one admission when he was very sick requiring multiple vasoactive medications and mechanical ventilation, in the other two admissions - he would require NIV and diuresis, and get stabilized.

On the other hand, the pediatrician, PICU team, and pediatric cardiologist were running out of options as we had already tried Carvedilol and sacubitril-valsartan in addition to diuretic optimization for heart failure. We knew that mechanical circulatory support (Ventricular assist device) was not far from him but the cost was so humungous that it would give sleepless nights to anyone. We spoke with the parents and understood their determination. The team decided to refer him for cardiac transplantation and we started him on weekly Levosimendan infusions in addition to other anti-failure medications. The next few months were a marathon for the parents, as they had to rent a place to stay in Chennai with weekly hospital admission for Levosimendan. The other big question mark in front of us was that getting a heart for an infant is a rarity. We even missed an infant heart at that time because the paperwork for transplantation was not ready. He had almost 11 admissions in total at KKCTH. With God's grace, the parents' determination, and the medical team's perseverance, he finally got his heart transplanted at 9 months of age at MGM Hospital. The parents' joy knew no bounds. We could see their thankfulness from the heart. Now, he is one-and-half-year old and is on regular follow-up. ***Life can change a lot and definitely, it has changed for this kid and their parents. As it said, "Once you choose hope, anything is possible".***

A STITCH IN TIME!- PDA LIGATION BEDSIDE - AT NICU KKCTH

Baby of S, 3rd of the triplet born at 33+5weeks, female was referred to KKCTH NICU on day 4 of life with respiratory distress syndrome.Echo done showed PDA 2.8mm with left to right shunt. Being hemodynamically significant, treatment with paracetamol was started. However, after a full course,PDA remained patent at size of 3.33 mm. For about 20 days baby was medically managed and continued on mechanical ventilation.Due to the persisting PDA and unstable hemodynamics, CTVS opinion was obtained and PDA was surgically ligated on day 25 of life,bed side !!!

Only 20% of symptomatic PDA undergo surgical ligation, of which our procedure was done bedside in our very own NICU led by ***Dr.N.Chandrakumar and CTVS Surgeon Dr Prashant Shah***. Baby continued to remain ventilated for another 4 days and thereafter successfully extubated. Echo done post operatively confirmed a closed PDA. Baby was successfully discharged by two months of age at the weight of 1.55 kg and is thriving well on follow-up.

SAVING TINY LITTLE ANGELS! - NICU KKCTH

Dr.N.Chandrakumar, Dr.Vaanathi.V

Baby B was an extreme preterm, born at 28 weeks with a birth weight of ***540gms***. Baby was resuscitated at birth by our NICU team and was transported to KKCTH NICU. Baby had a hospital course over 10 weeks where baby was treated for respiratory distress syndrome with surfactant and mechanical ventilation. Over the course of hospital stay, baby was diagnosed with ROP – Zone III, stage III for which baby underwent photocoagulation. At 2 ½ months of hospital stay, baby was successfully discharged with a weight of 1.77kg with established feeds.Baby is being followed up growth and neurodevelopment

"RAY OF LIGHT FOUNDATION- KKCTH"- World Cancer Day

Mr. L.Murugan, Minister of State, Ministry of Information and Broadcasting with TEAM KKCTH

On the occasion of World Cancer day, around 100 children of KKCTH whose entire treatment was sponsored by "***Ray of Light foundation" founder Dr.Priya Ramachandran & treated by Hematooncology team DrArathi.S & Dr.Meena.S were invited and felicitated by Mr. L.Murugan, Minister of State,*** Ministry of Information and Broadcasting.It was heart warming to see the happiness & excitement amongst our children and their parents.

Acetaminophen (Paracetamol) blood level test

Dr. V. Priyadharshini. M.D (Biochem), HOD-Clinical Biochemistry lab, KKCTH

Acetaminophen, commonly known as paracetamol, is an easily available over-the-counter analgesic and antipyretic. Risk of toxicity occurs during overdose or chronic use. Severe acetaminophen toxicity may cause acute liver failure, renal disorder, or death.Toxicity must be suspected in patients presenting with history of acute over dose, chronic ingestion of supratherapeutic doses or febrile illness presenting with elevated liver enzymes along with history of repeated paracetamol ingestion.

Major portion of Acetaminophen (90-95%) gets metabolized by conjugation (with glucuronide and sulphate) in the liver and the resulting conjugates get excreted in urine. A minor fraction (5-10%) is metabolized by cytochrome P450 enzyme system in liver, that produces N-acetyl-para-benzoquinone imine (NAPQI), a highly reactive intermediate metabolite that can cause oxidative damage to cellular proteins. NAPQI gets detoxified by conjugation with glutathione (a cellular antioxidant) and gets excreted in urine.

At therapeutic doses, acetaminophen is predominantly metabolized by glucuronidation and sulfation pathways with minimal formation of NAPQI. During over dose of acetaminophen, excess amount of NAPQI is produced, that depletes the glutathione reserve, leading to accumulation of NAPQI that causes hepatocellular damage. Fasting, malnutrition, alcohol intake and anti-convulsant drugs can increase susceptibility to acetaminophen induced hepatotoxicity.

N-acetyl cysteine (NAC) is the primary antidote to treat acetaminophen toxicity and acts by replenishing glutathione and also by directly neutralizing NAPQI. Anti-dote therapy with N-acetylcysteine (NAC) is most effective if started within 8 hours of overdose to prevent hepatotoxicity. Acetaminophen blood level is the only reliable diagnostic test for early detection of its toxicity, as in acute overdose, patients may have few or no symptoms initially and clinical evidence of hepatic injury occurs only after 24 hours.

Acetaminophen blood level test, is offered **24x7** at the Clinical Biochemistry Laboratory of Kanchi Kamakoti CHILDS Trust Hospital (KKCTH). The lab is a referral centre for acetaminophen blood level test and performs the test 24x7 using **EMIT** (enzyme multiplied immunoassay technique), in fully automated chemistry analyser. The results are made available at the shortest turnaround time and all critical acetaminophen level results are readily communicated to the treating physicians, thus helping in prompt management of toxicity.

Blood sample for the acetaminophen blood level test must be collected in **red top serum tube** and **serum must be separated within 2 hours of sample collection** and **transported at 2-8°C**. Acetaminophen blood levels must be typically measured at least 4 hours after drug ingestion to ensure that absorption and distribution of drug is complete.

For further details contact Clinical Biochemistry Lab, KKCTH: 044-42001800 Extn 132

SPECIAL RECOGNITION!!

Silver medal in the Women's Badminton Single SU5 category in the Paralympics held at Paris!

Our staff nurse ***Mrs Vijayalakshmi's daughter Miss.Thulasimathi Murugesan*** won the Silver medal in the Women's Badminton Single SU5 category in the Paralympics 2024 held at Paris!