E-BAEZ

Official Monthly Newsletter of Indian Academy of Pediatrics - Tamilnadu State Chapter

FEBRUARY 28, 2022 VOLUME I, ISSUE 1-2

Highlights in this Issue

Nectar Financial tips for Doctors

Dr. S. Thirumalai Kolundu, Senior Consultant Pediatrician & Financial Adviser , Thirunelveli

Either schools or colleges, at no point of time, provided any formal education on this very important subject, personal finance. Like any other persons we are also entitled to spend quality time with our family and to make our life memorable and enjoyable. For this some basic knowledge in personal finance is a must, so that we can reduce our working hours and attain financial independence at an earlier age. First let us start asking few questions ourselves.

Why Doctors need special financial care?

• Unlike IT people, because of our long duration of studies, we are starting to earn very late in life around 30 or 35 years.

• More and more specialist are pouring in , more competition. Roaring practice has become word of the past.

• For small and Medium sized hospitals , It has become very tough to run and survive, competing with corporates.

• We need lot of working capital to set up a Hospital.

• Covid has added new dimension to our life. Our professional life can come to a temporary standstill at any point of time.

How to approach this problem?

• We must acquire basic knowledge in personal finance.

• Our primary attention is our profession. Without jeopardising it , we are going to concentrate on our financial needs and future requirements.

• Self medication is not only bad in our field but in finance also. Most of the time we take wrong decision regarding insurance and repayment of loans. We can have a qualified financial advisor as our consultant.

• We must spend at least 30 minutes every day, 1/2 day on Sunday and one full day once in 3 months to read and review our portfolio and to take corrective steps.

What are the basic things you must know before taking care of your finance?

• Assets Vs Liabilities matching

• Budgeting

• Power of compounding and importance of starting to save earlier in life

• Role of inflation.

• Financial planning and goals in our life.

• Financial independence

• Role of financial advisor

What are the 3 fundamental areas of personal finance?

1. Wealth creation
2. Wealth protection
3. Debt management

... to be continued in next issue

Inside this issue:

FAQs in Malaria

Dr. T.S. Ekambaranath MD, FPIC, Senior Asst Professor, Stanley Medical College.

1. Where are Malaria cases seen in Tamilnadu currently?

Malaria is restricted to 5 locations in Tamilnadu state - Chennai, Hogenakkal, coastal areas of Kanyakumari, Rameswaram and Tuticorin.

2. Which is the major breeding site in an urban setting?

Unsupervised overhead tanks. Presence of Fluoride in the water influences the oviposition of An. Stephensi.

3. When to suspect Malaria in a febrile child?

Presence of flu-like symptoms e.g. fever, cough, headache, malaise, vomiting, and diarrhoea. Supportive findings may include splenomegaly, thrombocytopenia, anaemia, mild jaundice, Lethargy and poor feeding.

4. What are the features of severe malaria?

Cerebral malaria (Unarousable coma), Anemia (Hb <5 g/dL), Hypoglycemia (<40 mg/dl), Acidotic breathing, Renal failure (Serum creatinine >3 mg/dl), Pulmonary edema, Circulatory collapse/Shock Spontaneous bleeding/DIC , Repeated generalized convulsions, Macroscopic hemoglobinuria, Impaired consciousness but arousable ,Prostration, extreme weakness (inability to stand or sit), Hyperparasitemia (>5% RBC infected), Jaundice (total serum bilirubin >3 mg/dL), Hyperpyrexia (axillary temperature >39.5°C)

5. Complicated malaria-what to look for?

Airway & Breathing- respiratory distress (metabolic acidosis/ pulmonary edema), Circulation-shock (algid malaria), Disability-ALOC (cerebral malaria), Exposure- pallor, jaundice

6. Complicated malaria-what tests to do?

Hemogram-Anaemia, thrombocytopenia, CBG, blood glucose, ABG, Serum bilirubin, liver enzymes, RFT, PT, APTT, INR

7. What is the gold standard test for diagnosing Malaria?

Smear study: Excluded by three negative thick blood films, taken 12 hours apart, any time of fever, before antimalarial. Limitations: Peripheral parasitemia may be negative due to sequestration, Needs expertise and equipment.

8. Diagnosis by RDT (Immunochromatographic assay):

This kit contains monoclonal antibodies specific to histidine rich protein 2 (HRP-2) of P. falciparum and lactate dehydrogenase (LDH) of P. vivax/PF. Or pan species parasite LDH or Aldolase. RDT is performed on 5 mcl of blood. Results were read within 20 min.

9. Advantages and disadvantages of RDT:

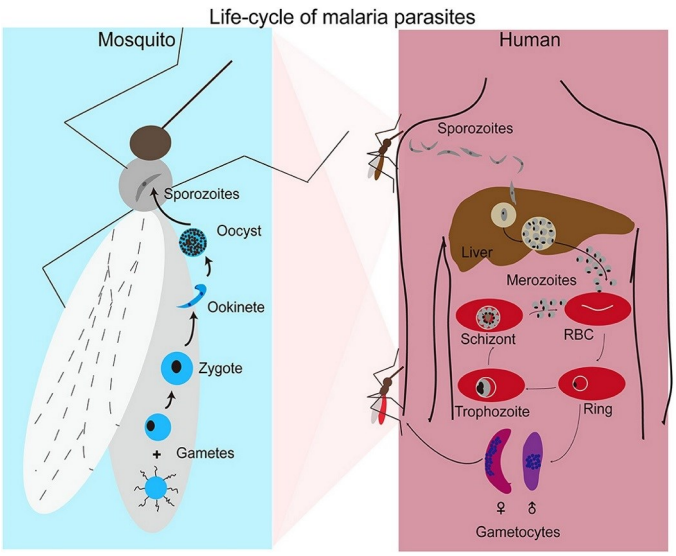
Identifies antigenemia even when there is sequestration. False negative test is seen in - Low parasite densities, High parasite densities (prozone effect) and Genetic variations of HRP-2/poor expression of pLDH. False positive test is seen if Rheumatoid factor is present. Limitations: Can't asses density of parasitemia, Can't assess response to treatment.

10. RDT-Comparison with PCR:

Berzosa et al 2018. (Equatorial Guinea)- RDT: Sensitivity 77.8% Specificity 90.6% & Smear: Sensitivity 54.7% Specificity 81.5%. Stauffer WM et al 2009.(U.S)- RDT: Sensitivity-97% NPV – 99.6%. Smear: Sensitivity 85% NPV- 98.2%.

11. How to diagnose cerebral malaria?

Lumbar Puncture-



increased pressure, mildly increased CSF protein, typically with no CSF pleocytosis and a normal CSF glucose. Studies suggest that fundus findings of malaria retinopathy (retinal haemorrhages, peripheral whitening, macular whitening, vessel changes) are relatively specific for cerebral malaria.

12. Management of P.vivax:

Chloroquine (25 mg base/kg)10 mg base/kg stat orally followed by 10 mg/kg at 24 hours and 5 mg/kg at 48 hours. If PV-Primaquine 0.25 mg/kg once daily for 14 days-to prevent relapse. If PF primaquine (0.75 mg/kg) single dose-for gametocytocidal action. Avoid empirical antimalarials.

13. Precautions to be taken during Malaria Management:

Chloroquine should not be given in empty stomach and in high fever. If vomiting within 45 minutes-repeat the dose. G6PD screening to be done before starting Primaquine. As infants are relatively G6PD deficient, it is not recommended in this age group. In cases of borderline G6PD deficiency, once weekly dose of primaquine, 0.6–0.8 mg/kg, is given for 6 weeks.

14. Treatment of complicated / severe malaria:

Artesunate: 2.4 mg/kg IV stat then at 12 and 24 hours, then once a day. Continue parenteral for at least 24 hours. Complete the course with: Artemether plus lumefantrine OR Artesunate plus sulfadoxine-pyrimethamine.

NEWS SNIPPETS

- Renovation of the newly purchased IAPTNSC Flat is going on in full swing and should mostly completed by April 2022
- NTEP workshops planned all over Tamilnadu in collaboration with CIAP

Digital awareness corner

PHISHING – What is it and how to avoid it?

Dr. D. Rajkumar, MD, Associate Prof of Pediatrics, Madurai Medical college

Introduction:

We all must have heard about sport fishing and some of us even might have tried our luck with fishing rods during our childhood or during vacations. Imagine a person sitting in front of his computer in a foreign country or some other place trying to catch you [your money

to be exact] using a fishing rod attached with succulent worm bait [a juicy email offer]. Now you know why this con art is named as phishing!

Phishing:

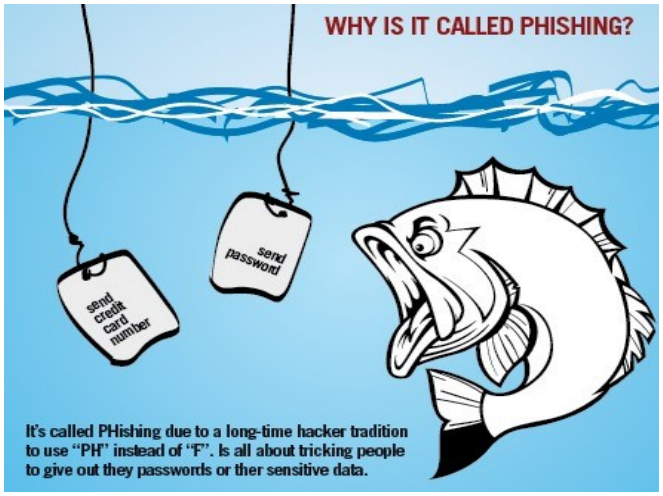
Smartphones and computers have become an integral part of our daily lives. We use them for shopping, ordering food, booking cabs and movie tickets, making payments and whatnot. That said, we store a lot of confidential information, such as passwords and credit/debit card details on our devices. Gone are the days of burglars who break open a house and steal money and materials. With the advent of techno age comes the hacker, a virtual burglar coming after our money and sensitive information via the internet.

Hackers in fact use a variety of methods to steal this information but one method still remains as their pet favourite since it is like a gold mine for them with least amount of work. This method called as "phishing" which aims to gather sensitive data from you by sending an email that looks like it's from a legitimate entity like your bank or Credit Card Company.

E-mail is the most common way to distribute phishing lures, but some scammers seek out victims through direct calling, social media messages, cellphone text (SMS) messages, fake banner ads, fake job search sites, job offers and fake browser toolbars.

Vishing:

Unfortunately, phishing emails are not the only way people can try to fool you into providing personal information in an effort to steal your identity or commit



fraud. Fraudsters also use the phone to solicit your personal information. This telephone version of phishing is sometimes called vishing. Vishing relies on "social engineering" techniques to trick you into providing information that others can use to access and use your important accounts. People can also use this information to assume your identity and open new accounts.

Smishing:

Just like phishing, smishing uses cell phone text messages or social media messages to lure consumers in. Usually such messages are about some costly items being available for Rs.100 or participating in a lucky draw. Often the text will contain an URL or phone number. Once it is clicked, it works the same way as a phishing email compromising the safety of that mobile.

Spear phishing:

Spear phishing is a more effective and is the common technique used by elite hacking circuits. Spear phishing is when the mail is directed very specifically TO YOU. You are "speared" like a big fish [shark or marlin] is caught by spearing technique!

Spear phishing targets individuals. Instead of "Dear Customer", an email might address you by name, refer to a recent transaction you've made and/or draw on other information that you've shared online – often on social networks. Spear phishers may even impersonate one of your friends, asking for a password which – if you share it – can then be tested on a range of other sites to see if the criminal can gain access to your accounts.

Whaling:

A whaling attack, also known as whaling phishing attack, is a specific type of phishing attack that targets high-profile employees, such as the chief executive officer or chief financial officer, in order to steal sensitive information from a big company or hospital.

...To be continued in next issue

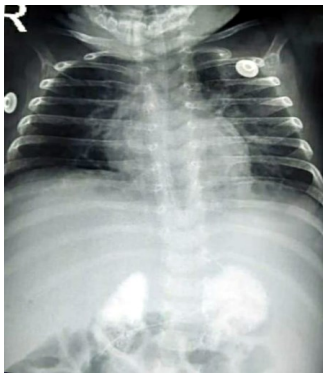
NEWS SNIPPETS

- ECD workshops to be conducted all over Tamilnadu in collaboration with CIAP

Xray of the month

Dr. B. Ramesh Babu, President IAP TNSC, Medical Superintendent & Prof. of Pediatrics, Dharmapuri Medical College

Let us Learn to Look beyond the obvious



Adrenal Calcification

Hemorrhage
- Sepsis (Waterhouse-Friderichsen syndrome)
- Blunt abdominal trauma
- Adrenal pseudocyst
- Neonatal asphyxia

Others
- Addison disease
- Wolman disease

Infection
- Tuberculosis
- Histoplasmosis

- Adrenal tumors
- Neuroblastoma
- Pheochromocytoma
- Dermoid cyst

Are you an associate life member & completed your postgraduation?

Dear Associate Life & Student Members, It is easy to convert your Associate life membership to Life membership

CONVERSION OF ASSOCIATE LIFE MEMBERSHIP TO LIFE MEMBERSHIP

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The documents should be sent to iapmembership@iapindia.org

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• Wire transfer balance Life membership fee of Rs. 4500/-.

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LINK FOR ONLINE IAP MEMBERSHIP APPLICATION:
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Needless to say, your active involvement in the activities of IAP will go a long way in strengthening the bond amongst the Pediatrics fraternity.

It is easy to become the life Member of IAP and enjoy the benefits

Any Queries, Please contact
Dr. B Rameshbabu: 8946057572
Dr. Ilamurugan: 9843177316
Dr. A Amalraj: 9176567310

Contributors of Building Fund of IAP TNSC Office

1. Dr. Annamalai Vijayraghavan, Chennai ₹ 25,000
2. Dr. Gunasingh, Thiruvannamalai ₹ 25,000
3. Dr. Tiroumourougane Serane. V, Pondicherry ₹ 25,000
4. Dr. P. Muralikrishnan ₹ 25,000
5. Dr. S. Thangavelu, Chennai ₹ 15,000
6. Dr. K Nedunchelian, Chennai ₹ 15,000

And many more waiting for the right moment

Please Note that all contributions are eligible for IT exemption under section 80 G

IAP TNSC bank account details
Bank Branch: Union Bank of India, Egmore Branch
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Account No: 520101011407103
IFSC Code: UBIN0905895
Type: Savings account

An adamant pneumonia

Dr. Shobini S (Junior resident), **Prof. Raveenthiran V** (Professor), Dept. of Pediatric Surgery, Government Medical College, Chidambaram

A 1-year-old female infant presented with fever and cough of 10 days duration and breathlessness for 2 days. She had recurrent respiratory tract infection (bronchopneumonia) since birth that necessitated multiple hospitalizations. She was one of the identical twins with birth weight of 2 kg and her sibling was healthy. She had received multiple antibiotics over the last 10 days which were escalated to broader spectrum regimens in view of non-responding pneumonia.

Clinically she was dyspnoeic, lethargic, febrile and dehydrated but not cyanosed. Left hemithorax was prominent like a barrel. Ipsilateral breath sounds were diminished and the mediastinum was shifted to the contralateral (right) side. Heart sounds were better heard on the right side.

Initial chest x-ray showed opaque left hemithorax. (Fig 1) Subsequent x-ray showed appearance of air pockets within the opacity. (Fig 2) CT scan shows multiple large and small cysts within the left lower lobe with suspicious areas of necrosis. Cystic malformation of lung with superadded infection was suspected. Hence, emergency thoracotomy was done under general anaesthesia.

Entire left lower lobe was friable with pockets of pus and necrotic debris. Large cystic areas were seen in CT scan due to loculated pleural collection of pus and the smaller cystic changes seen in parenchyma were due to necrotic cavities. Left lower lobectomy was done. Pus culture was sterile probably due to prior antibiotics therapy. Postoperatively antibiotics were stepped down to first-line drugs. She recovered uneventfully and never had fever or respiratory symptoms since then. Histopathology confirmed primary necrotizing pneumonitis without any cystic malformation.

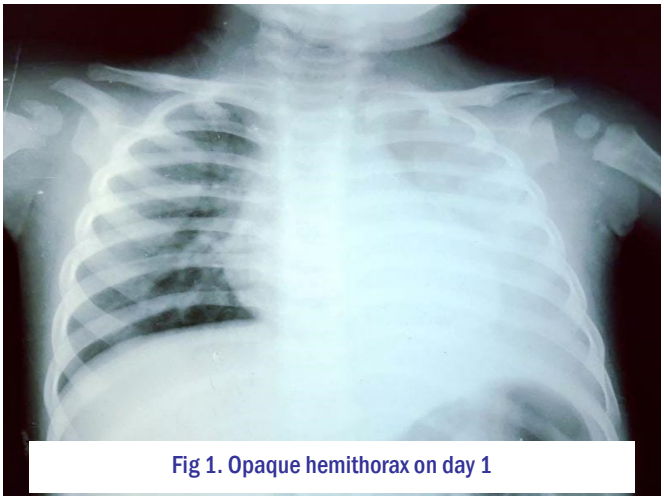


Fig 1. Opaque hemithorax on day 1

Discussion

Pneumonia is predominantly a medical disease that is eminently treated with antibiotics, antipyretics and bronchodilators. However, sometimes it may require surgical intervention especially when it is secondary to underlying lung malformations or when it is complicated by empyema, lung abscess or lung necrosis. (Box 1) In such cases, mere antibiotics will not be sufficient. Prolonged pneumonia not responding to antibiotics should raise the suspicion of surgical pathology. (Box 2) As in any other organ, fulminant infection may cause tissue damage and necrosis of the lungs. As the dead tissue is devoid of good blood supply, intravenous antibiotics cannot reach the site, thereby leading to lingering infection. Hence, resection of the necrosed segment is quiet essential to control the infection. As pediatric lung has potential for postnatal growth, the residual lung will overgrow and compensate the function loss of the removed segment. Practicing pediatricians should be aware of the surgical causes of intractable pneumonia and assertively investigate it with contrast enhanced CT scan.

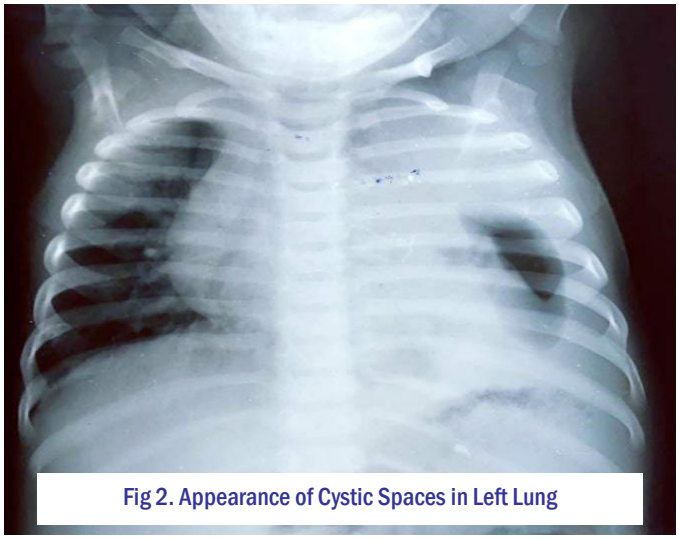


Fig 2. Appearance of Cystic Spaces in Left Lung

BOX 1

Surgical causes of intractable / recurrent pneumonia

- H-type Tracheo-esophageal fistula
- Broncho-pulmonary sequestration
- Cystic pulmonary airway malformation
- Necrotizing pneumonitis
- Bronchial Atresia
- Bronchogenic cyst
- Grade IV gastro-esophageal reflux

Surgical conditions that mimic pneumonia in x-ray

- Lung agenesis
- Lymphovascular malformations of the lung

BOX 2

When to suspect surgical pneumonia ?

- Persisting pneumonia > 1 week – not responding to appropriate IV antibiotics
- Recurrent pneumonia especially involving the same lobe
- Pneumonia with contralateral mediastinal shift
- CT showing poor contrast enhancement of parenchyma
- Pneumonia causing bronchopleural fistula (pneumothorax)
- Pneumonic consolidation with parenchymal air-fluid level or well defined cavity

Recommended readings

Ness-Cochinwala M, Kobaitri K, Totapally BR. Characteristics and Outcomes of Children With Necrotizing Pneumonia. Pediatr Crit Care Med. 2021;22:e640-e643.

Frybova B, Koucky V, Pohunek P, et al. Lung Resection in Children with Necrotizing Pneumonia: Outcome and Follow-up. Eur J Pediatr Surg. 2021 Mar 7. doi: 10.1055/s-0041-1725188. .

Srivastava RD, Aggarwal PK, Kushwaha AS. Severe Necrotizing Pneumonia in Children: A Challenge to Intensive Care Specialist. J Trop Pediatr. 2020;66:637-644.

Events of IAP TNSC

January and February

January 8, 2022: PG Clinics in Pediatrics - Child with joint pain & Breathlessness

January 22, 2022: UG Clinics in Pediatrics - Bronchiectasis

January 29, 2022 : PG Clinics in Pediatrics - Child with Chronic Cough

January 30 , 2022: CME on Omicron, Third wave and COVID

February 5 , 2022 : UG Clinics in Pediatrics - Oliguria & Haematuria

February 2, 2022 : PG Clinics in Pediatrics - Child with developmental delay

February 13, 2022: Updates for Practising Paediatricians

February 19, 2022: Intensive Clinical Training for Undergraduates

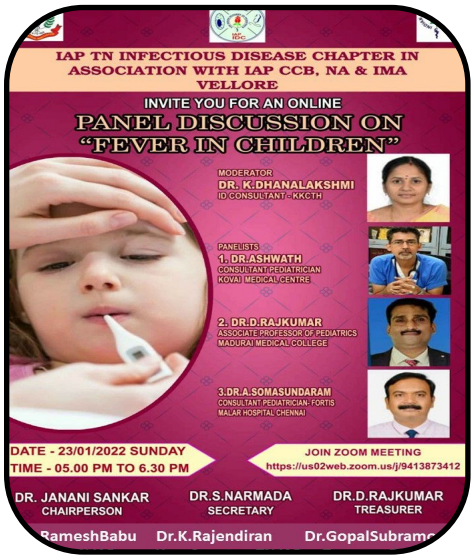
February 27 , 2022 : CME on Pediatric Gastroenterology

Events of IAP TNSC

January and February

January 9, 2022: TELE-CME on Practical Pediatrics - IAP Villupuram Pondicherry Branch

January 20, 2022: IAP Trichy Branch Monthly CME



January 23, 2022: IAP ID, CCB, North Arcot CME on "Fever in Children"

January 28, 2022: National Girl Child Day - IAP Cuddalore

January 05, 2022: IAP CCB Team 2022 Installation

January 23, 2022: Online awareness programme for School Children - IAP Coimbatore

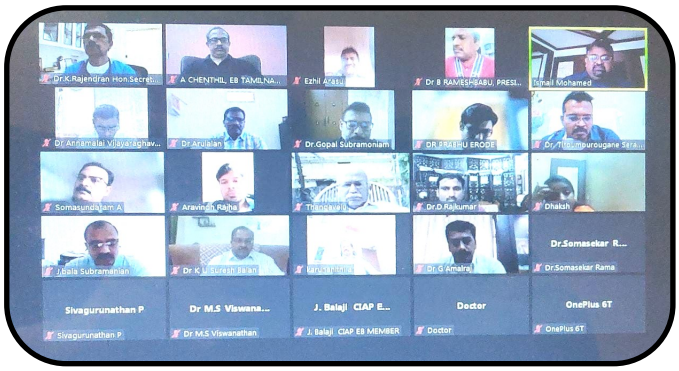
Events of IAP TNSC January and February

January 28, 2022 : National Girl Child Day, TKPN

January 28 , 2022 : National Girl Child day - TKPN

January 28, 2022 - National Girl Child day IAP and AHA Coimbatore with Shanti ashram

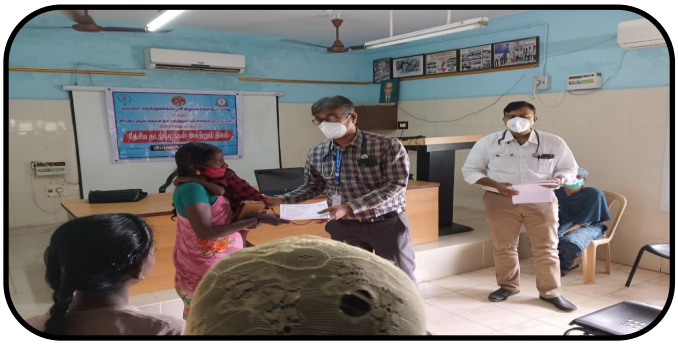
January 30 , 2022 : IAP CCB—CME on Vitamin D in Children



January 30 , 2022 : EB meeting

February 11 , 2022 : Diabetes Follow up camp Govt. Thanjavur Medical College with IAP Tanjore

February 10 , 2022 : TV live health show in which Dr. M. S. Viswanathan, Gastroenterologist answered questions



February 10, 2022 : National Deworming Day, IAP Tanjore

Events of IAP TNSC

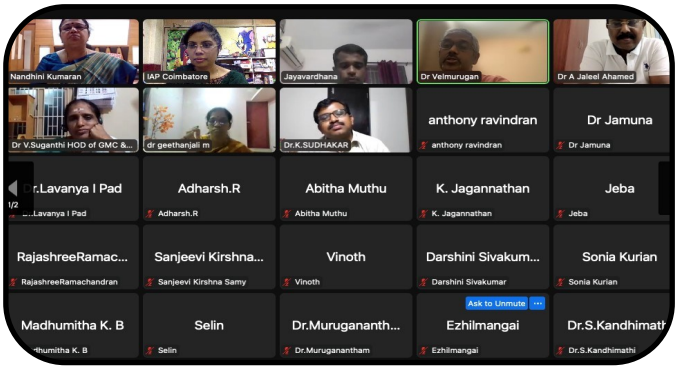
January and February

February 10, 2022 : National Deworming Day, IAP CCB

February 15 , 2022 : Basic Newborn Care and Breastfeeding Class at Kumbakonam GH

February 23, 2022 : Basic Neonatal Resuscitation Program- Dharmapuri Branch

February 27 , 2022 : Pulse Polio Immunization IAP Dharmapuri



February 2022 - IAP Coimbatore Pearls for Peers

Pulse Polio Immunization - IAP Madurai

Pulse Polio Immunization - IAP Thiruvannamalai

Pulse Polio Immunization - IAP Coimbatore

DENGUE FAQ

Dr.D.Rajkumar, MD, Associate Prof of Pediatrics, Madurai Medical College

1. When to suspect Dengue fever?

Dengue should be suspected when high fever (40°C/104°F) is accompanied by any 2 of the following symptoms: Severe Headache, Pain behind the Eyes, Muscle and Joint Pains, Nausea & Vomiting and Rash.

2. How will you confirm dengue fever?

National Vector Borne Disease Control Program (NVBDCP), Govt. of India recommends: 1. Use of ELISA-based NS1 antigen detection test from 1st day onwards 2. Doing IgM dengue by capture ELISA (MAC-ELISA) after 5th day of onset

3. What other antipyretic measures are needed to bring down the temperature apart from paracetamol?

Aspirin/NSAIDS like Ibuprofen, Mefenemic acid should be avoided since they can cause severe gastric mucosal erosion and bleeding & interfere with platelet function. Paracetamol alone is to be given at a dose of 10-15 mg/Kg body weight per dose 6th hrly.

4. What are the risk factors for the development of dengue shock syndrome?

Infants, Diabetes mellitus, Asthma, Obesity, Female sex and DEN-1 infection followed by DEN -2 infection

5. What warning signs of severe Dengue fever that one should look for?

Severe abdominal pain, persistent vomiting, rapid breathing, bleeding gums or nose, blood in vomit or stool, Fatigue & restlessness, Liver enlargement > 2 cm, Convulsions & altered sensorium, Jaundice and Laboratory finding of increasing HCT concurrent with rapid decrease in platelet count.

6. Can a Dengue case be followed up in OPD without admission?

Almost 70-80% of dengue fever can be treated on OPD basis. Vast majority of symptomatic infections do not progress to severe disease.

7. What are the Home monitoring prerequisites?

No warning signs, Can take oral feeds [3 solid feeds & 6-8 liquid feeds], Voiding urine at least 5 times per day, Lying in bed but actively moving about in the house & interacting with siblings, parents and Cooperative willing parents.

8. How do you do follow-up of dengue in OPD?

Twice daily visit, Look for – Presence of warning signs, Hydration status, fluids taken & urine output chart, PR, RR, Pulse volume and BP measurement, System exam- Fluid accumulation signs and CBC - look at HCT and platelet trend.

9. How to know whether patient has entered the critical phase?

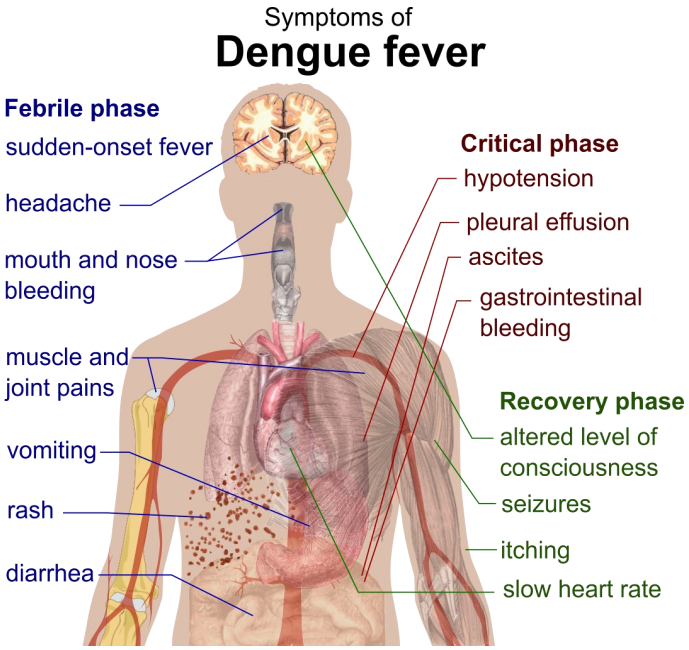
Platelet count less than 1 lakh, HCT rising above 20% from the baseline, Evidence of fluid leak in USG & CXR and Biochemical parameters showing S.Albumin less than 3.5[more than 0.5 gm. drop] & S.Cholestreol less than 100 [more than 20 mg drop],

10. Fever returning after D7 of illness in dengue

Suspect Sepsis, Co-infection with Enteric fever, Leptospirosis, Malaria & Scrub typhus and secondary HLH [Hemophagocytic Lymphohistiocytosis]

11. What is the prognostic significance of immature platelet count [IPF] in 5 part counter CBC:

IPF is a potential tool for predicting platelet recovery in dengue patients having thrombocytopenia. A single value of >10% is indicative of platelet recovery within 24 hrs.



12. What are the indications for platelet or blood transfusion?

In hospitalized patients with dengue, Platelet transfusion at predetermined set points (triggers) is to be discouraged because it can cause significant harm. Dengue causes damage to the endothelium results in an excess of UL-vWF and deficiency of ADAMTS13. Transfusion of platelets alone without replacement of ADAMTS13 may lead to further platelet plugs and microangiopathy.

Indications for Platelet or blood transfusion: 1. Platelet count less than 10000/cu.mm even in absence of bleeding manifestations 2. External or Hidden Haemorrhage with or without thrombocytopenia [Packed cell transfusion/FFP along with platelets may be required in cases of severe bleeding with coagulopathy]

13. Does prophylactic use of colloids like Dextran 40 / Starch prevent the occurrence of DSS?

Pre-emptive use of colloids did not provide any benefit over crystalloids treatment in patients with moderate shock. So colloids have no prophylactic role. Indications for colloids: 1. During the critical phase in the management of shock after 2 crystalloid boluses if the pulse or BP has not picked up. 2. Development of shock when already child is having fluid overload or amount of fluid already received is more than Maintenance plus 5% deficit [50ml/kg]. Remember that Dextran interferes with coagulation pathway and blood grouping & cross matching, Gelatin can cause allergic reactions and Starch can cause coagulopathy & renal dysfunction.

14. Role of inotropes in Dengue Fever?

Consider using inotropes only if persistent hypotension persists even after adequate fluid resuscitation. Before starting inotropes, confirm adequate volume of blood in circulation by adequate CVP.

15. Is there a role for Prophylactic FFP?

FFP readily leak; will not hold BP for long. May lead to fluid overload similar to crystalloids. Do not reduce bleeding outcome in DHF/DSS. So no prophylactic role.

Lifestyle for a Secure and Assured future

Dr. K.V. Arulalan, Senior Consultant Pediatrician, Katpadi

Kumarappa describes 5 types of Living:

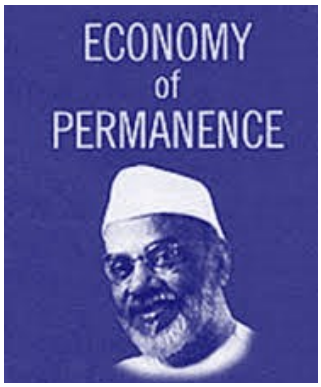
JC Kumarappa (1892-1960). Charted accountant trained from Britan and Economist from Coloumbia university

Mahatma Gandhi economic advisor and lived with him at Sevagram near wardha (Which is now a central Institute)

Many contribution like KVIC to India, but he gave the root word for sustainable development. Economy of permanence.

A. Parasitic Economy [eg-Killing a child for its Necklace]

- Selfishness motivated by greed.
- Intention: Benefiting himself regardless of any injury his actions may cause to others.
- Harming, if not destroying, the source of benefit.
- Emphasis wholly on one's own rights.
- Absence of recognition of one's duties.
- Absence of altruistic values.
- Productive of violence



A robber killing a child for its necklace

B. Predatory Economy: Pick pocket

- Selfishness motivated by desires.
- Intent on his own benefit and attempts to attain it, if possible without much harm to his victim.
- Emphasis wholly on rights.
- Little or no recognition of one's duties.
- Absence of altruistic values.
- Productive of violence.

A honey bee collectang food, not for itself, but for the whole colony

C. Economy of Enterprise: A Pediatrician in private practice. Give money and I will give you service.

- Motivated by enlightened self-interest and ambition.
- His sense of self-respect demands his contributing his personal labour, thought and effort, taking only the benefit so occasioned.
- Venturesomeness and a willingness to take risks.
- A desire to benefit co-workers, and others too, if possible.
- An attempt at a balance of rights of all.
- An increasing recognition of duties to others.
- Based on sense of justice and fair play.
- May occasion violence.

A pickpocket at work

D. Economy of Gregation: Not working for the self but for the group. Honey bee. Cooperative societies

- Motivated not by individual self-interest but by the common interests of the group.
- Submission to the will of group leading perhaps to even self-abnegation and sacrifice of personal interests.
- Emphasis on the duties to the group.
- One's contribution being regarded more important than one's share of benefit.
- Based on altruistic values.
- May lead to violence to those outside the group.

All the four will not give sustainable development. Then what will?

- Work with out expecting anything in return. E.g.
  1. Bird feeding the young
  2. Giving water to the travelers on the road.

How this can be done?

- By customised and individualized approach
- Our current aim is to create community volunteers – Part time
- Impart them skills based on Nai Talim of Gandhiji.
- As a pilot study at Vallimalai about 25 kms from Vellore.

..To be continued in next issue

Noble IAPian Dr.D.Jagadeesh Kumar, EB member IAP Thiruvallur donated Rs.20 lac worth of plot to his school. IAPTNSC salutes his great gesture

It's nobler to give than to take. The thrill of taking lasts a day. The thrill of giving lasts a lifetime

- Joan Marques

Reminder to District branches to send the Annual Branch contribution to IAP TNSC if they have not yet sent.

Scrub Typhus FAQ

Dr. J. Balaji MD, Associate Prof of Pediatrics, Govt Dharmapuri Medical College

1. How common is Scrub typhus in India?

A study from Central India was showing that 45.6% of fever cases are Rickettsial disease including Scrub Typhus. A study from GDMCH, dharmapuri from Aug' 2011 to Jan' 2012 was showing that 151 out of 381 (40%) fever cases were positive for Scrub typhus. A multi centre study done in various intensive care units all over India showed that scrub typhus was the second commonest cause of tropical fevers causing admission in ICU's.

2. Etiological agent & Transmission reservoirs:

Caused by Orientia Tsutsugamushi. Transmitted through the bite of an infected Chigger (larval stage of Trombiculid mites) while walking, sitting or lying on the infested ground. Reservoirs: Wild Rats, Field Mice, Birds & Trombiculid Mite.

3. Why Scrub typhus is a re-emerging infection? Where Chiggers usually present?

Changes in Land use land cover (LULC), Rapid urbanisation, Population explosion, Strain on sanitation and Increased diversion of forest land for agricultural use are the reasons for re-emerging scrub typhus infection. Chiggers usually seen in the Rice fields, Low lying trees, Bushes, River banks, Kitchen gardens, Grassy lawns.

4. What are the key clinical features?

Acute febrile illness, Lymphadenopathy, Hepatosplenomegaly, anaemia with thrombocytopenia, Capillary leak, generalized edema and ESCHAR at hidden areas (skin folds) are the key clinical features of Scrub Typhus.

5. What is ESCHAR? Where to look for?

Eschar is a single most diagnostic clue in scrub typhus & is a solitary painless eschar with an erythematous or black ring on the site of chigger bite (7-97%) found in areas where skin is thin, moist or wrinkled and where clothing is tight like Axillae, Genitalia, Scalp, Inguinal area, Perineum, neck and behind the ear.

6. If not diagnosed earlier and treated, what are the complications?

After the first week of illness, patient can develop pneumonitis, ARDS , shock , jaundice , renal failure, meningoencephalitis , hearing loss , sudden loss of vision , pancreatitis , myocarditis , DIC and MODS. In pregnant women, it might cause, it cause IUD, preterm & LBW babies.

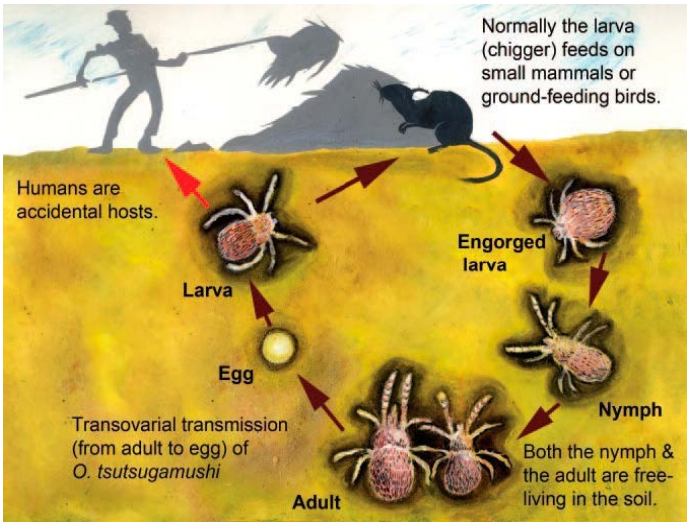
7. When a child is presenting Fever, Thrombocytopenia and shock, how to differentiate Dengue shock syndrome from Scrub typhus?

Scrub Typhus – Hepatosplenomegaly, abdominal Lymphadenopathy (Perihilar, hepatic), mild ascites, mild pleural effusion, elevated CRP & WBC and HCT normal or low during shock. Dengue - Massive hepatomegaly, more fluid leak (more ascites, bilateral pleural effusion), normal CRP, leukopenia and elevated HCT during shock.

8. 8. Investigations for Scrub Typhus?

IgM ELISA Technique (INBIOS Kit) 91% sensitive & 100% specific. Helpful after 5-7 days of onset of disease. Optical density > 0.5 for IgM Ab – typhus positive. Weil Felix Test [Heterophile Ab Test] -Cheap, available in many places, Not a very high sensitive and specificity test and a titre of 1:80 is to be considered possible infection.

Rapid immunochromatographic test for detection of IgM & IgG Ab is available. Indirect Immunofluorescence Assay (IFA) & Indirect Immunoperoxidase Assay (IIP) - Gold Standard, Expensive, Not available in India . Nested PCR in whole blood & Eschar - Rapid, diagnostic test at early stage



9. 1 yr old child became positive for scrub typhus. How to treat?

DOXYCYCLINE - Dose: 4.5 mg/kg/day in 2 divided doses (<45 kg) with plenty of fluid during meals. 200 mg/day in 2 divided doses (>45 kg) Duration: 7 days (or) at least till 3 days afebrile period. Doxycycline is Safe in children even below 8 years and can be used in any age. Teeth discolouration occurs only after multiple days of therapy. AZITHROMYCIN - Single dose of 10mg/kg for 5 days as a 2nd line drug. May be started even initially in critically ill children when the child not tolerating or not improving with doxycycline.

10. How to manage very sick children who cannot take orally:

IV Doxycycline: 4.5mg/kg/day in 100 ml normal saline IV Infusion over 1 Hour – 7 to 15 days.

IV Azithromycin: 10mg/kg/day in 100 ml normal saline IV Infusion over one hour – for 5 Days IV.

IV Azithromycin: should not given as IV Bolus as it may cause long QT interval and sudden death.

11. Why Pseudo thrombocytopenia is seen in Scrub Typhus? How to solve this problem?

It is seen due to in-Vivo EDTA-dependent artefactual platelet clumping. It is seen as Left peak in WBC histogram & Saw-tooth appearance in platelet histogram. Careful Peripheral smear examination and CBC reanalysis using sodium citrate or heparin.

12. Differential diagnosis for Eschar?

Cutaneous anthrax, Cutaneous Leishmaniasis, Ecthyma Gangrenosum , Spider bite, Tularemia, Aspergillosis , Rickettisial pox, Tick typhus and Meningococcemia.

13. How to prevent Scrub typhus?

Natural strains are heterogeneous so, no complete protection against reinfection. Preventive measures:

1) Protective clothing

2) Do not sit or lie on bare ground or grass

3) Use a suitable ground sheet or other ground cover

4) Insect repellents & miticides - dibutylphthalate, benzylbenzoate, diethyltoluamide applied to skin (or) clothing

5) Single dose of Doxycycline weekly for six weeks.

FAQs in Typhoid Fever

Dr. R.V Dhakshayani MD, Editor IAP TNSC, Associate Prof and Head of Pediatrics, Nagapattinam Medical College

1. What does 'Enteric Fever' mean?

It includes typhoid fever caused by Salmonella typhi (around 80%) and paratyphoid fever caused by Salmonella paratyphi A or B (20% of all cases). Enteric fever is acute generalized infection of reticuloendothelial system with predilection for intestinal lymphoid tissue and gallbladder.

2. How is the diagnosis of Enteric Fever commonly made in office practice?

Most common cause of fever without focus - clinical diagnosis. Infants & young children - fever, vomiting, diarrhoea. Older children - progressive increase in temperature (step ladder pattern) over 5 - 7 days, coated tongue, toxic appearance, anorexia, abdominal pain, cough, lethargy. Clinical signs - hepatomegaly, soft splenomegaly, tender abdomen and relative bradycardia. Rash - Rose spots are very rarely seen in Indian children.

3. How will you make definitive diagnosis of Enteric Fever?

CBC-Total leukocyte count-normal or low, with neutrophilia and eosinopenia, thrombocytopenia (severe disease, DIC) CRP - elevated, LFT - mild elevation of transaminases.

Blood culture and sensitivity - Gold standard investigation for diagnosis. 90% yield in first week and up to 40% in the fourth week of illness.

Bone marrow culture - in pyrexia of unknown origin (PUO) in later stages of the illness; remains positive even after antibiotic therapy. Stool and urine cultures -not recommended due to poor yield.

4. What is the ideal time to do a blood culture for Salmonella ?

First week of suspected illness, preferably before initiating an antibiotic. Salmonella is an easy organism to culture and antimicrobial sensitivity results are important for treatment. Paired cultures are to be sent; ideal total volume of blood - 5–10 mL with a blood: broth ratio of 1:5.

5. What are the other investigations available to diagnose Enteric Fever?

Widal test: It detects presence of immunoglobulin M (IgM) and IgG antibodies against H (flagellar antigen) and O (somatic antigen) of S.typhi and paratyphi A & B in the second week of illness. Tube method is better than the slide method; antibody titer of both O and H in range of 1:160 dilution or more is taken as positive.

Fourfold rise in titre in paired samples done 1 week apart is the conventional method.

6. What are the limitations of Serological tests?

Serological tests are not diagnostic, may be supportive and should not be relied upon for patient management decisions. Low sensitivity and specificity.

False positive Widal - malaria, rickettsial infection, or infection with other Enterobacteriaceae

False negative Widal - patients treated with prior antibiotics.

Clinicians should defer from diagnosing and treating enteric fever based on Widal alone.

7. What are the treatment modalities available for Enteric fever?

The main stay of treatment of typhoid is specific antibiotic therapy. Inpatients - persistent vomiting, diarrhoea, abdominal distension, toxemia, complications. Meticulous general supportive measures like maintaining proper hydration, good nutrition, antipyretics and other symptomatic treatment when indicated.

Contrary to popular belief, there is no need to restrict any type of diet in cases of typhoid. Measures like maintaining proper hydration, good nutrition, antipyretics and other symptomatic treatment when indicated.

8. Inpatients, severe illness & complications -

First choice drug - Inj. Ceftriaxone -100 mg/kg/day in 2 divided doses up to max of 4 g/day; switched over to oral Cefixime as soon as possible (mean time for defervesence is 6-8 days)

In enteric fever, MIC ≤1 for Ceftriaxone is associated with excellent clinical outcome. Second choice - Inj. Cefotaxime-150 -200 mg/kg/day upto a max. of 12 g/day (concomitant hepatitis). Aztreonam can be used at a dose of 50 -100 mg/kg/day in three divided doses for 7-14 days, up to maximum of 8 g; IV/IM. Second choice mainly in MDR cases allergic to the cephalosporins& in complicated MDR typhoid, not responding to parenteral third generation cephalosporins. Fluoroquinolones are not recommended for children.

9. OPD Management of Enteric fever:

First choice - Tab. Cefixime 20 mg /kg/day in 2 divided doses up to max of 1.2 g (available as 200 mg, 400 mg tablets, syrups 100 mg, 200 mg) for 2 weeks; similar in efficacy to Ceftriaxone & superior to quinolones

Second choice - Tab. Azithromycin 10-20 mg/kg/day once a day up to max of 1g/day in uncomplicated typhoid and quinolone resistant strains (should not be used routinely as it is a reserve drug for XDR Enteric fever and in relapse). Prolonged QT interval - cautious use with potentiating drugs

10. When do we expect response to treatment in Enteric fever ? What is the recommended duration of treatment?

The usual duration for defervescence in enteric fever is 5 to 6 days in optimally treated cases. Most children become afebrile within 7 days of treatment; but treatment should be continued for at least 14 days in uncomplicated cases or up to 7 days after defervescence, whichever is later. Azithromycin is used for a total of 7 days.

11. How do you clinically make out defervescence in Enteric Fever?

Subsidence of fever, Decrease in temperature spikes, Return of appetite, Perceived sense of 'well being'

Time taken for defervescence - 5 to 6 days in optimally treated cases.

12. What is meant by Clinical Failure?

In spite of using in vitro susceptible drug in correct dose, child continues to have fever with toxaemia beyond one week. Seen in 5-10% cases. Switch to alternative sensitive drug like azithromycin or quinolones; do not use antibiotic combinations. Consider other causes of fever - drug fever, thrombophlebitis, coinfections (malaria and hepatitis A) and complications like hemophagocyticlymphohistiocytosis (HLH). Culture negative Typhoid fever - review diagnosis with careful history, physical examination, and repeat investigations.

13. What is relapse?

Recurrence of fever 2-3 weeks after its initial resolution ;usually milder. Relapse rate of 5–20%.

Cultures should be obtained and standard treatment should be administered. They respond well and quickly to the same drug as used for primary therapy, but in proper doses and right duration. Azithromycin is a good alternative, if the child does not respond to first line drug. Relapse can be differentiated from reinfection only by molecular typing.

You Are Welcome

We invite articles - Science, Fiction, Finance, General (politics excluded) for the future issues of the IAP TNSC Newsletter, a monthly edition in the e-format. Please send your thoughts and creations to newsletteriaptnsc@gmail.com to share them with Pediatricians, across the State.

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Upcoming IAP TNSC Events - March 2022

- Undergraduate Clinics - March 5
- Postgraduate Clinics - March 12
- Medicolegal Issues in Pediatric Practice - March 13
- Postgraduate Clinics - March 26
- IAP TNSC Monthly CME on Developmental Pediatrics - March 27

Upcoming Commemorative Days - March 2022

- World Birth Defects Day - March 3
- World Hearing Day - March 3
- World Obesity Day - March 4
- World Kidney Day - March 11
- World Down Syndrome Day – March 21
- World Tuberculosis Day - March 24

OBITUARY

On 06/2/2022, Dr. Chandrasekar, Alumni of Thanjavur Medical College F/o Dr.C. Rajeswaran, Mannargudi reached heavenly abode. May his Soul Rest in Peace

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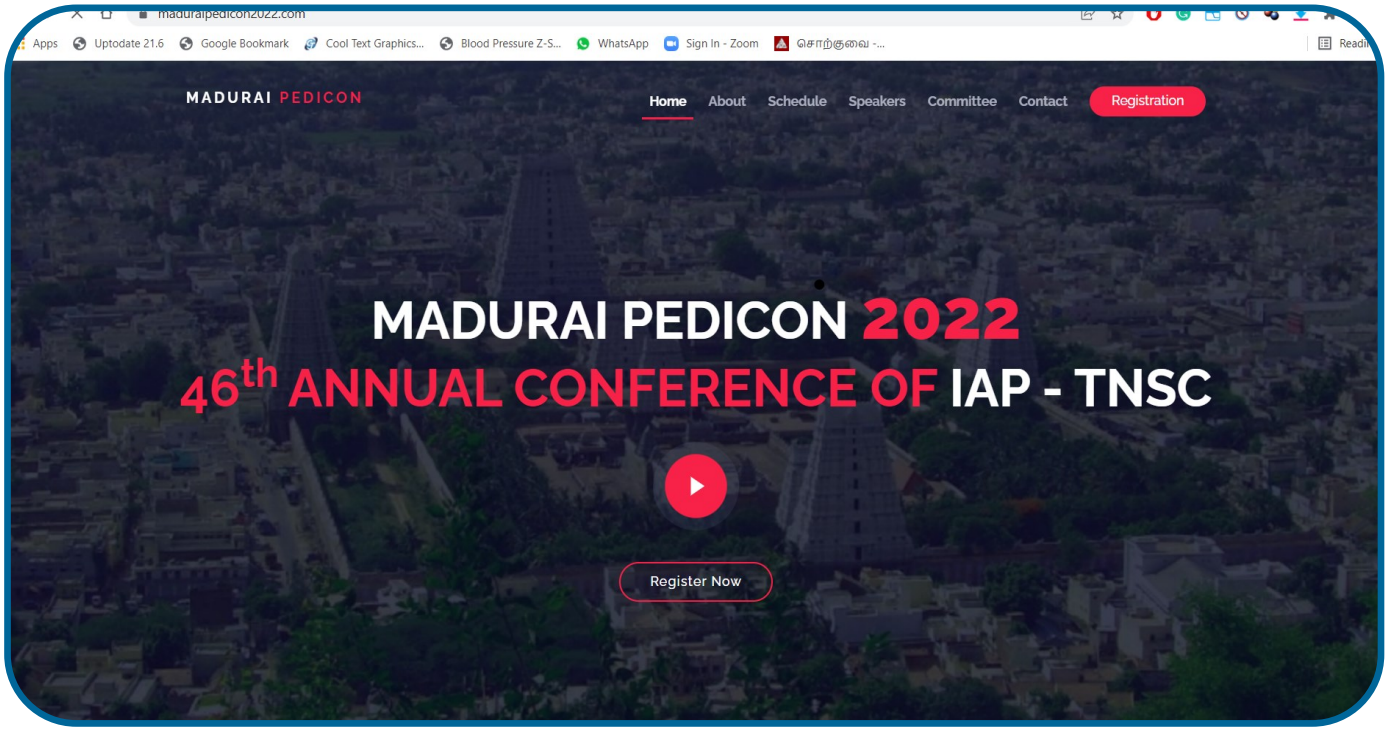
The Newsletter Team, IAP TNSC



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