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Earnest request to all

DIAP Members
to become

CIAP Members
at the earliest,
if not already done.

Dr Lalit Mendiratta
President
IAP Delhi

Dr Manish Gupta
Secretary
IAP Delhi

Dr Pankaj Garg
Editor
Treasurer, IAP Delhi

Index

IAP Delhi Editor's Pen

Dr Pankaj Garg

Treasurer cum Secretary Elect.
IAP Delhi

Dear Delhi IAP Members,

I am very happy to present before you the IAP Delhi **Third Monthly e-Journal of Delhi Pediatrics** and I thank the **Editorial Board and the EB members of Delhi IAP** for working hard to bring the Journal every month in time. I also thank you all for appreciating all the previous issues of Delhi Pediatrics.

In continuing with our efforts to keep all of you updated we have articles which deal with the **Gastroesophageal Reflux (GER)** and **BCG Vaccine**. In our column **"Tip of the month", a rheumatological tip of interest** is being discussed. **Coarcation of aorta** may have varied presentations and the same is highlighted in **"Peeping into heart".** We have kept the articles short and in crisp format for easy reading. We have also continued with **Journal Clippings in this Issue**. The **Photo and X-ray quizs** have added more color to the journal and we have received some responses as well, Keeping the same tradition, we have shared one **Photo and X-ray quiz in this issue**. **Crossword** is there again. I request you to send the answers on the **e-mail of the Delhi Secretariat** and we will be publishing names of all sending the correct answers of the quiz and the crossword in the next issue. We have also included a parent teaching oriented article on **"Screen time for children"** which solves the common questions frequently asked by the parents. **Management of "Otitis Media"** is being presented in the column **"Prescription writing"** in which we wish to keep much focused prescription skill in a common disease. We hope the readers find these features of interest.

We have also included the **Activities done in the month of March 2021 along with the calendar of future planned events.**

Life is not only academics but definitely much more than that. We have included a **page dedicated to the creative writing by the members in form of poems or short**

Index

stories. We have received lots of **poems and short stories and Dr Deepak Gautam, President Elect, IAP Delhi** has reviewed them. We are including three in the current edition and the rest will be included in next edition. I hereby request all of you to send your articles for publication as well.

Happy reading,

Long Live IAP.

Jai Hind.

Dr Pankaj Garg
Treasurer cum Secretary Elect.
IAP Delhi

Index

IAP Delhi President's Pen

Dr Lalit Mendiratta
President
IAP Delhi

Dear Friends,

HAPPY HOLI to our IAP DELHI Members

It gives me a great pleasure to write the introduction of third issue of E journal from IAP Delhi. This also has been an eventful period for all of us. I m feeling so proud of the fact we had a successful historical Cyclathon event organized by IAP Delhi. It was a wonderful event organized first time ever in the history of **IAP Delhi and was inaugurated by Honorary CIAP president Dr. Piyush Gupta and Vice President CIAP NZ Dr. Sangeeta Yadav.** The event theme was cycling for health and happiness with around 100 participants from IAP Delhi. This was really one of my most favorite event which I had planned in my vision and really I am really thankful to everyone from my heart for the successful completion of this event.

We had successful **E Dermapedia with over 200 plus participants in February and Successful Gastropedia in March with over 150 participants**. The enthusiasm of participation of members in these two events is really a great source of encouragement for us.

As per our commitment to society we had a successful **Medical Camp at SOS Village Greenfield Colony Faridabad on 16th March Sunday**. It is always a pleasure to work and be among with underprivileged children. I am also very happy to announce that as promised to orphanage society Children of the World we donated ₹ **50,000/-** for them for their construction of boundary wall repair as was requested by them during our first medical camp held on 31st January 2021 this year in their campus.

I am really proud of my team who has been working relentlessly with me and special thanks to my dear secretary Dr. Manish Gupta who has made all the efforts to make our events successful.

Index

IAP Delhi Secretary's Pen

Dr Manish Gupta
Secretary
IAP Delhi

Dear IAP Delhi Members,

Hello Friends,

I thank all my fellow Pediatricians of Delhi for participating in good numbers in **E DERMATOPEDIA, E GASTROPEDIA and CYCLATHON 2021**. These were one of the best both academic and physical fitness events which were appreciated all over India.

This year we have planned to update the IAP Delhi Directory and we will take all the updated member information for it.

We have already conducted three CIAP Modules and many are in in advance stages of planning.

I request all IAP Delhi members to participate in the CIAP Modules and learn from the experts about latest science behind the topics.

I do urge all members to give your suggestions and comments for our IAP Delhi activities at iapdelhi2@gmail.com.

HAPPY HOLI to our IAP DELHI Members

Regards

Dr Manish Gupta
General Secretary 2021
IAP Delhi

Index

Section I: Academic

Gastroesophageal Reflux Update

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Introduction

Gastroesophageal reflux (GER) is the passage of gastric contents into the esophagus with or without regurgitation and vomiting. It occurs several times per day, particularly after meals, and is a completely normal physiologic process. In otherwise healthy, thriving infants, episodes of GER are frequently associated with expulsion of gastric contents from the mouth, and this normal, usually effortless event is known as "spitting up, posseting, or spilling." GER should be differentiated from vomiting that is generally forceful and results from different physiologic mechanisms. Gastroesophageal reflux disease (GERD) is when GER leads to troublesome symptoms and/or complications. Refluxed gastric contents contain acid, bile, and digestive enzymes that can be caustic to the mucosal lining of the esophagus, pharynx, and airway. A variety of protective mechanisms (TABLE 1) prevent damage to the esophagus and airway.

When these mechanisms fail or are overwhelmed, gastroesophageal reflux disease (GERD) occurs, manifested by various symptoms and signs. The prevalence of reflux is as high as 50 percent in children below 6 months of age and it reduces to 10 percent by 12-24 months of age. Approximately 20 to 25 percent of these infants have pathological reflux or GERD. In older children, the prevalence of GERD reduces to 5-10 percent. The rapidly increasing prevalence of obesity is causing a rising prevalence of GERD. The risk of GERD symptoms is associated with the increase in body mass index and waist circumference, even in normal-weight children. The diagnostic and treatment approach in a given patient broadly depends on the specific presenting symptoms or signs, possible concurrent diagnoses, the expected natural history of any underlying disorder, and the age of the child.

TABLE 1: Protective Mechanisms Against GERD
Protection of the Esophagus
Lower esophageal sphincter
Esophageal capacitance and clearance
Mucosal mucus and bicarbonate secretion
Swallowed saliva buffering residual acid
Protection of the Airway
Upper esophageal sphincter
Esophageal-glottal closure reflex
Reflex apnea
Pharyngeal clearance
Cough Ciliary airway clearance

CLINICAL MANIFESTATIONS

POPULATIONS AT RISK FOR GERD:

While severe and/or chronic GERD may occur in children who are otherwise quite healthy, this is uncommon. In contrast, the prevalence of severe, chronic GERD is much higher in those with certain underlying disorders such as neurologic or neuromotor impairment, previous esophageal surgery (e.g., for repaired esophageal atresia [EA] or diaphragmatic hernia), chronic lung disease (e.g., cystic fibrosis), and chemotherapy. Such patients have several factors that promote severe reflux and compromise esophageal clearance. Hiatal hernia is an important contributing factor to severe reflux, found in up to 40% of children with severe esophagitis. Another factor placing children at risk for GERD is obesity. In adults, both obesity and incremental weight gain have been shown to increase the prevalence and severity of GERD, Barrett's esophagus, and esophageal adenocarcinoma.

SYMPTOMS AND SIGNS:

Although reflux does occur physiologically at all ages, there is at all ages also a continuum between physiologic GER and GERD leading to significant symptoms, signs, and complications (TABLE 2). Atypical symptoms such as epigastric pain, nausea,

flatulence, hiccups, chronic cough, asthma, chest pain, and hoarseness account for 30% to 60% of presentations of GERD. Possible associations exist between GERD and asthma, pneumonia, bronchiectasis, ALTE (acute life-threatening event), laryngotracheitis, sinusitis, and dental erosion, but causality or temporal association have not been established. Red flag signs which suggest an alternate diagnosis than GERD and warrant further investigation are summarized in TABLE 3.-

TABLE 2: SYMPTOMS AND SIGNS THAT MAY BE ASSOCIATED WITH GASTROESOPHAGEAL REFLUX

SYMPTOMS	SIGNS
Recurrent regurgitation with/without vomiting Weight loss or poor weight gain	Esophagitis
Irritability in infants	Esophageal stricture
Ruminative behavior	Barrett's esophagus
Heartburn or chest pain	Laryngeal/pharyngeal inflammation
Hematemesis	Recurrent pneumonia
Dysphagia, odynophagia	Anemia
Wheezing	Dental erosion
Stridor	Feeding refusal
Cough	Dystonic neck posturing (Sandifer's syndrome) Apnea spells
Hoarseness	Apparent life-threatening events (ALTEs)

Children with congenital malformations, neurologic impairment, and chronic lung disease (especially cystic fibrosis) have the most severe GERD and are at high risk for the development of complications of GERD. Barrett's esophagus, strictures, and esophageal adenocarcinoma are complications of chronic severe GERD. Frequency, severity, and duration of reflux symptoms are related to the risk for developing esophageal cancer. Esophageal peptic ulcer caused by GERD and esophageal neoplastic changes are rare in children.

TABLE 3: WARNING SIGNALS REQUIRING INVESTIGATION IN INFANTS WITH REGURGITATION OR VOMITING
• Bilious vomiting
• GI bleeding
• Hematemesis
• Hematochezia
• Consistently forceful vomiting
• Onset of vomiting after 6 months of life
• Failure to thrive
• Diarrhea
• Constipation
• Fever
• Lethargy
• Hepatosplenomegaly
• Bulging fontanel
• Macro/microcephaly
• Seizures
• Abdominal tenderness or distension
• Documented or suspected genetic/metabolic syndrome

DIAGNOSIS

In the infant with recurrent regurgitation or 'spitting', a thorough history and physical examination with attention to warning signals suggesting other diagnoses is generally sufficient to establish a clinical diagnosis of uncomplicated infant GER. While most reflux in infants is benign, some infants merit additional testing. While the presence of warning signs obviously merits additional testing, the more difficult subgroup of patients is the group of infants presenting with fussiness, crying and arching with or without spitting but who otherwise are thriving. In the absence of warning signs, diagnostic testing and/or therapies including acid suppression are NOT needed if there is no impact of the symptoms on feeding, growth or acquisition of developmental milestones.

Onset of GERD symptoms after the age of 6 months or persistence of symptoms beyond 12 months raises the possibility of alternative diagnoses to infant GER. Because these symptoms are not unique to GERD, referral to a pediatric gastroenterologist for evaluation to diagnose possible GERD and to rule out other diagnoses is recommended. The goal of additional testing is to rule out mimickers or complications of GERD. Testing may include laboratory tests, contrast imaging, upper GI endoscopy and/or esophageal pH/MII, depending on presenting symptoms.

Barium Study:

While the use of upper GI barium contrast to establish or negate a diagnosis of GERD in infants and children is not supported by literature nor clinical practice, the test does carry some utility in the evaluation of infants and children with alarm signs or in patients with symptoms that are particularly intense or not responsive to traditional therapies in order to evaluate for anatomic abnormalities such as hiatal hernia, malrotation, pyloric stenosis, duodenal web, duodenal stenosis, antral web, esophageal narrowing, Schatzki's ring, achalasia, esophageal stricture, and esophageal extrinsic compression. For patients with extraesophageal symptoms, barium imaging can serve several important roles, including evaluation for tracheoesophageal fistulae or of esophageal stasis putting patients at risk for aspiration. Videofluroscopic swallow studies (VFSS), while not assessing for gastroesophageal reflux, do assess for oropharyngeal dysphagia with resultant aspiration, the symptoms of which are mimickers of GERD.

Esophago-gastro-duodenoscopy (EGD) with/without biopsy:

EGD helps direct visualization of esophageal mucosa and lower esophageal sphincter as well as to obtain biopsies to rule out other conditions. Visible mucosal breaks in lowermost esophagus are the hallmark of reflux esophagitis and on histology, basal zone hyperplasia and elongation of papilla are seen. EGD is useful to evaluate the mucosa in the presence of alarm symptoms (such as hematemesis), to detect complications of GERD (such as strictures, Barrett esophagus), to diagnose conditions that predispose to GERD (such as hiatal hernia) or to diagnose conditions that might mimic GERD (such as eosinophilic esophagitis, infectious esophagitis).

24 hour esophageal pH monitoring:

It is used to quantify the frequency of acid reflux over 24 hours using a pH probe

fixed in lower esophagus and is expressed as Reflux Index (percentage of time esophageal pH <4). The demonstration of a time association between GER episodes and symptoms is one of the major indications for this technique. Importantly, it does not measure nonacid reflux events. Non-acid reflux particularly in young infants and children is common, and pH-metry is blind to reflux episodes with pH > 4, which comprises 45% to 89% of pediatric reflux episodes and can also cause symptoms such as discomfort or may lead to other complications of GERD such as aspiration. In conclusion, there is insufficient evidence to support the routine use of pH-metry for the diagnosis of GERD in infants and children. pH-metry may be helpful in correlating symptoms with acid reflux episodes. This is of particular importance in differentiating NERD from other acid disorders, such as functional heartburn. In patients with persistent symptoms or esophagitis in high-risk patients despite acid suppression, performance of pH-metry may be helpful in determining the degree of breakthrough acid as these patients may be inadequately acid suppressed on standard medication doses.

pH-Impedance Monitoring (pH-MII):

MII measures electrical potential differences. Electrical impedance changes as a bolus of fluid or air passes between electrical sensors along a catheter. As a consequence, the detection of reflux with MII is not pH dependent, but in combination with pH-metry MII allows detection of acid (pH <4.0), nonacid, or weakly acidic (pH 4.0-7.0) and alkaline reflux (pH > 7.0). It also enables simultaneous determination of esophageal clearance times and acid exposure with very rapid response times. Since a large proportion of GER episodes are nonacid in infants (particularly postprandial GER) and children, this technology substantially improves the potential ability to determine if there is an association of symptoms and GER episodes. This is currently the gold standard technique for diagnosing GERD.

Esophageal manometry:

Manometry has poor specificity and sensitivity for diagnosing GERD. It is recommended in pre and post-operative evaluation of children planned for fundoplication to rule out esophageal motility disorders which may have a presentation similar to GERD.

Nuclear Scintigraphy:

Evaluation for GER using scintigraphy is performed by oral ingestion or instillation of technetium-labeled formula or food into the stomach. Images are obtained every

20–30 seconds for one hour and the number of episodes of postprandial GER or any episodes of aspiration into the lung are observed. However, a lack of standardized techniques, absence of age-specific normative data, and a lack of sensitivity limit the value of this test.

Trial of Proton pump inhibitors:

There is no evidence to support empirical PPI therapy for the diagnosis of GERD in infants. Expert opinion suggests that in an older child or adolescent with typical symptoms suggesting GERD, a diagnostic trial of PPIs can be justified for 4-8 weeks.

MANAGEMENT

The mode of treatment depends upon various factors like age of presentation, symptoms, severity of disease and associated comorbidities. The goal is to decrease the symptoms, prevent complications while simultaneously preventing the side effects of various treatment modalities. Another important aim is to maintain normal growth and development. The treatment options can be non-pharmacological or pharmacological. Non pharmacological measures consist of lifestyle modifications, feeding volumes and feeding position, feed thickeners, and hypoallergenic formulas. Pharmacological modalities include various drugs like PPIs, H2 receptor antagonists, prokinetics, baclofen, and antacids or surface agents. Refractory GERD is GERD not responding to optimal treatment after 8 weeks. It is common in children with neurological impairment, post esophageal surgery for TEF. Most of them have associated abnormalities such as esophageal dysmotility, delayed gastric emptying or swallowing dysfunction. These children would need specialized care at a specialist center for further evaluation to assess the need for anti-reflux surgery.

Feed Thickeners:

They may reduce visible regurgitation by reducing the maximum height of the refluxate as seen in various pH and impedance studies but the impact on non-regurgitation symptoms is less clear. It may be advised to term infants with mild disease. In preterm babies, they may lead to necrotizing enterocolitis and in term infants, may cause diarrhea due to increased osmolality.

Feed Volume & Position:

Various studies have shown that prone and left lateral positions decrease GER, de-

spite that no position other than supine is recommended due to increased risk of sudden infant death syndrome. Car seat position or use of chairs can paradoxically increase the reflux due to raised intra-abdominal pressures in infants, hence is not recommended. Basic measures such as burping the infant and keeping the infant upright after feeding often help. Adolescents or older children can use left lateral position or head end elevation to reduce symptoms.

Hypoallergenic Formula:

Since symptoms of GERD and CMPA may mimic each other, a short trial of extensively hydrolyzed formula may be considered in children who are top fed.

Proton pump inhibitors & H2 receptor antagonists:

PPIs are the first-line treatment of reflux-related erosive esophagitis in infants and children with GERD. H2RAs may be used for the treatment of reflux related erosive esophagitis in infants and children if PPIs are not available or contra-indicated. PPIs and H2Ras are not be used for the treatment of visible regurgitation or crying/distress in otherwise healthy infants. A 4–8 week course of H2RAs or PPIs may be considered for treatment of typical symptoms (ie, heartburn, retrosternal or epigastric pain) in children with GERD. They should not be used in patients with extraesophageal symptoms (ie, cough, wheezing, asthma), except in the presence of typical GERD symptoms and/or diagnostic testing suggestive of GERD. There is no difference in efficacy between various available PPIs.

Prokinetics:

There is little evidence supporting the use of prokinetics like domperidone or metoclopramide in GERD and these may have a potential for side effects like extrapyramidal symptoms with metoclopramide and cardiac arrythmias with domperidone.

Baclofen:

It is a GABA receptor agonist and reduces the frequency of transient lower esophageal sphincter relaxations. There is a paucity of controlled trials regarding its efficacy in children.

Antacids:

These are not recommended in children due to low efficacy and potential side effects like aluminium toxicity and milk alkali syndrome.

Fundoplication:

Surgical interventions are indicated only when medical management is unsuccessful, in infants with acute life-threatening events related to GERD, persistent troublesome symptoms despite adequate measures and in children with GERD related complications such as peptic stricture and Barret's esophagus. Laproscopic or open surgery may be considered. Before surgery, associated anomalies like hiatus hernia, esophageal dysmotility or malrotation should be ruled out. The median success rate after the surgery has been around 86 % for esophageal symptoms. For those very few children with severe GERD and severe neurodevelopmental disorders where oral feeding is unsafe or undesirable, esophagogastric disconnection has been reported to improve quality of life.

BCG Vaccine

Efficacy & Indications for Vaccination & Uses

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New Delhi

Abstract

BCG vaccine has been used since 1921. However, the data concerning its use are variable and inconsistent. The protective efficacy of the first dose of BCG vaccine against miliary tuberculosis or tuberculous meningitis is remarkably important and is about 50%. Nevertheless, results regarding pulmonary tuberculosis have been inconsistent, either showing no efficacy or a protective efficacy rate around 80%. There is some evidence that a second dose of BCG vaccine does not increase its protective efficacy. Studies have shown that BCG vaccine protects against leprosy and is also used in bladder carcinoma. Role of BCG in improving immunity during COVID-19 has been studied with varying results. Newer vaccines are being researched on to prevent tuberculosis by giving the vaccine by oral route and prevent primary tuberculosis. Despite the hope that a new vaccine against tuberculosis will be available in the future, BCG vaccine is an important tool in controlling the harmful effects of tuberculosis, especially in countries where this disease has moderate to high levels of incidence.

Introduction

Tuberculosis (TB) is a major public health problem worldwide. One third of the world's population is believed to be infected with Mycobacterium tuberculosis (MT). Approximately 8.8 million new cases of TB are notified around the world every year. Of these cases, 3.9 million are smear-positive and approximately 1.7 million die from TB. Nearly two billion people have latent tuberculosis infection (LTBI), and a

small number develops clinical TB, depending on factors such as the development of immunodeficiency or other unknown conditions. Pulmonary TB is the most frequent clinical form, and is responsible for the transmission of the TB bacillus.

Countries with a low incidence of TB have focused their attention on the identification and treatment of infected individuals, in order to prevent new cases from occurring. In some of these countries, the use of BCG vaccine has been discontinued in order to safeguard the diagnostic value of purified protein derivative (PPD) as an indicator of previous MT infection. In other countries, such as Brazil, BCG vaccine is given at birth. Other control measures include early diagnosis, treatment of TB cases, and chemoprophylaxis of contacts.

BCG vaccine was first developed by Albert Calmette and Camille Guerin in 1921, after 13 years of successive subcultures of a strain isolated by Nocard in 1908, known as "Lait Nocard," which caused bovine tuberculous mastitis. Successive subcultures were made until 1921, when the strain was lyophilized at the Pasteur Institute. Indian vaccines use Danish 1331 strain and Pasteur strain. The preparations were made from attenuated M. bovis, they may not be bacteriologically identical, due to the biological variability of the strains, with different genotypic and phenotypic characteristics. As a result, depending on the strain, they have different viability, immunogenicity, reactogenicity, and residual virulence. Recent genome studies have shown that BCG vaccine differs in some genetic aspects.

In addition to its effects on TB, the protective efficacy of BCG vaccine has also been described for the treatment of other mycobacterial infections, such as leprosy and Buruli ulcer. Efficacy has also been demonstrated for immunotherapy of some types of cancer, especially bladder cancer. Also, there have been reports about the efficacy of BCG vaccine against ancylostomiasis and other helminth infections. The decrease in the frequency of atopy among children vaccinated with BCG has also been described.

Protective efficacy of the first dose of BCG against pulmonary tuberculosis

Several studies were carried out to assess the protective efficacy of BCG vaccine against pulmonary TB. These studies show large discrepancies in protective efficacy, depending on the study design or on the geographic areas where they were per-

formed, among other aspects. This has fuelled uncertainties about the protection afforded by the vaccine, making the subject highly controversial. There is common agreement in the literature about the protection provided by the first dose of BCG vaccine against severe and disseminated forms of TB among children, especially with regard to tuberculous meningitis and miliary tuberculosis. However, controversy still exists over the protective efficacy of BCG vaccine against pulmonary TB, a clinical form that has a major impact on TB control.

Several clinical trials assessing the protection of BCG vaccine against pulmonary TB, carried out after 1930, show an efficacy rate between 0 and 80%. The largest clinical trial undertaken to assess the efficacy of BCG vaccine was carried out in Madras, India, and showed no protection against TB. This discrepancy in efficacy leads to uncertainty about the protective role of the first dose of BCG vaccine against pulmonary TB, with possible consequences on TB control in the community.

Several case-control studies were carried out to assess the protection provided by the first dose of BCG vaccine against all forms of TB. Altogether, these studies show an efficacy rate between 16 and 73%. Protection against pulmonary tuberculosis ranged from 10 to 66%, whereas protection against tuberculous meningitis and miliary tuberculosis was consistently high (greater than 50%) in all studies. Meta-analyses were also carried out to analyze the different results obtained. The results were homogeneous for the protective efficacy of BCG vaccine against tuberculous meningitis and miliary TB, ranging between 72 and 100%, with a summary estimate of 86%. Summary estimates of the protection afforded by BCG vaccine against all forms of TB were similar for randomized clinical trials (RCT) and case-control studies (51 and 50%, respectively.

Length of the protective efficacy of BCG

A study based on a placebo-controlled clinical trial including American Indians and Alaska Natives has been recently published. The protective efficacy of BCG vaccine at the beginning of the follow-up period (1935 to 1947) amounted to 77%. A new evaluation, encompassing the period from 1948 to 1998, revealed a protective efficacy of 52% during a six-decade follow-up, with an initial reduction during this period. A study of the RCT control group on the efficacy of the second dose of BCG vaccine in Brazilian school-aged children demonstrated that the protective efficacy of neonatal BCG against all forms of TB lasts for 15 to 20 years. These findings, if con-

firmed, suggest that the length of protection of neonatal BCG is longer than previously described in the literature, although there is some evidence that this protective efficacy is higher in those years close to vaccination.

National Immunization Schedule

In the national immunization schedule BCG is given at birth in all institutional deliveries. The dose is 0.1 ml intradermal on the left arm at deltoid insertion. BCG can be given till 5 years of age. BCG comes in amble coloured vials to protect it from sunlight. It is a freezed dried vaccine. Vaccine should be reconstituted with one ml of diluent which is provided with the vaccine. It is to be stored at 2-8° C. Once reconstituted the vaccine should be used within 4 to 6 hours.

Normal reaction after BCG is as follows. At the time of vaccination there is a wheal formation 4-9mm which disappears within half an hour. After 2 to 3 weeks there is formation of a nodule, followed by papule, pustule, ulcer and scar. This process takes 6 to 12 weeks. If we see any off the following nodule, pustule, ulcer, scar means BCG has been taken up. If none of these reactions are seen at 12 weeks after BCG, the dose needs to be repeated. We can assess the uptake of BCG my mantoux test or LMIT(lymphocyte migration inhibition test).

Side effects of BCG are lymphadenopathy in the axillary and cervical region. Nothing needs to be done if lymph nodes are less than one centimeter as they usually subside on their own. The side effect of BCG as disseminated BCG reaction is rare. Contraindications of BCG include immunocompromised host, congenital immunodeficiencies and children on immunosuppressant drugs. It can be given in infants born to HIV infected mother if the child is clinically well. If there are clinical signs and symptoms of HIV then BCG has to be avoided.

BCG revaccination

The WHO recommends the use of one dose of BCG vaccine against TB, given the lack of evidence supporting the use of additional doses. Some countries, such as Russia, Portugal, Chile and Hungary, use repeated doses of BCG vaccine against pulmonary TB, based on the assumption that the protection provided by the vaccine decreases with time. Most of the evidence regarding the second dose of BCG vaccine is based on observational studies. In Hungary, after 1959, they adopted BCG

revaccination in individuals younger than 20 years who were nonreactive to PPD. In subsequent years, there was a sharp decrease in the incidence of TB among revaccinated children, compared to the adult population, which was attributed to the revaccination policies used.

Prospects for new vaccines against tuberculosis

Attempts have been made to develop at least one new vaccine that can replace BCG. The ideal vaccine should provide great protective efficacy against TB and have less variation in different contexts and clinical forms, overcoming this and other previously described deficiencies of the BCG vaccine. That is the inability to prevent lung infection or primary infection. An attempt has also been made to develop new vaccines that can be used in immunotherapy and be combined with the conventional treatment of TB. Hundreds of candidate vaccines have been developed using different concepts, and some are already in phase I or II clinical trials. Hopefully, some of them will move on to phase III soon.

Different concepts have been used for the development of these vaccines, such as: attenuated M. tuberculosis; subunits of BCG or M. tuberculosis such as ESAT 6; co-immunization of BCG with plasmid-encoded IL-12; DNA vaccine that encodes the expression of antigenic proteins such as Hsp 60, 85 B or Hsp 65, all of which are still being tested. Some results are encouraging. Recently, BCG vaccine modified by genetic engineering acquired the ability to block the gene of urease produced by the original BCG when phagocytosed by the macrophage, in addition to the introduction of a gene that is responsible for the production of lysine obtained from Listeria monocytogenes. This resulted in the expression of new BCG antigens in the cytoplasm and on the surface of the macrophage, allowing for the stimulation of CD4+ and CD8+ cells. The result, although experimental, is that this recombinant vaccine has a larger spectrum and a more effective immune response, providing greater protection against Mycobacterium tuberculosis infection.

BCG and COVID 19

BCG has been implicated in decreased mortality due to COVID 19 as published in some initial studies, but detailed analysis of these studies have failed to demonstrate protective effect of BCG on COVID 19. They concluded that the possibility that

a single exposure of an attenuated pathogen in infancy leading to lifelong benefit is remarkable but data is not sufficient to use BCG in prevention of COVID 19 and other emerging infectious diseases.

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Prescription Writing

Prescription Writing in Acute Otitis Media

Dr Bharat Mehra

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CLINICAL SUSPISCION

Symptoms

Fever, ear pain, ear discharge, excessively irritable infant, coryza

Signs

Tragal tenderness, Bulging tympanic membrane (TM), Erythematous TM, perforated TM

INVESTIGATIONS:

Usually not required. Referral to ENT specialist on case-to-case basis

TREATMENT

Once clinical diagnosis/suspicion of acute otitis media is made, it can be managed on OPD basis with regular follow up.

1 Analgesia and antipyretic:

- **Oral Paracetamol** (10-15mg/kg/dose every 4 to 6 hourly, not to exceed 5 doses in 24 hours, maximum daily dose: 75 mg/kg/day not to exceed 4,000 mg/day) or

- **Oral Ibuprofen** [5-10 mg/kg/dose (maximum dose: 400 mg/dose) every 6 to 8 hours as needed; maximum daily dose: 40 mg/kg/day or 2,400 mg/day, whichever is less].
- Combination of **NSAIDS/ NSAIDS** with paracetamol is irrational and should be avoided.
- Topical procaine or lidocaine preparations are an alternative to oral analgesics for children ≥2 years but should not be used in children with tympanic membrane perforation. **Topical benzocaine is avoided in children <2 years because of the risk of methemoglobinemia.**

2 Antibiotic:

- **Indications for antibiotic prescription include -**
  - Any child with otorrhea
  - AOM in infant below 6 months
  - Clinically severe disease (fever > 102' F, severe otalgia, or otalgia persisting for more than 48 hours)
  - Bilateral AOM in children below 2 years
- **Drug of choice:**
  - **Non-severe disease** - Oral Amoxicillin (30-40 mg/kg/day in two divided doses)
  - Severe disease, recent beta-lactam therapy, or history of recurrent AOM - Oral Co-amoxiclav (40 mg/kg/day of amoxicillin; 6.4 mg/kg/day; both in two divided doses)
  - **Duration of therapy:** For children < 2 years or with severe disease **or with recurrent AOM or with perforated tympanic membrane treatment for 10 days is recommended.** For rest, duration is 5 to 7 days, depending upon clinical resolution.
  - Alternative for penicillin allergic patients (type 1 hypersensitivity) – azithromycin 10 mg/kg/day as once daily dosing for 5 days **Or Clarithromycin 15mg/kg/day in 2dd for 10 days** or cefpodoxime (10 mg/kg/day orally in two doses (maximum 400 mg/day) for 10 days OR Cefuroxime (30 mg/kg/day orally divided in two doses (maximum 1 g/day) for 10 days or Cefaclor 30mg/kg/day in 2 dd for 10 days

3 Other symptomatic medications

such as decongestants and antihistamines are not recommended, except in known or suspected nasal allergy. These have also being implicated in delayed clearance of middle ear fluid. Topical antibiotics are not recommended.

Initial treatment failure

Defined as non-resolution of symptoms in 48 to 72 hours despite being on antibiotic therapy, following option should be considered:

- Initially on Amoxicillin – use high-dose amoxicillin 90 mg/kg per day or use Co-amoxiclav
- Initially on Co-amoxiclav – use high dose of amoxicillin (90 mg/kg per day) in the combination
- Initially on high dose co-amoxiclav or oral cephalosporins – need parenteral ceftriaxone (50 mg/kg intramuscularly or intravenously once per day (maximum 1g/day) **for three doses.**
- Patients initially treated with macrolides, clindamycin, or parenteral ceftriaxone

Tympanocentesis should be done (will help in relief of ear pain and permit culture of purulent material to guide antimicrobial selection). Simultaneous placement of a tympanostomy tube may be warranted.

SURGICAL INTERVENTION

Intervention by Otolaryngologist is necessary in certain situations. Therapeutic tympanocentesis or myringotomy with or without tympanostomy tube placement may be helpful in children with severe pain, or in cases of treatment failure despite adequate antimicrobial therapy, or in recurrent otitis media.

FOLLOW UP:

Successful treatment in uncomplicated cases usually results in clinical improvement within 48 to 72 hours. Look for resolution of symptoms, and persistence of

middle ear effusion, signs of hearing loss, or development of complications. In case of persistence of middle ear effusion leading to conductive hearing loss, referral from otolaryngologist is necessary for middle ear drainage.

COMPLICATIONS:

AOM may get complicated by intracranial or intratemporal complication such as meningitis, mastoiditis, cholesteatoma or facial nerve palsy.

PREVENTION:

Vaccination against available Pneumococcal serotypes and Haemophilus influenzae B provides protection against s**evere spectrum of disease** by respective strains.

RECURRENT ACUTE OTITIS MEDIA:

Antibiotic prophylaxis needed if 3 or more episodes in 6 months or 4 or more in 12 months. Long term 6 months to 1 year; Amoxicillin 20mg/kg/day OD or Azithromycin 10mg/kg once in a week. Ventilating tubes with or without adenoidectomy after first breakthrough infection despite antibiotic prophylaxis.

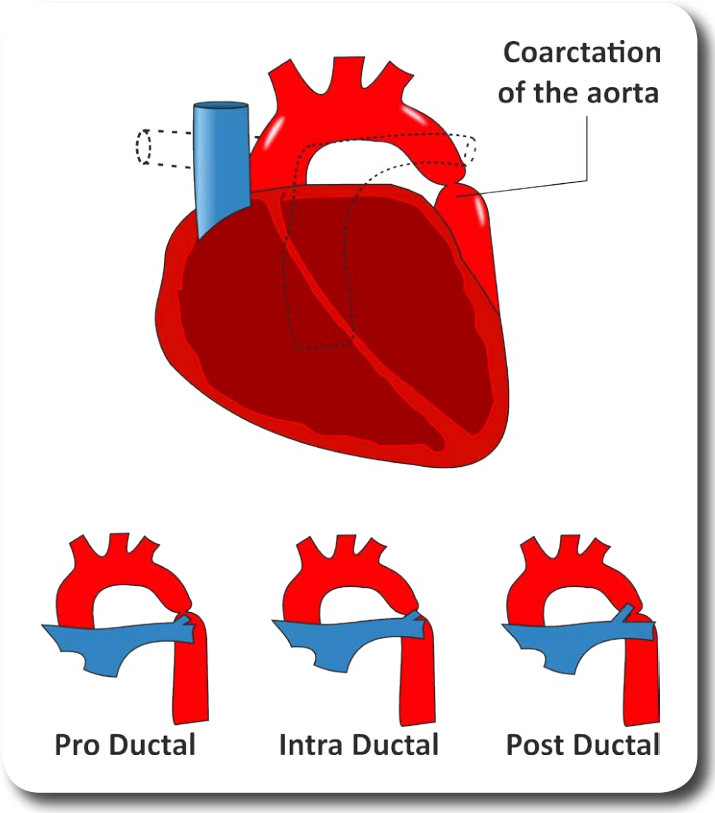
Peeping into Heart Coarctation of Aorta

Dr Gaurav Agrawal

Sr. Consultant, Pediatric Cardiologist,
BL Kapur Super Speciality Hospital,
New Delhi

WHAT IS COARCTATION OF AORTA?

Narrowing of aorta is known as Coarctation of aorta. Most commonly, it occurs just beyond the origin of left subclavian artery, but can occur at other locations also (even thoracic or abdominal aorta). It is a congenital heart defect (CHD). It may be present as a sole disease or may be associated with other heart problems like ventricular septal defect (VSD), bicuspid aortic valve (BAV) etc.



CLINICAL PRESENTATION DUE TO COA?

It depends on severity of COA as well as age of presentation.

COARCTATION OF AORTA (COA)
Presentation

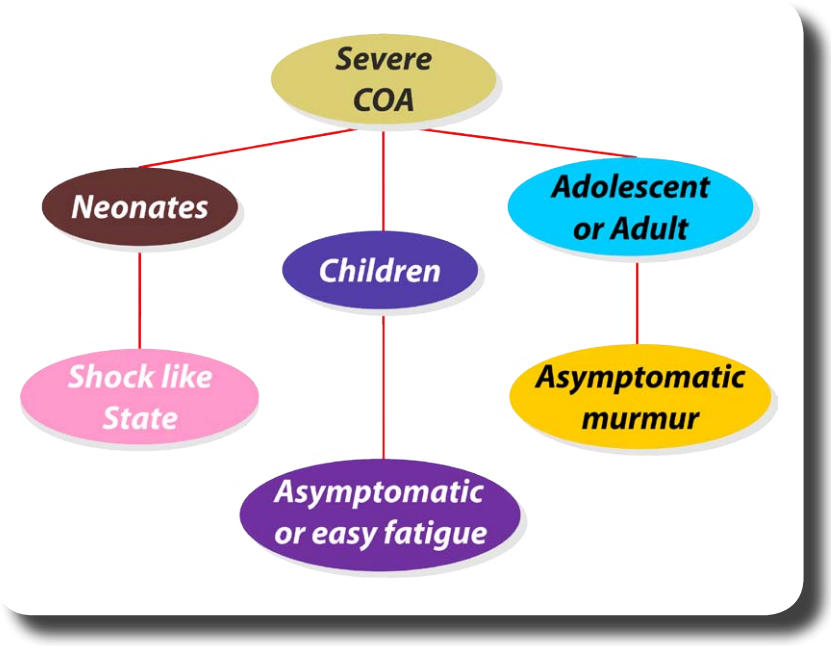


Figure-1 Clinical presentation of COA at various ages

In a neonate: it can present with a history of poor feeding, evidence of shock with poor perfusion; a gallop is heard on auscultation.

In late infancy or childhood:
it is either asymptomatic or detected incidentally by hearing an abnormal heart sound (murmur) with easy tiredness, poor pulses in lower limbs with or without high blood pressure.

Older Child (Adolescents), may have High Blood Pressure (Hypertension), HeadAche, Bleeding from Nose, Leg Cramps or Pains, Blurring of Vision, Loss of Consciousness etc....

DIAGNOSIS OF COA

- Coarctation of aorta can be suspected antenatally by performing fetal echocardiogram.

- Postnatally, this can be suspected by high blood pressure, pain in legs on walking, by hearing murmur during examination etc, and can be confirmed by doing echocardiogram.
- Chest X ray: chest X ray may show figure of 3 sign as well as rib notching.
- ECG: may show signs of left ventricular hypertrophy (q wave and tall R wave in lateral leads and deep S wave in V1 & V2).
- CT/MRI angiogram: CT angiogram is very useful if echo test is inconclusive especially in adolescents & adults.
- Cardiac catheterization: Now a day not used for making the diagnosis and is used mainly for therapeutic purposes only.

TREATMENT OF COARCTATION OF AORTA:

Management of Coarctation of Aorta (COA)

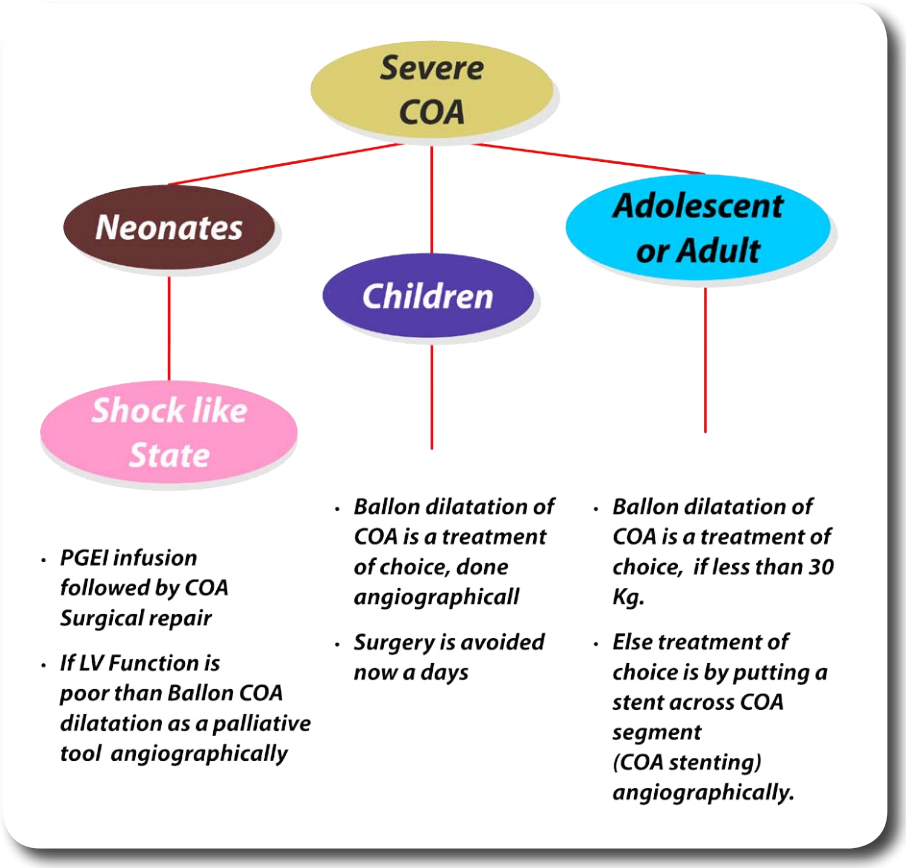


Figure-2 Management of COA at different ages.

- If COA is mild to moderate in severity then only follow-up is required at regular intervals.
- In severe coarctation of aorta, treatment has to be done and it depends on age of presentation, as shown in Figure-2.
- Patients of COA also need prophylaxis for endocarditis if they undergo any invasive procedure.

FOLLOW-UP AFTER COARCTATION OF THE AORTA REPAIR

Child needs to be on lifelong follow-up with a pediatric cardiologist as most commonly associated problem with coarctation of the aorta is hypertension that is known to occur in a significant proportion of patients even after effective treatment of COA

Complications associated with coarctation of aorta:

- Narrowing of the aortic valve (Aortic stenosis)
- Hypertension
- Brain stroke
- Aneurysm of aorta
- Kidney and/or other organ failure
- Risk of rupture/tear of aorta known as aortic dissection
- In late stages, heart failure can occur

Tip of the Month

Incomplete Kawasaki Disease: An Enigma

Dr Manjari Aggarwal

Attending Consultant Rheumatologist,
Institute of Child Health,
Sir Ganga Ram Hospital, New Delhi

Kawasaki disease is a self limiting vasculitis affecting the medium vessels predominantly.

Though self limiting, it has a dreaded complication of affecting the coronary arteries in >25% of untreated children. This necessitates its prompt diagnosis and treatment to prevent coronary artery lesion. Persistence of fever is the hallmark of ongoing inflammation.

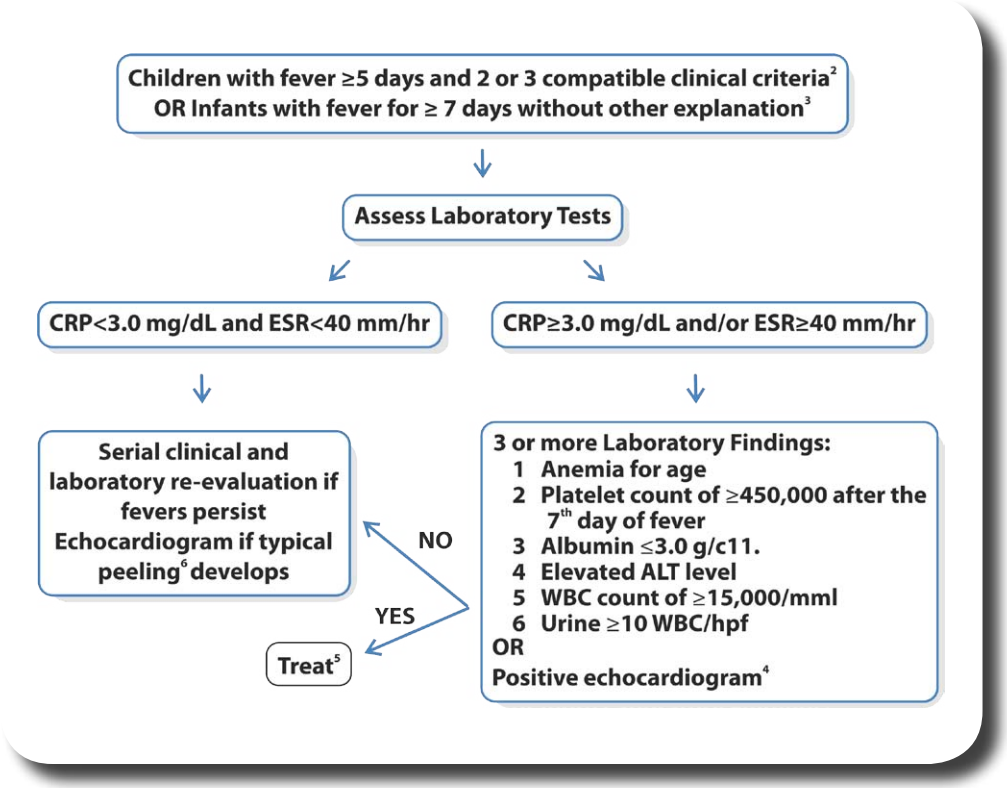
The diagnosis of Kawasaki disease is straight forward when all clinical features are present i.e. complete Kawasaki disease. The difficulty in diagnosis is in a child where all features are not present i.e. incomplete disease. In the absence of early diagnosis, the risk of developing coronary artery lesions increases manifold.

Infants typically do not manifest complete Kawasaki disease and high index of suspicion is necessary for timely diagnosis and prompt institution of treatment in the form of IVIG.

Characteristic features:

1. Erythema and cracking of lips, strawberry tongue, and/or erythema of oral and pharyngeal mucosa
2. Bilateral bulbar conjunctival injection without exudate
3. Rash: maculopapular, diffuse erythroderma, or erythema multiforme-like
4. Erythema and edema of the hands and feet in acute phase and/or periungual desquamation in subacute phase
5. Cervical lymphadenopathy (≥1.5 cm diameter), usually unilateral

Evaluation of Suspected Incomplete Kawasaki Disease[1]



A careful history may reveal that ≥1 principal clinical features were present during the illness but resolved by the time of presentation

Characteristics suggesting that another diagnosis should be considered:

Exudative conjunctivitis, exudative pharyngitis, ulcerative intraoral lesions, bullous or vesicular rash, generalized adenopathy, or splenomegaly

Echocardiography is considered positive for purposes of this algorithm if any of 3 conditions are met:

i Z score of left anterior descending coronary artery or right coronary artery ≥2.5

ii coronary artery aneurysm is observed

iii ≥3 other suggestive features: decreased left ventricular function, mitral regurgitation, pericardial effusion, or Z scores in left anterior descending coronary artery or right coronary artery of 2 to 2.5.

Consider KD in the Differential Diagnosis of Infants or Children:

- Infants <6 months old with prolonged fever and irritability
- Infants with prolonged fever and unexplained aseptic meningitis
- Infants or children with prolonged fever and unexplained or culture-negative shock
- Infants or children with prolonged fever and cervical lymphadenitis unresponsive to antibiotic therapy
- Infants or children with prolonged fever and retropharyngeal or parapharyngeal phlegmon unresponsive to antibiotic therapy.

Parents' Guide Screen Time For Children

Dr Shikha Mahajan

Associate Director,
Centre for Child Health,
BLK Superspeciality Hospital,
New Delhi

TV and smart phones are virtually everywhere and in this era of digitalization they are a regular feature of our day to day life .Parents are often shocked when they are told that it's a bad idea for children to watch TV or use mobile apps before age 18 months, because most toddlers are already watching them at that age. Surveys tell us that 92.2% of 1-year- olds have already used a mobile device, some starting as young as age 4 months. Infants may stare at the bright colours and motion on a screen, but their brains are incapable of making sense or meaning out of all those bizarre pictures. Children are programmed to learn from interacting with other people. Unstructured playtime is more valuable for a young child's developing brain than is electronic media.

By age 2 years, children can benefit from some types of screen time, such as programming with music, movement and stories. Watching "Discovery channel" and other informative programmes increases their knowledge. By watching together, you can help your child understand what he or she is seeing and apply it in real life. However, passive screen time shouldn't replace reading, playing or problem-solving.

PROBLEM WITH SCREEN

Evidence suggests that screen viewing before age 18 months has lasting negative effects on children's language development, reading skills and short term memory. Too much or poor quality screen time has been linked to obesity, loss of social skills, violence, behavioural issues and irregular sleep schedules.

When a child's brain is developing it is important for them to interact with other people and with nature. Staring down into a screen does not facilitate the development of the nuances of communication, such as facial expression and the emotional parts of language. Screen time is another way to be alone, mentally away from the family and

other social & emotional development. Children who are exposed to too much screen time can become depressed, anxious and to the other extreme, hyperactive. In fact, some children are actually being misdiagnosed and treated for conditions such as Attention Deficit Hyperactive Disorder (ADHD) and bipolar disorder.

DEVELOPING SCREEN TIME RULES

The American Academy of Pediatric Guidelines	
AGE	**RECOMMENDATION BY AAP**
1. Less than 18-24 months	**Discourage media except for video chatting**
2. 18-24 months	**Discourage, if introduced ensure its high quality & avoid solo use.**
3. 2-5 years	**Limit screen time to one hour per day of high quality programming**

As the child grows, a one-size-fits-all approach doesn't work as well.

HOW TO ENSURE QUALITY SCREEN TIME

1. Start taking active interest in monitoring TV and other screen viewing from early childhood so that good habits are formed early rather than taking a confrontational attitude later on.
2. Fix TV viewing hours per day/per week and adhere to them strictly. Put curfews, such as no exposure to devices or screens one hour before bedtime.
3. Keep screens out of your child's bedroom. Ensure that children charge their devices outside of their bedrooms at night.
4. Make sure there is enough time spent on exercise, sports or other physical activity.
5. Preview and approve the programs, games and apps before allowing your child to view or play with them . Settle the issue with mutual discussion.
6. Use parental controls to block or filter internet content.
7. Make sure your child is close by during screen time so that you can supervise his or her activities.
8. Ask your child regularly what programs, games and apps he or she has played with during the day.

9 While watching an advertisement, tell the child that what ever is shown is not necessarily correct. Eliminate advertising on apps, since young children have trouble telling the difference between ads and factual information.

10 Children and adult tend to overeat while watching TV and other screens .Mothers use the medium to encourage the child to eat more. This habit leads to obesity in later life.

11 While viewing violent shows explain and reassure the child that violence is faked for TV and in real life it happens rarely. Discuss consequences of violent action in real life.

12 At some point your child will be exposed to content that you haven't approved and devices without internet filters. Talk to your child about the situations that could occur and the behaviour you expect.

13 Encourage digital literacy. Does the child know how to tell if a website is trustworthy? Help the child understand that media are made by humans with points of view. Explain that many types of technology collect data to send users ads or to make money.

14 Limit your own screen time.

DIGITAL USE IN OLDER CHILDREN

Online relationships and social media have become a major part of adolescent life. Experts suggest that it's OK for your teen to be a part of these worlds — as long as he or she understands appropriate behaviour. Explain what's allowed and what's not, such as sexting, cyberbullying and sharing personal information online. Teach your child not to send or share anything online that he or she would not want the entire world to see for eternity. No matter how smart or mature you feel the child is, monitor his or her online and social media behaviour. The child is bound to make mistakes using media. Talk to your child and help him or her learn from them.

What age to allow your child their own mobile phone is a very difficult question; and every parent has their own opinion, depending on their child and their situation. Children as young as 11years are looking at porn, suffering anxiety as they try to keep up with (mostly fake) posts about the wonderful lives everyone else is having, and are subjected to cyberbullying and content which is far too old for them to deal with. Most of the happy and glamorous posts on social media are really fake news- a sort of hyped up version of what happened. That puts pressure on teenagers and children to be as beautiful, popular or daring as their peers.

SETTING LIMITS FOR OLDER CHILDREN

1. School nights may be device free in some houses with the child making up for use at the weekend. Many children, and adults, would find that difficult to withstand so 30 minutes on school nights and longer at the weekend seems fairer and more doable.
2. Child should not exceed too long in one session on a device without breaks
3. Parents should establish as to how late at night a child can be on a device.

Technology is here to stay and parents need to guide their children towards responsible use of devices rather than hoping TV, smart phones and tablets will go away. Technology is not evil or bad, infact it is a source of immense information and knowledge, when used appropriately. Self discipline and self monitoring should be taught to children. Moreover, parents should themselves be role models for their children.

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Vice President, IAP Delhi

Date	Academics	Cocurricular
14th-15th January	**E-Rheumatpedia**	*Academics Activity*
Sunday, 24th January	**Raag-n-Sur**	*Cocurricullar Activity*
Thursday, 18th February	**IAP Delhi Monthly Clinical Meeting**	*Academics Activity*
25th-26th February	**E-Dermapedia**	*Academics Activity*
Sunday, 28th February	**Cyclathon**	*Cocurricullar Activity*
Thursday, 18th March	**IAP Delhi Monthly Clinical Meeting**	*Academics Activity*
Sunday, 21th March	**Downs Syndrome Day**	*Cocurricullar Activity*
25th-26th March	**Gastropedia**	*Academics Activity*
Thursday, 15th April	**IAP Delhi Monthly Clinical Meeting**	*Academics Activity*
29th-30th April	**Neuropedia**	*Academics Activity*
Sunday, 25th April	**Geet aur Niratya**	*Cocurricullar Activity*
13th-14th May	**Carcon**	*Academics Activity*
Saturday, 15th May	**IAP Delhi Sports Meet**	*Cocurricullar Activity*
Thursday, 20th May	**IAP Delhi Monthly Clinical Meeting**	*Academics Activity*
Monday, 31th May	**Case Based Cme**	*Cocurricullar Activity*
Saturday, 5th June	**World Environment Day (Plantation by Members)**	*Cocurricullar Activity*
Thursday, 17th June	**IAP Delhi Monthly Clinical Meeting**	*Academics Activity*
Sunday, 20th June	**Delhi Respicon**	*Academics Activity*
Monday, 21st June	**Yoga Day**	*Cocurricullar Activity*

IAP Delhi Event Calender 2021

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Treasurer, IAP Delhi

Dr Anil Vaishnavi
Vice President, IAP Delhi

Date	Academics	Cocurricular
Saturday, 26th June	**International Day against substance abuse (Book Release)**	*Cocurricullar Activity*
Thursday, 15th July	**IAP Delhi Monthly Clinical Meeting**	*Academics Activity*
17th-18th July	**ResRCHcon 2021**	*Academics Activity*
Sunday, 18th July	**Hematopedia**	*Academics Activity*
Thursday, 29th July	**ORS Day *(Book Release on Diarrhea)***	*Cocurricullar Activity*
Thursday, 12th August	**Nephropedia**	*Academics Activity*
Sunday, 1st August	**Breastfeeding Week**	*Cocurricullar Activity*
Thursday, 19th August	**IAP Delhi Monthly Clinical Meeting**	*Academics Activity*
Sunday, 29th August	**IAP Charity Day**	*Cocurricullar Activity*
11th-12th September	**PCNI 2021**	*Academics Activity*
Thursday, 16th Sept	**IAP Delhi Monthly Clinical Meeting**	*Academics Activity*
Saturday, 25th September	**National Daughter Day**	*Cocurricullar Activity*
14th-15th October	**Adolescon**	*Academics Activity*
Thursday, 21st October	**IAP Delhi Monthly Clinical Meeting**	*Academics Activity*
Sunday, 14th November	**Children's Day**	*Cocurricullar Activity*
Thursday, 18th November	**IAP Delhi Monthly Clinical Meeting**	*Academics Activity*
Sunday, 21st November	**Immunization Update**	*Cocurricullar Activity*
Sunday, 28th November	**IAP ALS Program**	*Cocurricullar Activity*
Sunday, 12th December	**IAP Delhi Annual Day**	*Academics Activity*

IAP Delhi March 2021 Activity Report

1 BLK Annual Pediatric update

Sunday, 21 February, 2021 (Online Webinar by IAP Delhi)

IAP Delhi in association with BLK Hospital and IAP Central Delhi.

2 Upper Respiratory Infections Module (URI) of CIAP

dIAP Platform (Online Webinar by IAP Delhi)

IAP Delhi conducted URI-Upper Respiratory Infections Module of CIAP on dIAP platform which was well attended by IAP Delhi Members.

3 E Dermapedia

25th-26th February 2021
DDAP Platform (Online Webinar by IAP Delhi)
350 approx registered delegates

IAP Delhi President Dr Lalit Mendiratta, General Secretary Dr Manish Gupta and Treasurer Dr Pankaj Garg successfully conducted second subspeciality conference on Pediatric Dermatology. This was the biggest online Pediatric Dermatology conference by IAP Delhi. The ***Sessions were highly appreciated which were taken by National and International Pediatric Dermatology experts***.

4 Recent Advances in Idiopathic Growth Stature

(Clinical Webinar by IAP Delhi)

The Speaker was **Dr Vaishali Rustagi** Pediatric Endocrinologist, Max Superspeciality Hospital, Shalimar Bagh and Aakash Hospital Dwarka, New Dehi.

5. Cyclathon 2021

Tuesday, 30 March, 2021

was conducted by tremendous efforts of IAP Delhi Office bearers and Executive Board Members. ***More than 100 Cyclists-All Pediatricians participated in 6/12 km cycling tracks around Nehru Park Chanakyapuri***. Thanks to ***CIAP President Dr Piyush Gupta & Vice President North Zone CIAP Dr Sangeeta Yadav for inaugurating the fitness event***. The social message to create awareness among Pediatricians and General Public was given ***"Route to Good health through Physical activities & Cycling"***. Also Covid Vaccinations and Social distancing measures were promoted. ***Special Thanks*** to ***Dr GP Kaushal*** for getting us the permissions for the event

IAP Delhi March 2021 Activity Report

6 *Pneumococcal Disease and Prevention*

dIAP (Online Webinar by IAP Delhi)

Dr Arun Wadhwa as Speaker & Dr AJ chitkara, Dr Shyam Kukreja as Experts. The session was **moderated by Dr Lalit Mendiratta and Dr Manish Gupta.**

7 *3rd Monthly Clinical Meet (IAP Delhi)*

Thursday, 18 March, 2021

DDAP Platforms (Online Webinar by IAP Delhi)

Members were happy to listen to ***Dr S K Bhargava Sr IAP Delhi Academician Speak on Clinical Practice with Transformational research.*** There were interesting case presentations by Safdarjung Hospital and R & R Army Hospital, New Delhi

8 *"Back to Basics" CME*

Sunday, 21 March, 2021 (Physical CME)

attended by around 100 delegates

IAP East Delhi with IAP Delhi conducted First Major successful Physical CME of year 2021 ***"BACK to BASICS"*** at ***Leela Ambience Hotel East Delhi***. IAP Members were happy to meet each other offline in a CME.

9 *International Adolescent Health Week (IAHW)*

Wednesday, 24 March, 2021 (Online Webinar by IAP Delhi & AHA Delhi)

with Debates by Students which was judged by Dr Sangeeta Yadav and Dr Harish Pemde.

10 *E GASTROPEDIA*

Thursday, 25 March, 2021 (Online Webinar by IAP Delhi)

Talks were given by Pediatric Gastroenterologists of national eminence.

11 *Pediatric Dermatology Module of CIAP*

Thursday, 25 March, 2021

dIAP Platform (Online Webinar by IAP Delhi with IAP North & East Delhi)

Dr Manish Gupta,
General Secretary, IAP Delhi 2021

IAP Delhi Upcoming Event 2021

IAP Delhi Team 2021

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President, IAP Delhi

Dr Manish Gupta
Secretary, IAP Delhi

Dr Deepak Gautam
President Elect., IAP Delhi

Dr Pankaj Garg
Treasurer, IAP Delhi

Dr Anil Vaishnavi
Vice President, IAP Delhi

conference will be organized with registration charges
₹ **500**/- for IAP Delhi Members
₹ **750**/-for non IAP Delhi Members.

Journal Clippings

1 *Cranial Suture Regeneration Mitigates Skull & Neurocognitive Defects in Craniosynostosis (Cell, 2021)*

Craniosynostosis results from premature fusion of the cranial suture(s), which contain mesenchymal stem cells (MSCs) that are crucial for calvarial expansion in coordination with brain growth. Animal models recapitulating these phenotypes are lacking, hampering development of urgently needed innovative therapies. In this study, Yu et al. show that Twist1+/- mice with craniosynostosis have increased intracranial pressure and neurocognitive behavioral abnormalities, recapitulating features of human Saethre-Chotzen syndrome. Using a biodegradable material combined with MSCs, they successfully regenerated a functional cranial suture that corrects skull deformity, normalizes intracranial pressure, and rescues neurocognitive behavior deficits. The regenerated suture creates a niche into which endogenous MSCs migrated, sustaining calvarial bone homeostasis and repair. MSC-based cranial suture regeneration offers a paradigm shift in treatment to reverse skull and neurocognitive abnormalities in this devastating disease.

 Read the full artical
https://pubmed.ncbi.nlm.nih.gov/33417861

2 *Positive fluid balance is associated with death and severity of brain injury in neonates with hypoxic-ischemic encephalopathy*

In this Us-based study, Ottolini et al investigated the association between fluid balance during therapeutic hypothermia (TH) and severity of brain injury on magnetic resonance imaging (MRI) in neonates with hypoxic-ischemic encephalopathy (HIE). They found that out of 150 neonates included, 50 suffered adverse outcome and had significantly higher net positive fluid balance (53 vs. 19 ml/kg/day, $p < 0.01$) during first 24 hours of TH. Neonates with a net positive fluid balance (>25 ml/kg/day) at 24 hours of TH had 3.4 (95% CI 1.3-9) times higher odds of adverse outcome.

Courtesy: *Journal of Perinatology, March 2021* ***Read the full artical***
https://pubmed.ncbi.nlm.nih.gov/33649446

3 *Gene therapy for tuberous sclerosis complex type 2 in a mouse model by delivery of AAV9 encoding a condensed form of tuberin*

Viral vector technology is not only helping us in Covid vaccines but its exciting applications are increasing by the day. In this study, Cheah et al used this technology with encouraging results in management of mouse model of tuberous sclerosis. Tuberous sclerosis complex (TSC) results from loss of a tumor suppressor gene - TSC1 or TSC2, encoding hamartin and tuberin, respectively. These proteins formed a complex to inhibit mTORC1-mediated cell growth and proliferation. Loss of either protein leads to overgrowth lesions in many vital

Journal Clippings

organs. Gene therapy was evaluated in a mouse model of TSC2 using an adeno-associated virus (AAV) vector carrying the complementary for a "condensed" form of human tuberin (cTuberin). Functionality of cTuberin was verified in culture. A mouse model of TSC2 was generated by AAV-Cre recombinase disruption of Tsc2-floxed alleles at birth, leading to a shortened lifespan (mean 58 days) and brain pathology consistent with TSC. When these mice were injected intravenously on day 21 with AAV9-cTuberin, the mean survival was extended to 462 days with reduction in brain pathology. This demonstrates the potential of treating life-threatening TSC2 lesions with a single intravenous injection of AAV9-cTuberin.

Courtesy: *Science Advances, 2021* ***Read the full artical***
https://advances.sciencemag.org/content/7/2/eabb1703

4 Rates of Incidental Findings in Brain Magnetic Resonance Imaging in Children

This interesting has been published just a few days back. Li et al studied MRI brain of 11 679 demographically diverse US children aged 9 to 10 years in a non-clinical setting [baseline MRI of children enrolled in Adolescent Brain Cognitive Development (ABCD) study, the largest US population-based longitudinal observational study of brain development and child health, between September 1, 2016, and November 15, 2018]. They analyzed the findings to see the prevalence and range of incidental findings (IF). Baseline structural MRIs were centrally reviewed for IFs by board-certified neuroradiologists. Out of total of 11 679 children (52.1% boys, mean [SD] age, 9.9 [0.62] years), 2464 participants (21.1%) had IFs, including 2013 children (17.2%) did not require any referral, 431 (3.7%) required non-urgent referral, and 20 (0.2%) required urgent referral. Overall rates of IFs did not differ significantly between singleton and twin gestations or between monozygotic and dizygotic twins, but heritability analysis showed heritability for the presence or absence of IFs ($h2 = 0.260$; 95% CI, 0.135-0.387). Such a high prevalence of incidental findings demonstrates the importance of ongoing longitudinal study to further determine the neurodevelopmental outcome.

Courtesy: *JAMA Neurology* ***Read the full artical***
https://t.co/FZXusdQV4n?amp=1

5 The effectiveness of a dose based reporting tool in reducing vaccine wastage at primary care clinics in Delhi, India: an operational research study

Vaccine wastage is a key determinant of cost of mass vaccination program that needs to be minimized and has been in media in view of ongoing Covid-19 vaccination program. In this operational research study by Rustagi et al, the authors tried to determine the effectiveness of a self-designed dose based reporting tool (DBRT) in reducing vaccine [Rotavirus Vaccine (RVV) and fractional inactivated polio vaccine (f-IPV)] wastage at primary care facilities in

Journal Clippings

India. Prior to their intervention, the average monthly wastage of f-IPV was 23.5% and of the RVV ranged from 18%-31%. The intervention (DBRT) was a paper-based reporting format that assigns a unique code to each RVV and IPV vial. The health facility is required to report the total doses administered from each coded vial during every immunization session by updating it on the assigned reporting format. With just a simple tool, the monthly wastage of both RVV and f-IPV dropped significantly to 8.6% and 11.4%, respectively. During the subsequent month, the IPV wastage further decreased to only 4.7%. Thus, it was well-demonstrated that the DBRT reduced vaccine wastage by enabling a paper audit trail that promotes responsiveness and accountability among healthcare workers directly involved in vaccine administration.

Courtesy: *Human Vaccines & Immunotherapeutics, March 2021* ***Read the full artical***
https://www.tandfonline.com/doi/abs/10.1080/21645515.2020.1796427

Complied by Dr Puneet Kumar

Crossword Answer February 2021

		1 A	2 A		3 E		
4 1	10 H	S	P		S		
C	C	5 T	H	A	6 M		
7 C	L	O	A	12 C	A	S	9
D		E	K	13 B	A	T	
H		11 N	I	8 A	C	I	9 N
		14 L	A	L	I	T	E
				15 P	O	X	C

Vertical

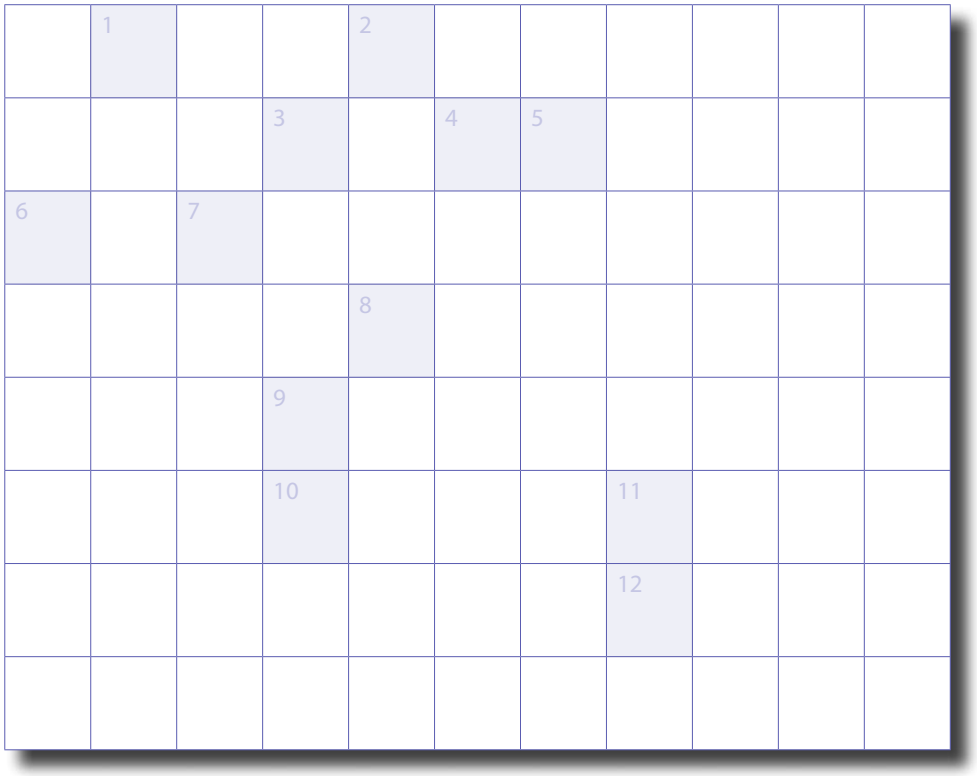
1 *Found in liver, muscles and rbcs* (3)
2 *Absence of part of eye* (7)
3 *A powerful weapon with govt against medicos* (4)
4 *India specific liver disease which vanished* (3)
5 *Abnormal form of walking: rule out neurological problems if bilateral* (3)
6 *Govt stamped mother's affection with this program in aug 2016* (3)
7 *Distressed term neonate with scaphoid abdomen* (3)
8 *Doesn't figure out whether bone is at fault or liver* (3)
9 *Feeding related morbidity of prematures* (3)

Across

5 *It neutralizes acid* (4)
7 *Normal for frogs abnormal for humans* (6)
10 *Name changed to antibody related vasculitis* (3)
11 *Common deficiency happen if child is on mostly maize diet* (6)
12 *This covid related technology won the noble prize* (4)
13 *Nick name of the female scientist … woman who first isolated corona virus* (3)
14 *Our president* (5)
15 *We eradicated it* (3)

Contributed by Dr Pankaj Garg

Crossword March 2021



Vertical

1 *Limb defect deriving its name from an animal's foot* (4)
2 *Fibrosis of skin: see it to diagnose it* (7)
4 *MRI sign of asphyxia neonatorum* (4)
5 *This is dislocated in Marfan syndrome* (3)
6 *Acronym for an association of malformations* (5)
9 *Abnormal with liver dysfunction* (3)
11 *New name of ambiguous genitalia* (3)

Across

1 *Fetal lung anomaly which is known to disappear with time* (4)
3 *Red lesions on inner aspect of cheeks in a vaccine preventable infection* (6)
7 *Blood test named after a laboratory* (4)
8 *A worm infestation with perianal itchiness as symptom* (7)
10 *Side lab test for corona; named after a Bengali character* (6)
12 *Bumper to bumper infections* (4)

Contributed by Dr Pankaj Garg

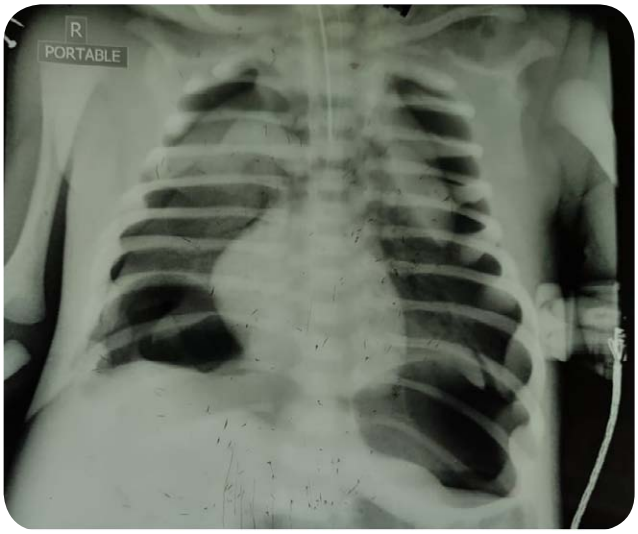
Please send correct answers photoshot with your name on IAP Delhi eMail iapdelhi2@gmail.com.
We will be publishing names as well as correct answers in next e Journal (XXXVIII No. 4)

Photo Quiz February 2021

Question *13 Years Old Male Muslim Child born of Consanguineous Marriage came with symptoms suggestive of intestinal obstruction with mucocutaneous lesions on Cheek, Lips & Gingiva. On investigating child was found to have multiple polyps in intestine area with intussusception like features.*

Answer ***Peutz-Jeghers Syndrome***

X-Ray Quiz February 2021



Question **New born, outside delivery came to causality in respiratory distress which needed intubation at admission. X-ray done at admission shows below picture**

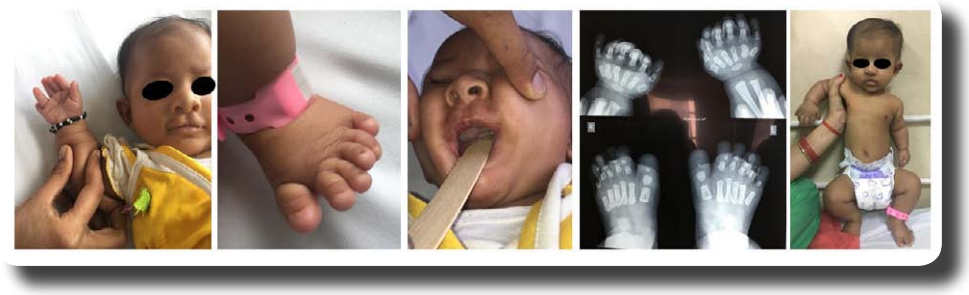
Answer ***Bilateral pneumothorax with collapse***

Winner of February 2021
Photo Quiz & X-Ray Quiz

Dr Nagendra Gupta

Photo Quiz March 2021

9 months old baby born of non consangious marriage came with H/o repeated febrile illnesses. Child had short forearm and lower legs with high arched palate, with wide philtrum, extra fingers and toes, malformed finger nails and toe nails anhidrosis with dental abnormalities and VSD.

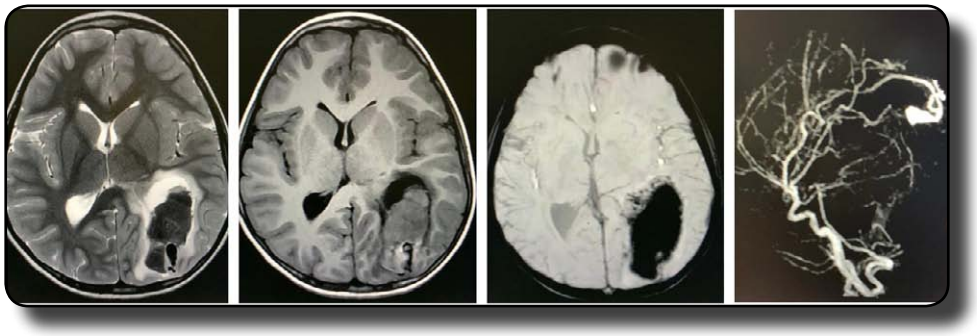


X-Ray Quiz March 2021

4 yrs Old Female child with H/o fever since 4 days, Headache since 3 days with loss of consciousness since 2 days with vomiting 4-5 episodes since 1day.

Also history of irrelevant talk since one day.

On examination no FND, no neck rigidity with B/L brisk reflexes.



Make the Diagnosis after seeing the both images.

Contributed by Dr Anil Vaishnavi

Please send correct answers photoshot with your name on IAP Delhi eMail iapdelhi2@gmail.com.
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Cultural Page

"Lockdown"

Life changed suddenly,
For the young and the old,
A new word
Lockdown
The streets deserted,
No cars, no bikes, no people
It was if the world stood still
Man, women and child,
Suddenly found the difference
They became faces at the window
Trying to fit into this world
Lockdown
Mother Nature smiled,
The trees, were green again
The sky oh so blue
Birds frolicked
Deer came out to play
The clouds sang
Lockdown
Will man change,
Will a virus show us the way?
Will we understand?
That we can lose so much more
If we don't care for the earth
For every little life to flourish
Where the world can survive
Where flowers can bloom
And birds can sing
Will it always need?

A lockdown

Dr Babita Jain

"Solitude"

I stand marooned on an island

Watching in awe at the large expanse
of the sea

In the cool solitude of trees

The whistling sound of the winds

Mingling with the rustling of
leaves & Twittering of birds,
a melodious music spins

My mind which was wandering is at ease.

New rhymes & rhythms of music begin!

I am alone yet not lonely

I can see solitude peeping through the
rays of the sun

It is ushering me towards itself with
open arms

But I am content with my company

Pondering at the myriad of possibilities!

Dr Deepa Passi

Cultural Page

कोरोना काल और Webinar

Webinars की बौछार
हो रही निरंतर लगातार
बिना देखे कोई भी वार
और ना ही कोई तीज ना त्यौहार
दे दनादन, बिना थके, बिना रूके
Doctors हैं कुछ अधूरे, और कुछ पूरे पके
WhatsApp, email, SMS कुछ भी खोल लो
'मेरा सुन लो' 'मुझे चुन लो' हो जैसे व्यापार
ज्ञान बंट रहा हर दिशा से, हर देश से
हर भाषा में, हर वेष में
सभी रहें हैं अपना, अपना झंडा गाड़
कभी सुनता हूं लक्ष्मी जी का है सारा जुगाड़
कुछ हर घर का नाम हो गये
कुछ खासे बदनाम हो गये
मरीज़ नहीं दिख रहे चार
Webinars तो हो गये हज़ार।

Dr Sanjeev Aggarwal

(Disclaimer: This piece is to be taken in lighter vein only and is not intended to hurt the sentiments of anyone. Webinars have played an important role in keeping us together and dissemination of knowledge during Covid Times. However due to their sheer numbers and frequency, there's a flip side too. This pertains to the flip side only.)

IAP Delhi Membership Form

Name of the Applicant					Photograph
Designation		Date of Birth			
Email Id		Sex: ☐ Male ☐ Female			
Postal Address for Communications					
Tel Residence		Office		Mob	
Name of Zonal Branch you would like to join ☐ Central ☐ East ☐ West ☐ North ☐ South: Whether Central IAP member, if so Membership No:					

No	Educational Qualification	Name of the University	Qualifying Year
1			
2			
3			
4			

Medical Council Reg. No	Reg. Authority (e.g. MCI/State Medical Council)
Name & Address of the Proposer	
Membership No. of the Proposer	Signature
Name & Address of the Seconder	
Membership No. of the Seconder	Signature

Declaration : I hereby declare that I have never been arrested/prosecuted and convicted by a criminal court or involved in any case registered by the police.

Place & Date	Signature of the Applicant

Membership Category	Fee	Category	Total Amount Payable
Membership Category	₹ 2000/-	₹ 2000/-	₹ 2000/-
Membership Category	₹ 2000/-	₹ 2000/-	₹ 2000/-

Cash/Local Cheque/may be drawn in favor of "Indian Academy of Pediatrics Delhi" payable at New Delhi.

For office use only

Payment Details Received		Rupees					
by Cash/Local Cheque/DD No		Date		Bank			
Receipt No		Date			General Secretary / Treasurer		

Note: Please submit self-attested photocopies of Qualification & Registration Certificate & One Passport size photograph.

Central IAP Membership Form

Personal Details													
Name of the Applicant													
			(Surname)				(First Name)				(Middle Name)		
Date of Birth									Sex: ☐ Male ☐ Female				
Complete Postal Address for Communications													
Postal Pin		City			State			Nationality					
Registered Mobile No					Alternate Mobile								
Registered Email					Alternate Email								
IAP State Branch			IAP Dist./City/Local Branch										

Qualification			
Medical / Pediatric Qualification	Name of the University	Qualifying Year	Registration with State Medical Council or Medical Council of India

Other Details	
IAP membership no. and name of the Proposer	
	Signature
IAP membership no. and name of the Seconder	
	Signature
Place	
Date	(Signature of the Applicant) (Use black ink pen)

Please provide following information for IAP Photo Identity Card. Please attach a stamp size photograph (3x2.5 cms) with this application.							
Doctor's Name			Mobile No				
Allergies			Emergency Medications			Blood Group	

Central IAP Membership Form

The Society provides-

- *Facilities to Students, Scholars and Institutions for the study of or Research in Pediatrics in any of its aspects by way of scholarships, fellowships, grants, endowments, etc.*
- *Either through itself or in cooperation with other bodies or persons fellowships, prizes, certificates, diplomas of proficiency in the science of Pediatrics and conduct such tests, examinations or other scrutiny as may be prescribed from time to time.*
- *Free of cost or at subsidized cost its official journals, books, periodicals or publications on pediatrics and allied subjects which the society thinks is desirable for the promotion of its objects.*
- *Opportunity to its member to participate in Conferences, Lectures, Meetings, Seminars, Symposia, Workshops, Continuing Medical Education Programs, etc.*
- *Opportunity to become members of its Branches / Subspecialty Chapters / Groups / Cells / Committees.*

Affiliations / Collaboration-

The Society is affiliated to:

i International Pediatric Association (IPA)
ii International Society of Tropical Pediatrics (ISTP)
iii American Academy of Pediatrics (AAP)
iv Asian Pacific Pediatric Association (APPA)
v Asian Society for Pediatric Infectious Disease (ASPID)
vi South Asia Pediatric Association (SAPA)
vii Royal College of Pediatrics and Child Health (RCPCH)

Categories of Membership-

1 *Life Member: Life Membership is granted to any person who is a residential Indian citizen possessing MBBS or equivalent degree in Modern Medicine recognized by Medical Council of India (MCI) and is holding a diploma/degree in pediatrics (such as MD Ped., DNB Ped., DCH) recognized by Medical Council of India (MCI) or any equivalent Nation Statutory Body formed by Government of India.*

2 *Associate Life Member is granted to any person possessing MBBS or equivalent degree recognized by Medical Council of India (MCI) or any equivalent National Statutory Body formed by Government of India.*

How to Apply for Membership-

Application should be made in the prescribed form. Along with the application for membership of IAP, photo copies of the following documents should be submitted-

- *Photo copies of the M.B.B.S. & Post Graduation Certificates as (as per degrees listed in your application).*
- *Photo copies of the degrees registration certificates with State Medical Council OR Medical Council of India (as the case may be).*
- *ID Proof with Photo : Aadhar Card / Passport / Voter ID / PAN Card*

Membership Fee-

The Membership Fee Structure is as follows:

Category of Membership	*Admission Fee*	*Membership Fee*	*Total Amount Payable*
Life	₹ ***500****/-*	₹ ***9,500****/-*	₹ ***10,000****/-*
Associate Life	₹ ***500****/-*	₹ ***9,500****/-*	₹ ***10,000****/-*

The Membership Fee should be paid by a crossed bank draft / at par cheque drawn in favor of **"INDIAN ACADEMY OF PEDIATRICS"** *payable at Mumbai or NEFT.*
Bank details: **BANK OF BARODA**, *Branch-Juinagar, Navi Mumbai*
IFSC Code: **BARB0JUINAG** *(Fifth character is Zero) '*
Current A/c No. ***42080200000253***.

Gallery

CYCLATHON 2021

Gallery

CYCLATHON 2021

Medical Camp at SOS Faridabad

IAP Guidelines for pediatric skincare

state that the newborn skin undergoes various structural and functional changes[1*]

Use of appropriate evidence-based skincare practices are important[2]

Protect the infant skin barrier function with safe, appropriate, and evidence-based products

Johnson's® CHOOSE gentle™

CLINICALLY mildness PROVEN®

Evidence-based skincare regimen

Cleansing regimen

As mild as pure water to maintain the skin barrier function[3,4]

Helps maintain the skin barrier function[5]

Moisturizing regimen

Improves the skin barrier integrity[6,7]

Helps enhance the skin barrier function for moisture retention[8]

RA/JB/8Mar2021/05

*From birth to the first five years of life

References: 1. Madhu R, et al. Indian Academy of Pediatrics Guidelines for Pediatric Skin Care. Indian Pediatr. 2021;58(2):153-161. 2. Telofski LS, et al. The infant skin barrier: can we preserve, protect, and enhance the barrier? Dermatol Res Pract. 2012;2012:198789. 3. Data on file. 4. Lund C, et al. Baby's first bath: Changes in skin barrier function after bathing full-term newborns with water vs liquid baby cleanser. Pediatr Dermatol. 2020;37(1):115-119. 5. Garcia-Bartels N, et al. Use of baby wipes in the diaper area in newborns: A prospective, randomized clinical study on skin barrier. Arch Dis Child. 2008;93:ps222. 6. Johnson's clinical moisturizing report. Appendix 2. Claim table for F#1185-056. 7. Williams N, et al. Does evidence suggest that the use of barrier enhancing emollient is beneficial in the care of preterm neonates? Infant. 2012;8(4):120-25. 8. Patzelt A, et al. In vivo investigations on the penetration of various oils and their influence on the skin barrier. Skin Res Technol. 2012;18(3):364-9.