CAPE NEWS

Newsletter of the Indian Society for Pediatric and Adolescent Endocrinology (ISPAE)
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Contents

From the Editor's desk

Dear members,

This issue of CAPENEWS carries a nice summary of the ISPAE Guidelines on newborn screening, diagnosis and management of Congenital Hypothyroidism (CH) and an interesting article on screening of high risk neonates for CH. It also has two interesting mini-reviews on 'Field testing of IAP Growth Charts' and 'Rationale and implications of new BMI charts recommended by IAP', as well as a case report of a boy with peripheral precocious puberty, a brief report on reflections on mental health of type 1 diabetes children, and a report on ISPAD 2018 (which is also the ISPAE mid-term meeting) in Hyderabad in October.

I am sure all those working in pediatric endocrinology will find this issue useful. I thank all my team members, Dr Rajni Sharma, Dr Sachin Mittal, Dr Sweta Budyal, and Dr Vani HN for their active participation in designing this issue and for their valuable contributions. My special thanks to Dr Anju Virmani, for her tireless efforts to make this issue a fantastic one.

Dr Vijaya Sarathi, Editor, CAPENEWS

FIRST INTERNATIONAL MEETING ON CHILDHOOD DIABETES IN INDIA

Highlights:

1. Release of **ISPAD Guidelines 2018**.
2. Special low rates for us in SAARC countries! 280 registrations already done!
3. First time in an ISPAD meeting: Parallel stream on basic diabetes for allied professionals and pediatricians - **Diabetes 101**, covering the entire gamut of care. Ask your staff to register and attend!
4. Lec-dem Session on **Yoga** by a qualified yoga expert who is also a computer scientist

Sessions on Acute complications; Communication: a crucial aspect; Closing the Loop; Complications and Co-morbidities; Epidemiology; Handling technology; Interventions today (with ESPE); Living with diabetes, not for diabetes; Mental health professional: must on every team; Newer treatments (with ADA); Reaching the disadvantaged; Registries; Technology Today (with ATTD); Under to Over Nutrition (with APPES); Winners All (with JDRF). **And of course, Diabetes 101: basics of diabetes care, expounded by world experts!**

Confirmed speakers so far:
Ana Marie Arbalaez, Andrea Scaramuzza, Angela Middlehurst, Archana Sarda, Beata Malachowska, Carine de Beaufort, Carlo Acerini, Carmel Smart, Chittaranjan Yajnik, Dana Dabalea, David Dunger, David Sacks, Dhruvi Hasnani, Elisabeth Jelleryd, Ethel Codner, Farid Mahmud, Feihong Luo, Fergus Cameron, Francesca Annan, Francine Kaufman, Gianluca Tornese, Helan Phelan, Hemchand Prasad, Jamie Wood, Jill Weissberg-Benchell, Kim Donaghue, Kuben Pillay, Leenatha Reddy, Linda DiMeglio, Lori Laffel, Marie-Beatrice Saade, Mark Sperling, Martin Tauschman, Matthias von Herrath, Muhammad Yazid Jalaludin, Natasa Bratina, Nikhil Tandon, Petter Bjornstad, Philip Zeitler, Ragnar Hanas, Rishi Shukla, Rose Gubitosi-Klug, Russell Viner, Sanjay Kalra, Santosh Gupta, Shuchy Chugh, Stuart Brink, Subrata Dey, Sujoy Ghosh, Tadej Battelino. Thomas Danne, Tim Skinner, V Mohan, Vijayalaxmi Bhatia, Vinay Chauhan.

Confirmed Chairpersons so far:
Ahila Ayyavoo, Alok Gupta, Anju Seth, Anurag Bajpai, Ashok Jhingan, Asma Deeb, Banshi Saboo, Bedowra Zabeen, Catarina Limbert, Denis Daneman, Dorothy Becker, Eda Cengiz, Francine Kaufman, Ganesh Jewalikar, Gun Forsander, Ingrid Libman, Jayaprakash Sai, Johnny Ludvigsson, Joseph Wolfsdorf, Jothydev Kesavadev, Kishwar Azad, Knut Dahl-Jørgensen, Lars Krogvold, Leena Priyambada, Lucy Mungai, Luis Eduardo Calliari, Lynda Fisher, Maria Craig, Minal Mohit, PV Rao, Peter Adolfsson, Rakesh Sahay, Roque Cardona-Hernandez, Sabine Hofer, Shaukat Sadikot, Sheryl Salis, Srikanta SS, Suttipong Wacharasindhu, Thomas Kapellen.

Just go to 2018.ispad.org! Hurry, as the last date for submitting abstracts is 15th May!
This is also the best time to become an **ISPAD member!** Just click ispad.org. The discounted 3y membership for us in India (LMIC) is just $ 80/ year. Membership will allow discounted rates for attending ISPAD 2018, and forthcoming meetings like **45th Annual ISPAD Conference,** in Boston, USA.

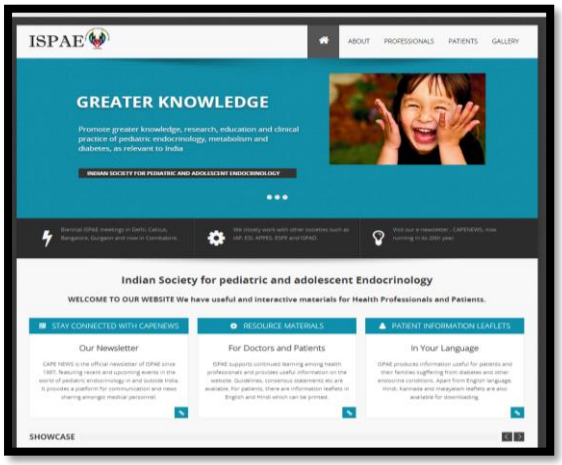
Hearty Welcome to New ISPAE Members	
Aradhana Singh	Harsh Thakur Durgia
Kalyani Sridharan	Kandepi Prasadarao
Manjeet Kaur	Pragya Somani
Ravikumar Shah	Vineeti Dalal
Sapna Naik	Sugandha Singh

News on updated ISPAE Website

Webmaster: *Dr K G Ravikumar*
Webteam: *Dr Ganesh Jevalikar, Dr S Uppal, Dr T Godbole*

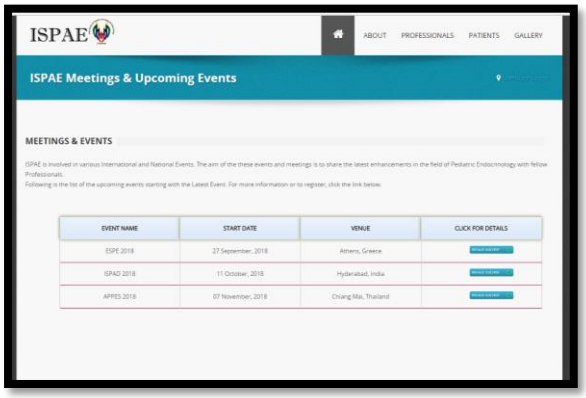
We are happy to inform you that the ISPAE website www.ISPAE.org.in has been modified and redesigned. Thank you for your patience while the work was going on.

The new website features an attractive and modern design with a different layout.



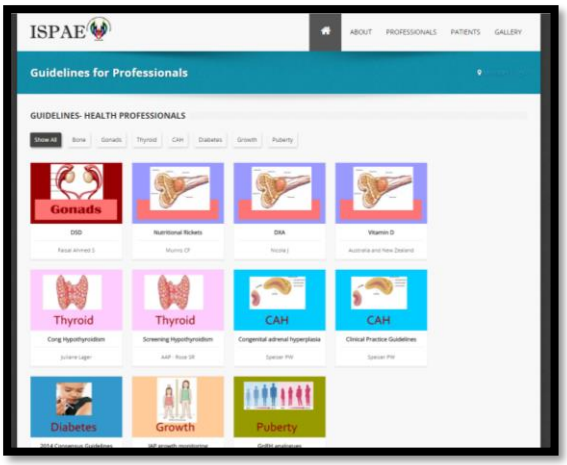
The pull down menu items are shortened to 4 headings namely About, Professionals, Patients, and Gallery.

Meetings and Events are displayed on a separate page, with meetings in chronological order. http://www.ispae.org.in/Meetings.php

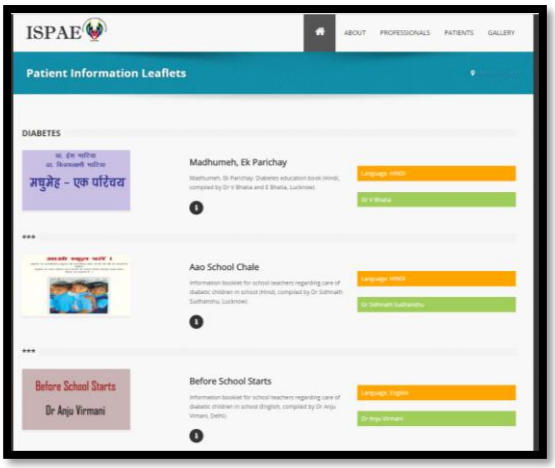


Guidelines for Professionals are displayed on a page http://www.ispae.org.in/Guidelines.php categorized by different systems.

A page for Member Login has been created at http://www.ispae.org.in/Memberlogin.php. ISPAE members can logon to this page and view their information and update any details.



Information for Patients



Information for Patients is available under several headings, from where leaflets and PDF documents can be downloaded. These are available in English as well as other languages including Hindi, Kannada and Malayalam.

The Gallery section contains photos of all ISPAE activities.
We hope that you will like the new webpage. If there are any suggestions, please write to the Webmaster.

Summary of Recommendations from ISPAE Clinical Practice Guidelines for Newborn Screening, Diagnosis, and Management of Congenital Hypothyroidism

Recommendations: Screening should be done for every newborn using either cord blood, or postnatal blood, ideally at 48-72 h of age. On this screening sample, neonates with cord blood TSH > 20 mIU/L serum units (or > 34 mIU/L for 48-72 h samples) should be recalled for confirmation. For screen TSH > 40 mIU/L, immediate confirmatory venous T4/FT4 and TSH, and for milder elevation of screen TSH, a second screening TSH at 7-10 d of age, should be taken. Preterm and low birth weight infants should undergo screening at 48-72 h postnatal age. Sick babies should be screened at least by 7 d of age. Venous confirmatory TSH >20 mIU/L before age 2 wk and > 10 mIU/L after age 2 wk, with low T4 (<10 µg/dL) or FT4 (<1.17 ng/dL) indicate primary CH and merit initiation of treatment. Imaging is recommended by radionuclide scintigraphy and ultrasonography after CH is biochemically confirmed, but treatment should not be delayed if immediate scanning is not possible. Levothyroxine is started at 10-15 µg/kg/day in the neonatal period. Serum T4/FT4 is measured at 2 wk, and TSH and T4/FT4 at 1 mo, then 2 monthly till 6 mo, 3 monthly from 6 mo-3 y and every 3-6 mo thereafter. Babies with the possibility of transient CH should be re-evaluated at age 3 y, to assess the need for lifelong therapy.

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Screening of High Risk Neonates for Congenital Hypothyroidism (CH)

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- High risk neonates: preterm, low birth weight, very-low birth-weight and sick neonates, and multiple births, particularly same sex twins, are at increased risk for both false positive and false negative results at initial screening.
- Preterm and sick infants often have a fall in serum T4 and T3 in the first week of life, which may be due to poor nutrition, decreased hepatic TBG production, immaturity of the HPT axis, use of iodine for antisepsis, or sick euthyroid syndrome.
- The consequences of IUGR, or of sick euthyroid syndrome (low serum T4 with normal TSH) resulting from associated medical problems such as respiratory distress syndrome, may persist until the infant gains weight or recovers from the acute illness.
- Additionally, preterm infants with true CH may not be able to mount an appropriate TSH response in the first 2 wk of life, due to immaturity of the HPT axis, or treatment with glucocorticoids or dopamine, leading to a false negative initial screen.
- In the majority of preterm infants, T4 rises into the normal range when a repeat screening test is performed at 2-4 wk of age, as HPT function matures. Similarly, a second screen done after 2 wk of age will pick up the delayed rise of TSH in a high-risk neonate with true CH. This is the

reasoning behind the recommendation to perform a routine second screen for high risk babies, which is followed in many centres if logistics permit.

- No causal relationship has been established between hypothyroxinemia of prematurity, and problems in neurodevelopment and intellectual disability; current evidence does not indicate benefit from therapy in the absence of raised TSH.

Summary of actions for high risk neonates:

- Preterm and LBW/VLBW infants should undergo routine screening for CH only at 48–72 h postnatal age, not earlier.
- Only in instances of acute hemorrhage or hemolysis, when transfusion is warranted, they may be screened before 24–48 h of birth.
- With sick infants in NICUs, screening should be performed at least by 7 d of postnatal life.
- A routine second screening test at age 2–4 wk is suggested for high-risk babies, if logistics permit.
- If a high TSH is obtained on screening, a venous confirmation for TSH and FT4/T4 is requested as for term babies. If FT4/T4 is low and TSH is high, imaging is performed and treatment is started. If the result is borderline, the above suggestion for a repeat test after 2 wk may be adopted.
- It is prudent to treat infants with persistent borderline results, with a plan to undertake re-evaluation of thyroid function after the age of 3 y, after stopping treatment for 4 wk.
- The final TSH cut-offs for preterm, LBW/VLBW infants and twins remain the same as for term infants.

Note: Another group at high risk of CH consists of neonates with Down syndrome - not only do these infants have a higher incidence of CH picked up by NBS, but they may also have mildly elevated TSH levels that can be missed by screening and therefore, require careful follow-up and re-testing before 6 mo of age.

Suggested readings

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Field testing of IAP 2015 Growth Charts

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Introduction:

The Indian Academy of Pediatrics (IAP) published revised growth curves for 5-18 yo Indian children in January 2015 as a contemporary reference for monitoring the growth of Indian children [1]. The BMI reference curves were statistically adjusted to depict the BMI 23 and 27 adult equivalent cut-offs to diagnose overweight and obesity respectively [2]. Since the new charts were published, many researchers and clinicians have started using these references for analysing normal children as well as disease states. Studies done using the new reference curves throw light on their applicability and appropriateness for the current day Indian rural, urban and slum dwelling children. So far there are 75 citations in indexed journals. In this article we review relevant published papers on this topic.

Srinagar Study: A comparison was done of the 2015 IAP growth curves with the International Obesity Task Force (IOTF) and World Health Organization (WHO) growth references among 5–18 yo children [3], for concordance. In the 303 children assessed, IAP 2015 and "Asian" IOTF cut-offs showed similar incidence of overweight (6.6%) and obesity (5%) respectively (p=0.999 and kappa=0.95), whereas WHO assessed overweight at 4% and obesity at 4.3% (kappa= 0.85). These observations held true across all the ages. There was an excellent agreement between IAP 2015 and "Asian" IOTF references (weighted kappa=0.9558, 95% confidence interval 0.9134–0.9982). The authors concluded that WHO growth charts might be less suitable for the Indian population for anthropometric assessment, especially in adolescents.

Rajkot Study: Prevalence and comparison of assessment of obesity, overweight, and thinness in 1496 affluent school children (8–18 y) by different growth standards - IAP 2007 (KN Agarwal), IAP 2015, WHO and IOTF [4]. The IAP 2015 charts showed the highest incidence of overweight and obesity - 14% obese and 19.1% overweight, compared to 5.1% and 15.5% respectively by IOTF. They found IAP 2015 had a good agreement with WHO (kappa= 0.84), followed by IAP 2007 (k=0.77), and lowest with IOTF (k=0.54). However, the authors have inappropriately used absolute values of BMI of 23 and 27 as the cut-offs for IOTF, whereas they should have used age equivalent values of BMI 23 and 27 adult values.

Pune Study: Comparison of anthropometric data on 2167 children ages 5-18 y, from urban (upper and lower socioeconomic status [SES]) and rural areas, using IAP 2015, WHO, and IAP 2007 charts [5]. They reported that, compared to IAP 2015, the WHO data overestimates short stature, while IAP 2007 data underestimates it, across SES, in both urban and rural settings. With regard to BMI, they reported that compared to IAP 2015, the WHO and IAP 2007 data underestimated overweight and obesity. They observed that IAP 2015 data did not miss malnutrition as compared to IAP 2007; but WHO over-estimated it; they suggested IAP 2015 charts were more appropriate for the current Indian children.

Bangalore study: The authors used IAP 2015 charts to determine the prevalence of obesity and overweight, and the risk factor attitude of parents towards raised BMI, in 969 children ages 6-13 y in private schools in Bangalore [6]. They reported 7.2% were underweight, 13.2% overweight, and 17.1% obese. The proportion of overweight and obesity was more in 9-13 y (68.75% and 72.4%) as

compared to 6-9 y (31.25% and 27.6% respectively). They concluded that prevalence of overweight and obesity was increasing and emphasized the importance of diet and physical activity.

Coimbatore study: The authors used IAP 2015 charts to study the prevalence of overweight and obesity among 1781 children ages 5-16 y [7]. They found 12.8% were overweight, 5.8% obese, and 7.8% underweight. They concluded that, as compared to the urban population, underweight is still a concern in semi-urban settings.

Mumbai Study: A study to estimate the prevalence of adolescent obesity and hypertension in Mumbai schools [8], found overweight in 20.1% and obesity in 16%; pre-hypertension in 7.5%, and hypertension in 5%. It added to the data showing increasing obesity and hypertension among Indian urban school children, and the strong association between obesity/ overweight and hypertension.

Karnataka and Kerala study: Measuring Child Malnutrition: A Review of Assessment Methods of the Nutritional Status of School-Going Children in India [9]. The study shows that children considered to be of "normal" body weight were 88.4% using IAP 2015, and 61.1% using CDC 2000. Undernutrition and severe underweight were estimated at ~ 10% and 3.7% using IAP 2015, with a much larger proportion of severe underweight - 14.1% and 8.7% using CDC 2000 and British 1990 references respectively. The WHO 2007 reference estimated total and severe underweight at 22.7% and 7%, intermediate between the IAP and CDC/British estimates. Overweight and obesity were uniformly low, with slight difference. The IAP 2015 showed the highest levels of overweight and obesity at 1.7% and 0.3% respectively. The differences between the references become more obvious in the age group 5-7 y, with ~ 90% children in the normal range as per IAP 2015, compared to 66.4% boys and 76.8% girls using WHO 2007, and lower still with CDC 2000 and British 1990 references.

Bareilly. UP study: Using IAP 2015 charts for defining obesity and overweight, Mid-Upper Arm Circumference (MUAC) cut offs were determined for children and adolescents of Bareilly, UP [10]. The MUAC cut-offs to identify obesity were 18.8 / 19.4 cm for boys/ girls in the 5-9 y age group; and 23/ 23.3 cm for boys/ girls in the 10-14 y age group. MUAC was highly accurate for identifying obesity in both sexes and across age groups (overall AUC 0.95, 95% sensitivity, 90% specificity). The authors concluded that MUAC may have potential for clinical and surveillance application as an accurate yet simple and widely available indicator of overweight and obesity in children and adolescents in resource-poor settings.

Maharashtra: An etiological evaluation of short stature (SS) [11] was an observational study of 49 2-12 yo (M:F ratio1:1.4) using IAP 2015. It was found that 26.5% were normal variants; 73.4% had pathological SS, of which 77.7% had proportionate SS. Chronic systemic disorders were detected in 24.48%, malnutrition in 12% and endocrine disorders in 12%, with the latter having the maximum bone age retardation. The authors concluded that chronic systemic disorders were the commonest cause of pathological SS, early diagnosis and management of these disorders is necessary to decrease growth retardation, thus understanding SS helps improve outcomes by means of early intervention.

A recent review article in Indian Journal of Pediatrics [12] recommended using WHO multicentric growth reference standards (WHO MGRS) and cut-offs for children below 5 y of age [14, 18] and IAP 2015 for 5-18 yo, to define overweight and obesity.

Commentary: The IAP 2015 charts were made from data of 87022 normal Indian children, collected by 13 study groups from 14 cities across India, representing all 5 geographical zones as suggested by IAP. Also, to nullify the effect of unhealthy weight, children with a weight for height z score of > +2 were removed before the growth charts were produced. BMI charts were also statistically adjusted to depict BMI 23 and 27 adult equivalent cut-offs as recommended by WHO and IOTF. IAP 2015 are now included in the Dutch International Registry, are available from "Growth Analyzer" software, which is a compendium of many growth references around the world and are included in the Pfizer International's iGro Growth Prediction Model developed by Prof. Michael Ranke.

It interesting to note that most of the studies cited above used IAP 2015 to classify overweight and obesity; of them, studies which compared IAP 2015 charts and IOTF "Asian" cut-offs for overweight and obesity found they yielded similar results. On the other hand, the IAP 2015 charts are not missing undernourished children as compared to IAP 2007. In the context of short stature, IAP 2015 picked up more children than IAP 2007, but less than WHO and CDC charts. Microsoft Excel templates to calculate z scores which are easy to use, have now been developed to calculate z scores on height, weight and BMI for IAP 2015 charts. These are useful to study clinical cases as well as are useful in the analysis of anthropometric assessment of large surveys for Indian children.

There are no studies till date correlating mid parental height and range z scores to children's height z scores using IAP growth charts. This information may be very useful to understand how these charts correlate a child's genetic potential when compared to CDC or WHO charts.

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The New BMI Charts Recommended by the IAP – Rationale and Implications

Hemchand Prasad[1], Vaman Khadilkar,[2] [1]Mehta Children's Hospital, Chennai, [2]Bharati Vidyapeeth Medical College, Pune

The incidence of obesity is on rise in our country (1-4). Though the definition of overweight and obese in children and adolescents has been an area of controversy, Body Mass Index (BMI) remains the most useful anthropometric tool for diagnosis. The conventional 85th and 95th percentile in the previous IAP charts were arbitrary and not linked to health risks (5). To stem the rise of obesity, lowering the cut-offs from the 85th and 95th to 75th and 85th centiles for the diagnosis of overweight and obesity was suggested (6). This may lead to confusion in the mind of the pediatrician and misdiagnosis of overgrowth. Hence the Indian Academy of Pediatrics (IAP) constituted the Growth Chart committee to end the controversy surrounding the diagnosis of overweight and obesity in Indian children (7).

IAP 2015 references are generated from data from 33991 subjects (7), and weight for height SD scores computed for them. As per the recommendation of the WHO, 646 subjects who had weight for height > +2 SD, i.e. who were unhealthy overweight, were excluded from the study (8). This was a major attempt to AVOID normalization of obese children and adolescents. Subsequently, cross sectional reference percentile curves for BMI was derived using the LMS chart maker (9).

The BMI cut-offs were derived as recommended by the International Obesity Task Force (IOTF), which proposes that adult cut-off points should be linked to BMI percentiles for children to provide pediatric cut-off points (10). Asians are known to have more adiposity and higher cardiometabolic risk at lower BMI (11), hence IAP 2015 depict the adult equivalent of 23 and 27 kg/m^2 as overweight and obese. As the percentiles are linked to health risks, they are PRESCRIPTIVE in nature.

The current definition of overweight – BMI 23 adult equivalent – is significantly lower than the conventional 85th percentile. The current definition of obesity – BMI 27 adult equivalent is significantly lower than the conventional 95th percentile. This will lead to early recognition of children and adolescents with higher adiposity and cardiometabolic risk. Subsequently, this would result in early intervention in terms of lifestyle measures and improved health of children and adolescents. This will help stem the tide of obesity which our country is facing. On a statistical note, abnormal BMI is a screening tool for early recognition of children with abnormal cardiometabolic risk. An improved sensitivity (by lowering cut offs), will be of added value. Analogous to the lowered BMI cut off to diagnose overweight and obesity, abnormal waist circumference has been lowered from 90th percentile to 70th percentile (12).

To improve the literacy rate of a country, the policy makers must: incentivize going to schools, set exam questions that are relevant, correct answer papers liberally and have low pass marks. Similarly, to stem the tide of obesity – IAP has excluded subjects with weight for height > 2 SD, lowered BMI cut-offs, linked them to adult cardiovascular risks, and made the BMI charts colour coded (figure 1) to make communication with families easier. Hence, we recommend that all physicians and pediatricians measure BMI annually and interpret it using the new IAP 2015 BMI charts.

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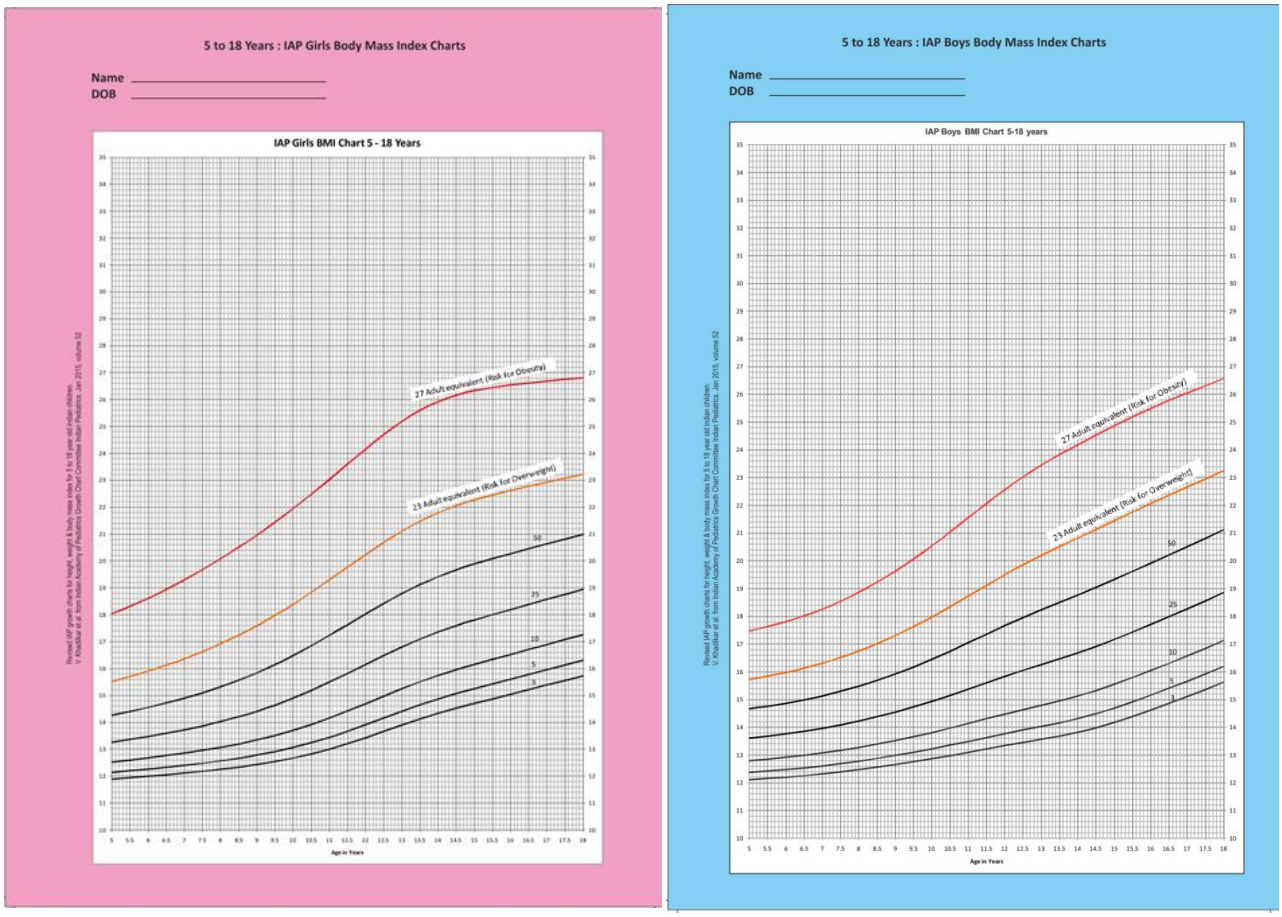

Figure: 1 Revised IAP 2015 BMI charts

An interesting case of precocious puberty in a boy

Pavithra Nagaraj, Vani HN, Raghupathy P, Indira Gandhi Institute of Child Health, Bengaluru

A 4 y 10 mo old boy born to non-consanguineous parents presented with history of increased genital size and appearance of pubic hair since the age of 2 y. There was no family history of early onset of puberty or adult short stature. The mid-parental height is 171.1±6 cm. He was diagnosed elsewhere to have congenital adrenal hyperplasia (CAH) with secondary central precocious puberty (CPP) and treated with prednisolone and fludrocortisone. He was also given a trial of medroxyprogesterone 4 mg orally daily for a month, and later intramuscularly 75 mg every 28 days for 4 months.

On physical examination, height was 117.2 cm (97th centile) and weight was 24 kg (90-97th centile), pubic hair Tanner stage III, stretched penile length 8 cm and testicular volume 8 ml (right) and 6 ml (left). No abdominal mass was palpable. Systemic examination was otherwise normal for age.

His bone age was 12 years. Results of hormonal evaluation are summarised in tables 1 and 2. Serum ACTH, β-hCG, cortisol, 17-hydroxyprogesterone, and DHEAS were normal, ruling out CAH. A prepubertal response to leuprolide stimulation test ruled out CPP. However, serum testosterone was elevated. Ultrasonography of the adrenals and testes did not identify any masses or microcalcifications. With the bone age markedly advanced, in the absence of evidence for CPP, high testosterone and suppressed basal serum LH and FSH, a diagnosis of peripheral precocity, probably due to testotoxicosis, was considered. However, due to financial constraints genetic mutation of luteinizing hormone/choriogonadotropin receptor (*LHCGR)* gene was not documented. The family was counselled in detail regarding possible treatment using bicalutamide and anastrazole, but parents deferred the therapy.

Table 1: Hormonal evaluation for GnRH independent precocious puberty

Investigation	17 OHP (ng/dl)	Cortisol (µg/dl)	DHEAS (µg/dl)	ACTH (pg/ml)	β-hCG (mIU/ml)	TSH (mU/l)
Observed value	170	9.7	15	38.4	10	3.94
Interpretation	Normal	Normal	Normal for age but low for pubertal status	Normal	Normal	Normal

Discussion

This case posed many challenges in diagnosis. The previous diagnosis of CAH was not supported by hormonal findings. The low serum DHEAS also remains unexplained. Hence, the patient was re-evaluated as a de-novo case.

Table 2: Leuprolide (30 µg/kg SC) stimulation test

	Testosterone (ng/dl)	LH (mIU/ml)	FSH (mIU/ml)
Baseline	312.11	0.1	0.61
60 min		2.13	3.95
120 min		2.89	5.87
24-h	343.03		
	Elevated	Prepubertal	Prepubertal

CA-BA of 7 y 2 mo, with 6-8 cc testicular volume suggested the possibility of secondary CPP or a PPP due to testotoxicosis, hCG secreting tumour or CAH with testicular adrenal rest tumour (TART). The possibility of CPP was ruled out by a prepubertal gonadotropin response on leuprolide stimulation

test whereas a normal hCG and scrotal ultrasound ruled out hCG secreting tumour or CAH with TART. Hence, a provisional diagnosis of testotoxicosis was made.

Familial male limited precocious puberty, also termed '*testotoxicosis',* is gonadotropin-independent precocious puberty due to autonomous sex steroid secretion (1-4). This disorder generally presents between 2-4 y of age. Patients have early development of secondary sexual characteristics, accelerated growth with reduced final adult height (1). A mutation in the LHCGR gene results in the mutant LH receptor, which results in markedly increased cyclic AMP production in the absence of agonist, suggesting that autonomous Leydig cell activity in this disorder is caused by a constitutively activated LH receptor (5). The condition may be sporadic or transmitted as a dominant trait. Serum testosterone levels are in the adult male range, whereas serum gonadotropins are suppressed, as is the response to GnRH-stimulation testing (1).

Treatment consists of reducing hyperandrogenism in children by ketoconazole (antisteroidogenic agent) although there are concerns regarding potential liver toxicity and adrenocortical suppression. A combination of antiandrogens and aromatase inhibitors have been used for the treatment of testotoxicosis but data is limited (3,4). Recently, the use of combination therapy with bicalutamide (a potent antiandrogen agent) and anastrazole or letrozole (third-generation aromatase inhibitors) was reported to yield encouraging short-term results, including slower growth rate (6,7).

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Reflections on the Mental Health of Children with Type 1 Diabetes

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Brief Observation

On the occasion of World Diabetes Day, educational and fun-filled activities were organised on November 14 for patients with Type 1 Diabetes (T1DM) and their care-givers by the Department of Endocrinology at Narayana Health City (NHC). Thirty children with T1DM participated. There were education stalls addressing common problems, including management of hypoglycemia,

hyperglycemia, diet and nutrition, diabetes related emergencies, lab testing for glucose and HbA1c and nursing services for telephonic support. These stalls were handled by endocrinologists, child psychiatrist, psychologist, dietician, nursing team and diabetes educators, offering help and advice to children and parents. Fun activities including a magic show and cultural program for the children concluded the day.

Our Child and Adolescent Psychiatrist, Dr. Prasanna (who worked for 16 years in NHS), was keen to study the relevant psycho-social and cultural factors in children and young people with diabetes in India. These 30 children and their parents/ family had a brief clinical interview, supplemented by the Pediatric Symptom Checklist (PSC), which is a screening questionnaire to understand psycho-social problems. None of them had learning problems. About 30% expressed having significant psychosocial issues – a prevalence rate twice as common as rates in the general population. Externalizing and internalizing disorders were equal in frequency. There was remarkable resilience displayed by these children without which the prevalence of psycho-social problems would have been much higher. The ease with which they disclosed information regarding their mental health may be a reflection of acuteness of the problems. Although family members were aware of these issues, they were not clear about whom to approach for support. This is in clear contrast to their physical health in general and glucose control in particular. They showed good understanding about their condition and factors affecting their glycemic control.

Conclusions:

Raising awareness about mental health and by making child psychiatry services available to them, there will be a better parity between physical and mental health. This should improve outcomes for the young person and his/her family. There is an urgent need to develop a culturally sensitive tool to explore relevant psycho-social problems and inform about appropriate interventions. Research is also required to enhance our understanding regarding multiple pathways through which diabetes affects mental well-being.

PEARLS OF WISDOM from PROF FRANCINE KAUFMANN

Anju Virmani, Max, Pentamed & Sunderlal Jain Hospitals, Delhi.

A recent workshop on pump training conducted by Prof Francine Kaufmann in Mumbai was an excellent opportunity to learn from her years of wise experience. The best was “Fruit juice should be available only by prescription”!

1. The bolus to basal ratio in children can vary from 70:30 to 30:70.
2. A bolus dose does take 10-15 min to start acting, its effect lingers for a while, so prebolusing about 20 min for breakfast and 15 min for other meals is important.
3. For children who linger over their meals: get them to finish their carbs first.
4. If BG is high or rising before exercise, exercise will raise it. If falling BG, exercise will lower it further.
5. If BG in target at initiation of exercise, reduce insulin rates: halve the bolus before exercise, basal during exercise and correction doses.
6. During swimming, take the pump off. Check BG at one hour: if high, take a small bolus, and take simple carbs later.
7. The pump cannot be suspended for more than 2 hours.

Pedendoscan

Dr Sachin Mittal, Consultant Endocrinologist, Fortis Hospital, Chandigarh

Co-occurrence of Type 1 Diabetes and Celiac Disease Autoimmunity. Hagopian W et al. Pediatrics. 2017 Nov;140(5)

Few birth cohorts have prospectively followed development of type 1 diabetes (T1D) and celiac disease (CD) autoimmunity to determine timing, extent of co-occurrence, and associated genetic and demographic factors. In this prospective birth cohort study, 8676 children at high genetic risk of both diseases were enrolled, and 5891 analyzed in a median follow-up of 66 months. Along with demographic factors and HLA-DR-DQ, genotypes for HLA-DPB1 and 5 non-HLA loci conferring risk of both T1D and CD were analyzed. Development of persistent islet autoantibodies (IAs) and tissue transglutaminase autoantibodies (tTGAs), as well as each clinical disease, was evaluated quarterly from 3 to 48 months of age and semiannually thereafter. IAs alone appeared in 367, tTGAs alone in 808, and both in 90 children. Co-occurrence significantly exceeded the expected rate. IAs usually, but not always, appeared earlier than tTGAs. IAs preceding tTGAs was associated with increasing risk of tTGAs (hazard ratio [HR]: 1.48). After adjusting for country, sex, family history, and all genetic loci, significantly greater co-occurrence was observed in children with a T1D family history (HR: 2.80), HLA-DR3/4 (HR: 1.94) and single-nucleotide polymorphism rs3184504 at SH2B3 (HR: 1.53). Based on this data, the authors suggested that in early childhood, T1D autoimmunity usually precedes CD autoimmunity. Preceding IAs significantly increases the risk of subsequent tTGAs. Co-occurrence is greater than explained by demographic factors and extensive genetic risk loci, indicating that shared environmental or pathophysiological mechanisms may contribute to the increased risk.

Transglutaminase antibodies and celiac disease in children with type 1 diabetes and in their family members. Parkkola A et al. Pediatr Diabetes. 2018 Mar;19(2):305-313.

To determine the prevalence of tissue transglutaminase antibodies (anti-tTG) and celiac disease (CD) in children with newly diagnosed T1D and their first-degree relatives (FDR), 745 index children with T1D and their 2692 FDR, from the Finnish Pediatric Diabetes Register, were studied in this population-based observational study included. The hypothesis was that individuals with both T1D and CD form a distinct subgroup in terms of human leukocyte antigen (HLA) class II genetics, islet autoantibodies, and clinical characteristics at diabetes diagnosis. 4.8% index children had anti-tTG at diabetes diagnosis, and at the end of the study, 3.2% had CD. Among the relatives, 2.9% had anti-tTG (4.8% mothers, 2.4% fathers, and 2.1% siblings), and 2.5% had CD (4.6% mothers, 2.1% fathers, and 1.4% siblings). Anti-tTG and CD associated with the HLA DR3-DQ2 haplotype. The usual female predominance of CD patients was observed in relatives (70%) but not among index children (46%). The index children with both diseases had a lower number of detectable islet autoantibodies than those with diabetes alone. The authors concluded that the children with double diagnosis differed from those with diabetes alone in HLA genetics, humoral islet autoimmunity directed against fewer antigens, and in the lack of usual female preponderance among CD patients.

Evaluation of the FreeStyle® Libre Flash Glucose Monitoring System in Children and Adolescents with T1D. Massa GG et al. Horm Res Paediatr. 2018 Mar 27;89(3):189-199.

The FreeStyle® Libre Flash Glucose Monitoring System (FGM, Abbott) measures glucose concentrations in the interstitial fluid for up to 14 days and has been approved for use in children aged > 4 y. The accuracy and usability of the FGM was evaluated in 67 children with type 1 DM (35 girls), aged 4-18 years. They regularly measured capillary blood glucose (BG) with their usual BG meter. After 14 days, subjects were asked to fill in a questionnaire on the usability of the FGM. 2,626 SG readings were paired with BG results. FGM readings were highly correlated with BG ($r = 0.926$, $p < 0.001$). 80.3% of the data pairs were in zone A (= no effect on clinical action) and 18.4% were in zone B (= altered clinical action with little or no effect on the clinical outcome) of the CEG. Overall the mean difference (MD) was +7.5 mg/dL. 29 patients (43.3%) reported sensor problems, mainly early detachment of the sensor. Nonetheless, the usability questionnaire indicated high levels of

Diagnosis of congenital hyperinsulinism: Biochemical profiles during hypoglycemia. Sakakibara A et al. Pediatr Diabetes. 2018 Mar;19(2):259-264.

To define the ranges of biochemical markers during hypoglycemia for the diagnosis of congenital hyperinsulinism (CHI) using high sensitivity insulin assays - biochemical markers (glucose, insulin, β-hydroxybutyrate [BHB], free fatty acids [FFA], lactate, ammonia) - were measured at the time of hypoglycemia along with the maximal glucose infusion rate (GIR) to maintain euglycemia and clinical outcomes in 298 patients with CHI and 58 control patients with non-hyperinsulinemic hypoglycemia, who were diagnosed after 2007. Median levels of blood glucose in patients with CHI and in controls were 30 and 46 mg/dL, while insulin levels were 9.90 and undetectable (<0.5) μU/mL, respectively. Similarly, median levels of BHB were 17.5 and 3745 μmol/L, and those of FFA were 270.5 and 2660 μmol/L, respectively. For patients after 5 months, cut offs of insulin >1.25 μU/mL, BHB < 2000 μmol/L, and FFA < 1248 μmol/L predicted CHI with sensitivities of 97.5, 96.2, and 95.2% and specificities of 84.2, 89.3, and 92.3%, respectively. In addition, decreased gestational age, low birth weight, and elevated lactate at hypoglycemia were significantly more common in patients who were off treatment within 100 days without pancreatectomy. The authors concluded that the diagnostic value of insulin was improved, allowing for more efficient cut offs to be set for diagnosis after introduction of high-sensitive assays. Premature birth, low birth weight and elevated lactate might be helpful in predicting early remission of hypoglycemia.

Pituitary

Clinical Features and Response to Treatment of Prolactinomas in Children and Adolescents: A Retrospective Single-Centre Analysis and Review of the Literature. Breil T et al. Horm Res Paediatr. 2018 Feb 16.

A retrospective analysis of clinical, biochemical, and radiological features of 21 patients with pituitary adenomas was done. 12 patients (8 females) had prolactinomas (median age 14.2y, range 11-16.6y, 7 macro- and 5 micro-prolactinoma). The most common clinical symptoms were headaches (67%) and pubertal delay (67%). All patients with macroprolactinomas with prolactin concentrations >10,000 mU/L had at least 1 pituitary hormone deficiency. Cabergoline as first-line treatment induced normoprolactinemia (8 of 11 patients), reduced mean tumour volume by 80%, and ameliorated headaches (p = 0.016) and pubertal delay (p = 0.031). The authors concluded that adolescents with headaches and pubertal delay should be investigated for prolactinomas. Treatment with cabergoline is well tolerated and effective in reducing clinical symptoms and prolactin concentrations was well as inducing tumour shrinkage.

Low FT4 Concentrations around the Start of Recombinant Human Growth Hormone Treatment: Predictor of Congenital Structural Hypothalamic-Pituitary Abnormalities? Vanlersel L et al. Horm Res Paediatr. 2018;89(2):98-107.

Growth hormone (GH) treatment may unmask central hypothyroidism (CeH). To test the hypothesis that CeH diagnosed in children after starting GH treatment for nonacquired, apparently isolated GHD, points to congenital "organic" pituitary disease, the authors conducted a nationwide, retrospective cohort study including all children with nonacquired GHD between 2001-2011 in the Netherlands. 23 (6.3%) of 367 children with apparently isolated GHD were prescribed LT4 for presumed CeH within 2y after starting GH treatment. Similar to children already diagnosed with multiple pituitary hormone deficiency, 75% of these 23 had structural HP abnormalities. In children not prescribed LT4, low pre- or post-GH treatment FT4 concentrations were also associated with structural HP abnormalities. The authors concluded that in children with nonacquired, apparent isolated GHD, a diagnosis of CeH after, or a low FT4 concentration around the start of GH treatment, is associated with congenital structural HP abnormalities, i.e., "organic" pituitary disease.

Adrenal

Incidence and Characteristics of Adrenal Crisis in Children Younger than 7 Years with 21-Hydroxylase Deficiency: A Nationwide Survey in Japan. Ishii T et al. Horm Res Paediatr.2018 Feb 16.

To evaluate the incidence and characteristics of adrenal crises in young Japanese children with 21-hydroxylase deficiency (21-OHD), the Japanese Society for Pediatric Endocrinology (JSPE) conducted a retrospective nationwide survey of adrenal crises in children < 7y with 21-OHD, admitted to hospitals from 2011-2016. Adrenal crisis was defined as the acute impairment of general health due to glucocorticoid deficiency, with at least 2 symptoms, signs, or biochemical abnormalities. Data analysis of 378 patients with 1,101.4 person-years (PYs) revealed that 67 patients (17.7%) experienced at least 1 hospital admission for adrenal crisis at the median age of 2y. The incidence of adrenal crisis was calculated as 10.9/ 100 PYs (95% confidence interval [CI] 9.6-12.2). Infections were the most common precipitating factors; no factor was observed in 12.5%. Hypoglycemia occurred concomitantly in 27.4%. One patient died from severe hypoglycemia, resulting in a mortality rate of 0.09/ 100 PYs (95% CI 0.0-0.2). The authors concluded that adrenal crisis is not rare and can be accompanied by disastrous hypoglycemia in children with 21-OHD.

Growth & Puberty

Prediction of Spontaneous Puberty in Turner Syndrome Based on Mid-Childhood Gonadotropin Concentrations, Karyotype, and Ovary Visualization: A Longitudinal Study. Hankus Metal. Horm Res Paediatr. 2018;89(2):90-97.

To investigate whether karyotype, mid-childhood (6-10 y) follicle-stimulating hormone (FSH) and luteinizing hormone (LH) levels, and ultrasound (US) ovary visualization results can be used as indicators of spontaneous puberty in Turner syndrome (TS), clinical and biochemical data was evaluated in 110 TS girls. The age at diagnosis was 10.7±4.0 y; follow-up duration was 5.9±3.3 y. Spontaneous puberty was confirmed in 48%, and menarche in 20%; less frequently in 45,X girls. The mean age at Tanner stage B2 was 13.7±2.4 y and at menarche 14.2±1.7 y, regardless of the karyotype. The chance of spontaneous menarche was decreased in girls ages 6-10 y with FSH ≥6.7 IU/L. There was no correlation between US ovary visualization results and spontaneous puberty. The authors concluded that although spontaneous puberty and menarche occur more frequently in non-45,X girls, the karyotype cannot be used to predict them. However, the chance of spontaneous menarche can be predicted based on gonadotropin cut-off values.

Growth Trajectory in Children with T1DM: The Impact of Insulin Treatment and Metabolic Control. Bizzarri C et al. Horm Res Paediatr. 2018 Feb 16.

To analyse pubertal growth, adult height (AH), and metabolic profile in a cohort of children with T1DM undergoing intensive insulin treatment by multiple daily injections (MDI) or continuous subcutaneous insulin infusion (CSII), 104 children (51 males) with prepubertal onset of T1DM were prospectively followed up till final height attainment. Ages at puberty onset and at AH attainment were 11.7 ± 1.1 y and 16.4 ± 1.6 y in males; and 10.9 ± 1.3 y and 14.1 ± 1.8 y in females. Pubertal height gain was 24.4 ± 4.9 cm in males and 19.0 ± 3.8 cm in females. HbA1c, HDL cholesterol, and triglyceride levels increased during puberty. HDL-c levels were higher in patients on CSII. Height standard deviation score (SDS) at puberty onset (0.22 ± 1.1) and AH (-0.1 ± 1.02) were not significantly different from target height SDS. BMI SDS showed a positive trend from diagnosis to puberty onset and stabilized later (-0.04 ± 1.4 at T1DM onset, 0.55 ± 2.1 at puberty onset, and 0.53 ± 2.1 at AH). The authors concluded that although subtle abnormalities of growth still persist, the modern advancements of insulin therapy are able to normalize puberty and final height of children with T1DM.

Thyroid

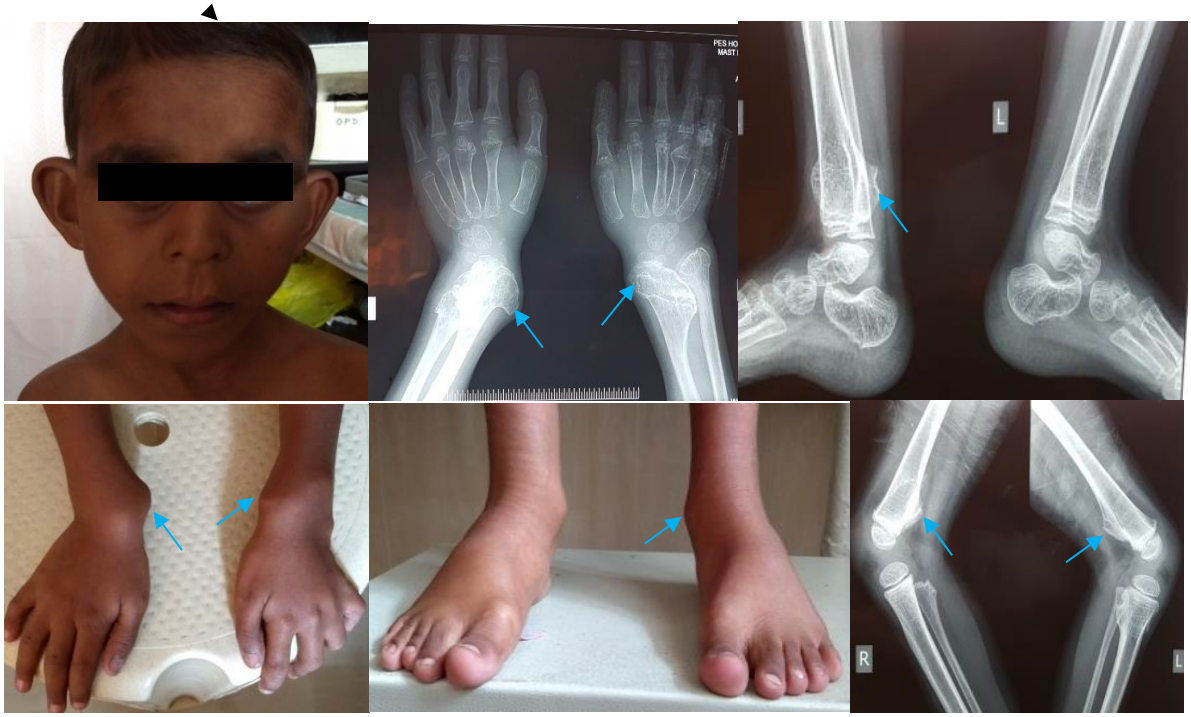
Thyroid Hormone Status in Overweight Children with Attention Deficit/Hyperactivity Disorder. Langrock C et al. Horm Res Paediatr. 2018 Jan 10.

There is an ongoing discussion whether thyroid hormones are involved in the development and course of attention deficit/hyperactivity disorder (ADHD). The authors hypothesized that overweight children with ADHD show higher TSH and fT3 concentrations compared to overweight children without ADHD. TSH, fT3 and fT4 levels were analyzed in 230 children (60.9% boys, age 9.3 ± 1.7 y). Overweight children with ADHD did not differ significantly from overweight children without ADHD with respect to TSH, fT3, or fT4 concentrations. Inattention and hyperactivity/impulsivity scores were not significantly related to TSH or fT3 in multiple regression analyses adjusted for age, gender, and migration background. These findings point against the hypothesis that thyroid hormones might link overweight and ADHD in children.

Photo Quiz

Soundaram V, Vani HN, Raghupathy P, Indira Gandhi Institute of Child Health, Bengaluru

A 9 yo boy with subnormal intelligence was brought with the history of short stature and bony swellings in the limbs noticed since 1y of age. He had pain in the hand while writing, and in the legs while walking. On examination, height was 109.8 cm (-3.44 SD), weight 15 kg (-3.52 SD), Head Circumference 46 cm (<-2SD) and Upper Segment: Lower Segment ratio was 0.94:1. He had a dysmorphic face, characterized by thick eyebrows, deep set eyes, bat shaped ears (anteriorly rotated), low anterior hairline, long philtrum, partial cutaneous syndactyly of 2nd, 3rd and 4th toes, small nails, brachydactyly, umbilical hernia, reverse Madelung deformity of both wrists, exostoses in both wrists, scapula, right lower femur, and both ankles; the left foot was internally rotated due to exostoses.



1. What is the diagnosis? 2. What are the typical facial features? 3. What are the radiological features?

Conference Report: "PEDICON 2018"

Hari Mangtani, Abhishek Kulkarni, Tushar Godbole

The 55th National PEDICON was held at Nagpur from 3-7 January 2018. A part of the conference, an An Endocrine Workshop was conducted on 3rd January and an Endocrinology CME on the 4th. The day-long Workshop was conducted at Hotel Centre Point, Nagpur. In the pre-lunch session, Growth chart plotting and Day-care management of Type 1 diabetes were covered. The post-lunch session included obesity, metabolic syndrome and thyroid disorders, including congenital hypothyroidism and thyrotoxicosis. The workshop was attended by 35 delegates. Dr Hari Mangtani arranged it; faculty included Drs Vaman Khadilkar, Rahul Jahagirdar, Abhishek Kulkarni, Tushar Godbole, Ruchi Parikh, Prashant Patil, Aniket Kumbhojkar and Supriya Gupte.

The Endocrinology CME, coordinated by Dr Abhishek Kulkarni, was conducted in Hall # 10 of the Reshimbaug Ground. The topics included Endocrine problems in the OPD, Growth charting, Short Stature, Obesity, Neonatal endocrinology, T1DM office management, Vitamin D deficiency, PCOD, delayed puberty and GH treatment. Among the faulty were Drs Vaman Khadilkar, Subrata Day, Anju Virmani, Anurag Bajpai, Anjana Hulse, Ahila Ayyavoo, M Vijaykumar, Vijayasarathi, I Riaz, Ganesh Jevalikar, Tushar Godbole, Hemchand Prasad, Amarnath and Kumar Angadi. It was well attended by more than 250 delegates, with no place even to stand at times during the day.

The Chapter Symposium on Pediatric & Adolescent Endocrinology was conducted on 5th January 2018**.** It focused on Childhood diabetes with talks on DKA by Dr Hemchand Prasad, 'When to think of other forms of diabetes' by Dr Santhosh Olety, and a panel discussion on ambulatory care of diabetes, moderated by Dr Anurag Bajpai, with panelists Drs Anjana Hulse, Saurabh Uppal, Riaz and Kumar Angadi.

Other endocrine content included lectures by Dr Vaman Khadilkar on 'Growth Hormone Therapy: Dilemma in Clinical practice' (5th Jan) and 'Friendship with Growth Charts' (6th Jan). On 7th Jan, Dr Shaila Bhattacharyya moderated a panel discussion on 'Short Stature-Big talk on Small'; panelists were Drs Ganesh Jevalikar, Hari Mangtani, Abhishek Kulkarni, Vijaya Sarathi and Pranab K Sarma.

Activities by ISPAE Members

Meena Mohan, Aquest Clinic, Peelamedu, Coimbatore

As part of World Diabetes Day celebrations, various activities conducted included an Update on diabetes education for nurses in Masonic Medical Centre on 17.11.2017. About 50 nurses and nursing students were educated on basics of T1D, injection techniques, importance of blood glucose monitoring, etc. On 19.11.2017, 60 children with diabetes and their families gathered at Botanic Gardens, Agricultural University Campus, Coimbatore. The Chief Guest was a senior auditor in the city; an adult endocrinologist and an adult diabetologist also graced the occasion. HbA1c and

TFTs were tested free of charge before the activities commenced. The program began with a prayer song; a booklet named **SEVENTH TASTE** was released by the chief guest and given to all the children. All the mothers of children with T1D had been requested to contribute recipes of dishes they made in their kitchens on a day to day basis. They provided the recipes in both Tamil and English, and a group of 3 mothers helped in translating and collating the recipes provided. The doctors addressed the gathering for a few minutes, followed by a photo session.

Healthy snacks - channa dhal and mint juice - were enjoyed by all. Motivational interviewing was discussed by psychologist Dr Radhakrishnan, which boosted the energy levels of the children and their families. Tips on dealing with stress on a daily basis were given. Parents who were able to manage their children well on a day to day basis, shared their thoughts and views, followed by a talk by pediatric diabetes nurse educator Mrs Shobana.

A yoga session for children and their parents demonstrated that parents can be their children's role models and motivate them on an ongoing basis. A few children already practicing yoga regularly exhibited a few difficult and mind-blowing yoga postures. After a healthy lunch with millets and chapathis, a few moms concluded with a demo session on healthy snacks. All the participants thoroughly enjoyed the fun packed activity through the day and were very grateful. We all had a tiring but memorable day, and look forward to many more such exciting activities.

Dr Anurag Bajpai, Kanpur

VII Practical Pediatric Endocrinology Course (PPEC), 18th March 2018, Bhopal

The VII PPEC was organized under the auspices of Department of Pediatrics, AIIMS Bhopal and the GROW Society on 18/3/18. The course used 6 case-based modules to provide information about common Pediatric Endocrinology issues to pediatricians. The faculty included Professor Anju Seth, and Drs Anurag Bajpai, Smita Koppikar, Yuthika Bajpai, Abhishek Kulkarni, Bhanu Kiran Bhakhri, and Mahesh Maheshwari. The over 100 doctors from Madhya Pradesh and Chattisgarh who attended were provided a comprehensive resource book covering all aspects dealt with in the meeting.

Pediatric Endocrinology for Postgraduate Program (PEP), 17-18 Feb 2018.

A PEP organized at the Council for Leather Exports, Kanpur, on 17-18/3/18 under the auspices of Regency CDER, Kanpur Academy of Pediatrics and GROW Society, trained 60 postgraduates from across the North Central Region regarding different aspects of Pediatric Endocrinology. Eminent faculty from across the country including Professor P Ragupathy, and Drs Subrata Dey, Hemchand Prasad, Amarnath Kulkarni, Mahesh Maheshwari, Ayesha Ahmad, Vijay Jaiswal, and Sanjay Kumar, used cased based modules to implement the course.

S Ramkumar, Endocrinologist, Government Hospital for Women & Children (ICH & IOG), Madras Medical College, Chennai

The Department of Endocrinology, Government Hospital for Women & Children (IOG), Madras Medical College, Chennai, in association with the Indian Academy of Pediatrics – Chennai City Branch (IAP-CCB), organized a **CME on Neonatal Endocrinology** on 18th Feb 2018 at Chennai. It was inaugurated by Dr Edwin Joe, Directorate of Medical Education, Dr Shanthi Gunasingh, Director, IOG, Dr Srinivasan, NICU State Nodal Officer, and Dr Sudhakar, IAP-CCB Secretary. Eight endocrinologists from Tamil Nadu, Telangana and Karnataka spoke on congenital hypothyroidism, undescended testes, CAH, neonatal diabetes, neonatal hypoglycemia, neonatal hypocalcemia, and approach to ambiguous genitalia; followed by a panel discussion by a neonatalogist, a pediatrician, and an endocrinologist on GH therapy in SGA. About 100 doctors (including senior pediatricians and neonatologists) from Tamil Nadu participated and gave positive feedback.

Vaman Khadilkar, Pune

A half-day Pediatric Endocrine CME was organized on 15th April 2018 by Pune IAP at Bharati Hospital Pune, where common endocrine problems in pediatric practice were discussed. It was attended by about 200 pediatricians, pediatric endocrine fellows and post-graduates of Pune district. Dr Vaman Khadilkar spoke on growth disorders and precocious puberty; Dr Rahul Jahagirdar on thyroid disorders, Dr Ruma Deshpande on growth charts, Dr Supriya Gupte on approach to an obese child, Dr Vijaya Sarathi on delayed puberty and congenital adrenal hyperplasia, and Dr Anuradha Khadilkar on newer concepts in calcium and vitamin D disorders. There was a panel discussion where day to day practice issues were discussed and audience questions were addressed. The CME was well appreciated; sessions were interactive and generated a lot of discussion.

Dr. Varuna Vyas, Assistant Professor, Pediatrics, All India Institute of Medical Sciences, Jodhpur

World Diabetes Day and Children's Day celebration at AIIMS Jodhpur

On the occasion of Children's Day and World Diabetes Day on 14 November 2017, AIIMS Jodhpur, under the guidance of the Director of the Institute Dr Sanjeev Misra, and Dean (Academics) Dr Kuldeep Singh, organized an interactive session for 400 middle school students invited from various schools in Jodhpur. The purpose was to raise awareness about diabetes, on the Day celebrated in memory of Fredrick Banting, and to remove common misconceptions relating to what is healthy and unhealthy. The children were told about the difference between type 1 and type 2 diabetes and how type 2 diabetes was preventable with the help of a healthy lifestyle. They were educated about avoiding fried and high-sugar-and-fat-containing food items, and having whole fruits rather than juices. The importance of exercise comprising of vigorous physical activity for at least 5 days a week being a part of the daily routine was emphasized, as was the fact that giving these messages to children would mean better spread into the community now and in the future. The sessions teaching the school students about a healthy lifestyle were conducted by Dr Varuna Vyas, Dr Ravindra Shukla (Assistant Professor, Endocrinology) and Dr Ankita Chugh (Associate Professor, Dentistry), with active participation of students of the School of Public Health. A free blood sugar and BP check-up camp also saw a very good response. The event concluded with the screening of a children's movie.

Dr Tushar Godbole, Nashik

Harmony Sweet-hearts: a networking program for young diabetics

Harmony Health Hub, Nashik organized a networking event for youngsters ages 15-30y with T1D. This age group shares peculiar social and psychological diabetes related issues, which were addressed by Dr Atul Kanikar [Adolescent Expert] and Dr Abhijit Karegaonkar [Psychiatrist] in a dialogue with the 25 participants who attended. Many issues such as sexual health, self-care, psychological issues, behavioral issues, and diabetes compliance were discussed, with good interaction and sharing of problems. Parents were not allowed in this event, to keep the environment adolescent friendly. Dr Tushar Godbole, who organized this event, summarized and expressed a vote of thanks.

Dr Ashok Venkatanarasu, Consultant Endocrinologist, Yashoda hospital, Secunderabad

Diabetes Book release

Dr Ashok Venkatanarasu has authored a book on diabetes, for improving awareness and knowledge about diabetes, for the lay public, in Telugu (***Mee sugar vyadhi gurunchi telusukondi aanandanga jeevinchandi)*** and English (**Know your diabetes for a happy life**). These books are published by EMESCO books, Hyderabad, and cost only Rs 50. They were released in August 2017 by Dr Alok Sachan, Head, Department of Endocrinology, and Dr V Suresh, Professor, Department of Endocrinology, SVIMS, Andhra Pradesh, and by IMA chapter of Kamareddy district in Telangana state. The books are available in all leading book stores in Andhra and Telangana and at **amazon.in.**

Publications by ISPAE Members

Rama Walia, Department of Endocrinology, PGIMER, Chandigarh

1. Balachandran B, Mukhopadhyay K, Sachdeva N, Walia R, Attri SV. Randomised controlled trial of diazoxide for small for gestational age neonates with hyperinsulinaemic hypoglycaemia provided early hypoglycaemic control without adverse effects. Acta Paediatr. 2018 Jan 31. doi: 10.1111/apa.14252. [Epub ahead of print]
2. Rameshbabu M, Sundaram V, Sachdeva N, Walia R, Saini SS, Dutta S. Association between plasma cortisol and death or vasopressor refractory hypotension in preterm neonates: a prospective, cohort study. J Perinatol. 2018 Feb 9. doi: 10.1038/s41372-018-0059-1.
3. Khajuria R, Walia R, Bhansali A, Prasad R. Functional characterization and molecular modeling of the mutations in CYP21A2 gene from patients with Congenital Adrenal Hyperplasia. Biochimie. 2018 Apr 20. pii: S0300-9084(18)30099-3.
4. Jarial KDS, Bhansali A, Gupta V, Singh P, Mukherjee KK, Sharma A, Vashishtha RK, Sukumar SP, Sachdeva N, Walia R. Diagnostic accuracy and comparison of BIPSS in response to lysine vasopressin and hCRH. Endocr Connect. 2018 Mar;7(3):425-432. doi: 10.1530/EC-18-0046. Epub 2018 Feb 12.
5. Sukumar SP, Bhansali A, Sachdeva N, Ahuja CK, Gorsi U, Jarial KD, Walia R. Diagnostic utility of testosterone priming prior to dynamic tests to differentiate constitutional delay in puberty from isolated hypogonadotropic hypogonadism. Clin Endocrinol (Oxf). 2017 May;86(5):717-724. doi: 10.1111/cen.13321. Epub 2017 Mar 28.

Ashok Venkatanarasu, Consultant Endocrinologist, Yashoda Hospital, Secunderabad

1. Ashok V, Sachan A. Organ specific autoimmunity in type 1 diabetes mellitus. J Clin Sci Res 2017;6:103-112.
2. Ashok V, Suresh V, Sachan A, Vengamma B, Bitla AR, Shalini P, et al. Iatrogenic hypercalcemia in an elderly lady. J Clin Sci Res 2017;6:121-124.
3. Santosh B, Balasubramaniam A, Boddula A, Hegde A, Chinte C, Venkatanarasu A, Milap S. Thyroid stimulating hormone (TSH) secreting pituitary adenoma: a rare cause of thyrotoxicosis. Int J Adv Res. 2017;5:114-117.

Presented a poster at IDF-2017, Abu Dhabi on "Intensity of LDL cholesterol lowering with atorvastatin among type 2 diabetes.

Suraiya Begum, Dhaka, Bangladesh

1. Begum S, Shamily KH, Luna SA. Autoimmune polyendocrine syndrome type 1 - Case Report. International Journal of Current Medical and Pharmaceutical Research 2017;3:2177-2180.
2. Begum S, Dey SK. Clinical profile and pattern of congenital heart disease in infant of diabetic mother and infant of non-diabetic mother at a tertiary care hospital. Journal of Neonatal-Perinatal Medicine 2017;10:403-408.

Varuna Vyas, Assistant Professor Pediatrics All India Institute of Medical Sciences, Jodhpur

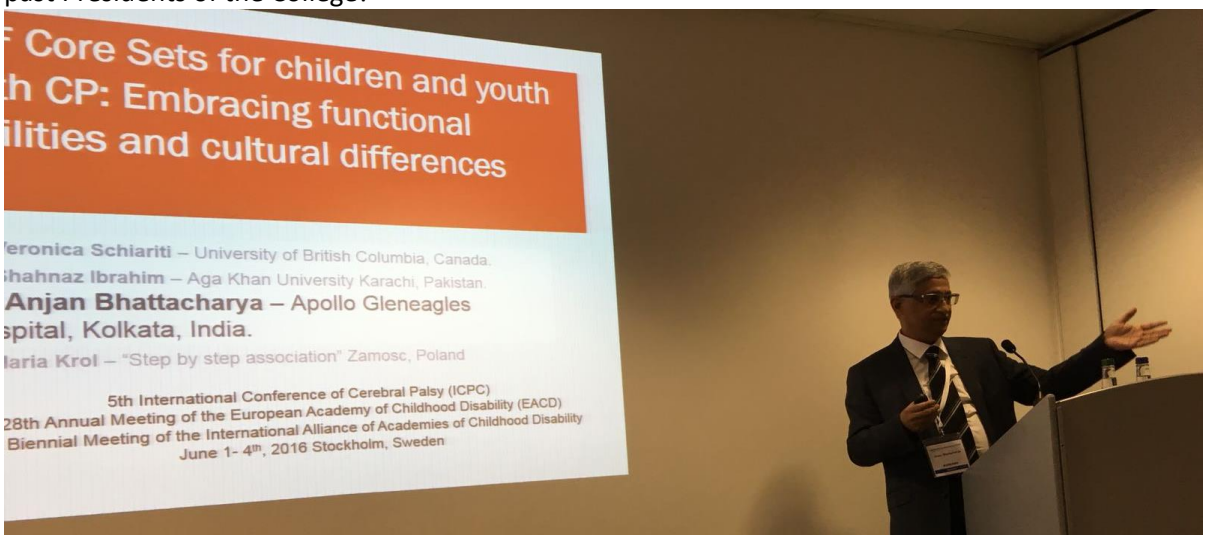
1. Vyas V, Kumar A, Jain V. Growth Hormone Deficiency in Children: From Suspecting to Diagnosing. Indian Pediatr. 2017 Nov 15;54(11):955-960.

Awards and Fellowships

Medha Goel, New Delhi

Dr Medha Goel has been conferred the ISPAE Observership Award 2016 on 24thNovember 2017 at Coimbatore after successfully completing her observership at AIIMS, New Delhi.

Dr Anjan Bhattacharya, an ISPAE member and a Developmental Paediatrician from Kolkata was recently invited to deliver a guest lecture at the Annual Conference of the Royal College of Paediatrics & Child Health, UK, at Glasgow. It is a rare achievement as an invited lone speaker from abroad at a RCPCH session (BAPIO), which hosted speeches by the current and the immediately past Presidents of the College!



Answers to Photo Quiz:

1.Trichorhinophalangeal syndrome type 2 (TRPS2) or Langer Giedion syndrome

2. Sparse scalp hair, thick eyebrows, bulbous nasal tip, thickened cartilages of alae nasi, upturned nares, prominent philtrum, micrognathia, thin vermilion line of upper lip, abnormal teeth, and large protruding ears.

3. Multiple cone shaped epiphyses and multiple cartilaginous exostoses in long and short bones. It is a rare gene deletion disorder considered to be an autosomal dominant condition, but mostly sporadic. The difference between TRPS1 and TRPS2 is the presence of exostoses and intellectual disability in the latter. TRPS2 is a contiguous gene deletion syndrome with deletions in TRPS1 (typical hair, facial features and cone shaped epiphyses), EXT1 (osteochondromas), RAD21 (intellectual disability) genes on chromosome 8q24.1-q24.13. Exostoses are present in flat bones and "growing ends" of long and short bones. At puberty, as the growth plate fuses and linear growth ceases, no new exostoses develop. Complications such as Perthe's disease, osteomas, growth hormone deficiency, infertility and malignant transformation are known to occur. Treatment is usually supportive. In case of complications due to exostoses such as pain, limited range of joint movement, and pressure on nerves, blood vessels or the spinal cord, surgical intervention is necessary.

Upcoming Events

All India Association for Advancing Research in Obesity (AIIORO) Conference AIAAROCON 2018

Here is an opportunity to update ourselves to tackle one of the important Public Health challenges of the 21st century, that is obesity. The 13th National Obesity Conference 'AIAAROCON 2018', a state of the art conference will be held from 7-9th Sep 2018 at Aurangabad, Maharashtra. Dr Priti Phatale is the Organising Secretary and Dr Hemanth Phatale the Organising Chairperson. The conference features a pre-conference workshop-cum-certificate course with the theme 'Basics to Clinical Practice'.

For further information contact @ **www.aiaarocon2018.com**