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REVIEW ARTICLE

CLINICAL STUDY

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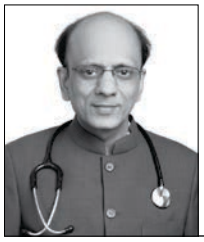

Dr KK Aggarwal
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CMAAO Coronavirus Facts and Myth Buster: Around the Globe

National Comprehensive Cancer Network (NCCN) – Preliminary Recommendations for COVID-19 Vaccination in Patients with Cancer

Patients receiving hematopoietic cell transplantation or cellular therapy: Coronavirus disease 2019 (COVID-19) vaccination should be done ≥3 months after hematopoietic cell transplantation (allogeneic or autologous) or cellular therapy (e.g., chimeric antigen receptor [CAR] T-cell therapy).

Patients with hematologic malignancies: For patients receiving intensive cytotoxic chemotherapy, vaccination against COVID-19 must be delayed until the absolute neutrophil count has recovered. For patients with marrow failure due to disease or treatment who are likely to have limited or no recovery, and for those on long-term maintenance therapy, vaccination should be done when the vaccine becomes available.

Patients with solid-tumor malignancies: For patients who are receiving cytotoxic chemotherapy, targeted therapy, checkpoint inhibitor therapy or other immunotherapy, or radiation therapy, vaccination should be done when the vaccine becomes available.

For patients who have to undergo a major surgery, COVID-19 vaccination must be postponed until at least a few days after surgery.

(Excerpts from Medscape)
With input from Dr Monica Vasudev

REVIEW ARTICLE

Medication Reconciliation

KASTHURI P*, N CHIDAMBARANATHAN†, LATHA VENKATESAN‡

ABSTRACT

The Institute of Medicine (IOM) stated that preventable medication errors are the most common type of errors in healthcare. It is of fundamental significance when building a safer care continuum, as it highlights the reason for continuous and more vigilant medication reconciliation and required effort at all interfaces of care, including community. Without a robust medication reconciliation process, the potential for catastrophic outcomes remains a constant concern. Prevention of medication errors is essential through strategies that are based in evidence of medication reconciliation strategies on medication errors in community.

Keywords: Medication errors, healthcare delivery system, medication reconciliation, adverse drug reaction, quality improvement

Medication safety is a significant issue in hospitals and throughout healthcare. Great improvements are needed, and hospitals are engaged in many efforts to reduce errors and increase this aspect of patient safety. Nurses are the most involved at the medication administration phase, although they provide a vital function in detecting and preventing errors in the prescribing, transcribing and dispensing stages too. Administration errors constitute a significant proportion of all errors, yet, there isn't much known about the causes or about the effectiveness of proposed solutions.

Research addressing the complex process of medication use in hospitals is the need of the hour and requires a new approach to produce valid knowledge from studies done in the field with few controls of confounding factors. There is a large and growing body of research addressing medication safety in healthcare.

MEDICATION ERRORS

Any preventable event that may cause or lead to inappropriate medication use or patient harm, while the medication is in the control of the healthcare professional, patient or consumer is termed a medication error. These events may be associated with professional practice, healthcare products, procedures and systems, including prescribing; order communication; product labeling, packaging and nomenclature; compounding; dispensing; distribution; administration; education; monitoring and use.

Some of the factors associated with medication errors include the following:

- Medications with similar names or similar packaging
- Medications that are not commonly used or prescribed
- Commonly used medications to which many patients are allergic (e.g., antibiotics, opiates and nonsteroidal anti-inflammatory drugs).

ERROR-PRONE PROCESSES

There are five stages of the medication process: (a) ordering/prescribing, (b) transcribing and verifying, (c) dispensing and delivering, (d) administering and (e) monitoring and reporting. Monitoring and reporting is a newly identified stage about which there is little research. Some of the most noted hospitalized

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patients suffer preventable injury or even death as a result of adverse drug events (ADEs) associated with errors made during the prescribing, dispensing and administering of medications to patients.

Nurses are primarily involved in the administration of medications across settings. Nurses can also be involved in both the dispensing and preparation of medications (similar to pharmacists), such as crushing pills and drawing up a measured amount for injections. Preliminary research on medication administration errors (MAEs) reported an error rate of 60%.

Medication errors have been reported mainly in the form of wrong time, wrong rate or wrong dose. In other studies, approximately one out of every three ADEs were attributable to nurses administering medications to patients.

MEDICATION ERROR-PREVENTION STRATEGIES

Medication errors are common in hospital settings. To limit and mitigate these errors, it is necessary to have a thorough knowledge of the medication-use process in the emergency department and develop strategies targeted at each individual step. Some of these strategies include medication-error analysis, computerized provider-order entry systems, automated dispensing cabinets, barcoding systems, medication reconciliation, standardizing medication-use processes, education and emergency-medicine clinical pharmacists.

NURSES' EDUCATION AND TRAINING

Lack of medication knowledge is a constant problem, and there is a need to continually gain more knowledge about current and new medications. Nurses with more education and experience may have greater knowledge of medications.

Educational Strategies Aimed to Improve Medication Safety and Avert Unnecessary Medication Errors

Educational and training programs on drug therapy are required for medical/paramedical students, drug prescribers (doctors) and nurses (administering drugs) to reduce drug errors and to improve patient safety. A systematic approach is urgently needed to decrease organizational susceptibility to error, through providing required resources to monitor, analyze cause of errors and implement preventive strategies to reduce them.

A proper functioning national standardized system for medication errors detection and reporting using a unified terminology all over the country is necessary to allow for better knowledge sharing and practice change.

Medication Reconciliation

Medication reconciliation is a process that matches a patient's current hospital medication regimen against a patient's long-term medication regimen.

Or

Medication reconciliation is the process of comparing an individual's medication orders to all of the medications that the individual has been taking. It is a process that is an integral part of safety for older adults living in their homes in community settings.

Medication reconciliation is flexible enough to enhance hospital specific workflows and keep current on new information (Medication Reconciliation) relating to prescription medications and their reactions while supporting and exceeding the Patient Safety Goals, i.e.,From admission, transfer and discharge to post visit patient care, including community. Medication reconciliation simplifies the process of reconciling a patient's medication therapy across the continuum of care. Healthcare system (HCS) works with hundreds of hospitals across the nation to simplify and streamline medication reconciliation. While every hospital has a goal of improving patient safety and saving time, every hospital is unique with its policies, protocols and guidelines.

SOLUTIONS OF MEDICATION RECONCILIATION

- Obtain a patient's prior medication history including medication fill and refill information and previous visit information.
- Analyze prior medication history.
- Provide medication transfer and discharge reports electronically or through printed media.
- Provide discharge prescriptions including patient medication education.
- Communicate and link directly to existing hospital clinical information systems.
- Identify high risk patients for medication nonadherence and obtain fill/refill information for clinicians use in follow-up visit.

HCS medication reconciliation has been proven to save time and increase accuracy during medication reconciliation:

- 2.4 more critical medications identified during admission

- 50% increase in computerized physician order entry
- 51-minute reduction in time to reconcile
- 23% increase in ordered critical medications.

Components of medication reconciliation include:

- Medication procurement
- Medication knowledge.

Medication procurement

- How and where the patient obtains and refills prescriptions?
- How the patient pays for the medications?
- Whether or not medication doses are ever missed due to lack of funds?

Steps for self-medication management

- Assessing the patient's knowledge of dose and frequency of medications
- Special instructions related to medications
- Medication mode of action
- Side effects to monitor and report
- Monitoring with each change in medication regimen.

Medication Knowledge

- Provide educational materials including medication instructions written in large letters and in bullet or list format, use of medication schedules and tailored instructions on how medications should be taken.
- Patients also need to understand the importance of communicating any changes in their medications to their healthcare providers.
- Patients should be encouraged to bring the medication list with them to physician visits to encourage medication reconciliation, and the list should be updated when medications are added or discontinued.
- Pharmacists can help empower patients by teaching them what it means to be an alert consumer and involved in their healthcare.

Medication reconciliation is centred on the safety principle of independent redundancy. Independent redundancy is a process whereby more than one care provider checks to make sure procedural steps are completed correctly.

The specific issues most in need of research (QI-Quality Improvement activities) are as follows:

- Barcoding and other medication safety technology—widely recommended, but little or no valid research using before-and-after designs.
- Independent RN double-checks—logical and widely recommended, but no research has been done describing, let alone testing, the effects of this policy.
- Relationship between nurse staffing and medication errors—a few descriptive studies and studies asking RN perceptions of the problem suggest that staffing and workload are major factors, but there are no research studies using valid and reliable data.
- Techniques to reduce distractions, interruptions, other risk factors for medication error need to be tested.
- Methods of effective education in medication safety for nurses and all care providers.
- Effectiveness of implementing new checklists, policies and procedures.
- Understanding work-arounds.
- Methods and techniques for successful implementation of system and process change.

Current Medication Proforma (For Medication Reconciliation)

Current medications	Dose	Route	Frequency	To be continued during hospital stay	Patient/ Family teaching
				Yes/No	Yes/No
				Yes/No	Yes/No
				Yes/No	Yes/No
				Yes/No	Yes/No
				Yes/No	Yes/No

CONCLUSION

Medication safety for patients is dependent upon systems, process and human factors, which can vary significantly across healthcare settings. Hence, corrective actions should target priority areas and root causes to prevent recurrence. There is a need of quality-improvement programs that focus on educating the staff about medication errors and the importance of reporting.

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CLINICAL STUDY

Study of Thyroid Function Tests in Patients with Metabolic Syndrome

BALVIR SINGH*, PAWAN KUMAR VISHWAKARMA†, ABHINAV GUPTA†, RAM PRATAP SINGH†, CHANDRA PRAKASH†

ABSTRACT

Background: The metabolic syndrome is a constellation of clinical and metabolic abnormalities including abdominal obesity, hypertension, dyslipidemia and impaired fasting glucose or impaired glucose tolerance. Metabolic syndrome and thyroid dysfunction are independent risk factors for cardiovascular disease. **Aims and objectives:** To study the prevalence, symptomatology of thyroid dysfunction and fine needle aspiration cytology (FNAC) findings of thyroid in the patients having metabolic syndrome. **Material and methods:** The study was carried out in 60 cases of metabolic syndrome (according to NCEP ATP III criteria) selected from the medicine outdoor clinic (including diabetic clinics, thyroid clinics) and medicine indoor wards in Post Graduate Department of Medicine, SN Medical College and Hospital, Agra. Diagnosis of thyroid dysfunction was made by history, examination and serum FT4 and TSH. **Result and observations:** Out of 60 patients of metabolic syndrome, 30 patients (50%) were euthyroid, 13 patients (21.66%) had subclinical hypothyroid and 12 patients (20%) had overt hypothyroid. Five patients (8.33%) of metabolic syndrome had hyperthyroidism. Truncal obesity was most prevalent (80.0%) component of metabolic syndrome, followed by hypertriglyceridemia (70%). Diabetes mellitus was equally prevalent in both males as well as females and was present in about 40.0% patients and 53% of patients with metabolic syndrome were hypertensive. **Conclusion:** This study shows that 50% metabolic syndrome patients had thyroid dysfunction. About 21.66% had subclinical hypothyroidism, 20% had overt hypothyroidism and 8.33% were having hyperthyroidism. The most common symptom in metabolic syndrome patients with hypothyroidism was lethargy/sleepiness followed by dry and coarse skin. The most common symptom in hyperthyroid patients was nervousness (100%) followed by sweating, heat intolerance and palpitation in 80% of the patients.

Keywords: Metabolic syndrome, subclinical hypothyroid, hypothyroid, hyperthyroid

The metabolic syndrome is a constellation of clinical and metabolic abnormalities including abdominal obesity, hypertension, dyslipidemia and impaired fasting glucose or impaired glucose tolerance. All these manifestations are surrogate markers of insulin resistance which is the crux abnormality associated with metabolic syndrome. Thyroid hormones markedly stimulate the basic metabolic rate and the metabolism of carbohydrate, lipids and proteins. This hormone appears to serve as a general pacemaker accelerating metabolic process and may be associated with metabolic syndrome. It also plays an important role in the development of the reproductive system. As metabolic syndrome and thyroid dysfunction (subclinical or overt hypothyroidism and hyperthyroidism) are independent risk factors for cardiovascular disease, it is possible that patients suffering from both these disease entities may have a compounded risk.

AIMS AND OBJECTIVES

The aim of this study was to determine the prevalence, symptomatology of thyroid dysfunction and fine needle aspiration cytology (FNAC) findings of thyroid in the patients having metabolic syndrome.

MATERIAL AND METHODS

In our study, 60 patients of metabolic syndrome without liver disease (viral, alcoholic, drug, autoimmune, etc.), chronic renal disease, pancreatitis and pregnancy were studied. Their clinical (age, sex, family history and blood pressure), biochemical (thyroid-stimulating hormone [TSH], free thyroxine [FT4], lipid profile,

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blood sugar) and thyroid FNAC profiles were studied. According to the National Cholesterol Education Program Adult Treatment Panel III (NCEP ATP III) at least three of the following criteria should be present to diagnose metabolic syndrome:

- Elevated waist circumference: Men - ≥90 cm for Indians, Women - ≥80 cm for Indians.
- Elevated triglycerides: ≥150 mg/dL.
- Reduced HDL ("good") cholesterol: Men - <40 mg/dL, Women - <50 mg/dL.
- Elevated blood pressure: ≥130/85 mmHg.
- Elevated fasting glucose: ≥110 mg/dL.

The thyroid hormone assays (FT4 and TSH) were done using enzyme-linked immunosorbent assay (ELISA), and fasting blood sugar, triglycerides and high-density lipoprotein cholesterol (HDL-C) were done enzymatically on Roche Automated Clinical Chemistry Analyzer.

Diagnosis of thyroid dysfunction was made by FT4 and TSH - *Euthyroid:* normal TSH and normal FT4; *Subclinical hypothyroidism:* high TSH and normal FT4; *Hypothyroidism:* high TSH and low FT4 and *Hyperthyroidism:* low TSH and high FT4.

OBSERVATIONS AND RESULTS

Our study group consisted of 24 male (40%) and 36 (60%) female patients. Male-to-female ratio was 2:3. Majority of patients (40.0%) belonged to age group 40-49 years. Mean age of all the patients was 47.6 ± 7.5 years. The mean age of males and females was 49.6 ± 8.0 and 46.2 ± 7.1, respectively.

The prevalence of components of metabolic syndrome (Fig. 1) in men and women were, central obesity in 18 (75%) and 30 (83.3%) patients, respectively; low HDL-C in 12 (50%) and 28 (77.8%) patients, respectively; high triglycerides in 18 (75%) and 24 (66.7%), respectively; impaired fasting glucose (>100 mg/dL) or diabetes in 12 (50.0%) and 12 (33.3%), respectively and elevated blood pressure in 18 (75%) men and 32 (88.9%) women.

Out of 60 patients of metabolic syndrome (Fig. 2), 30 patients (50%) were euthyroid, 13 patients (21.66%) had subclinical hypothyroid and 12 patients (20%) had overt hypothyroid while 5 patients (8.33%) had hyperthyroid.

The most common symptom (Table 1) in both subclinical and overt hypothyroid patients was (77.77%) lethargy (sleepiness) followed by dry and coarse skin (72.22%), cold intolerance (66.66%), puffiness of face (66.66%),

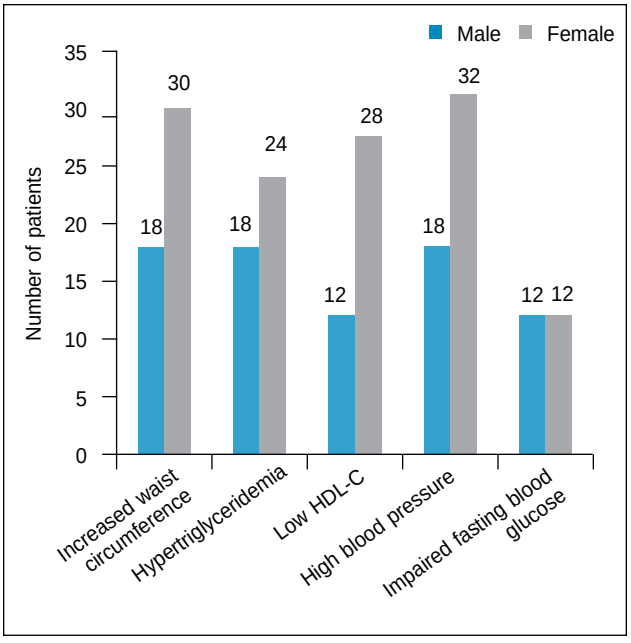

Figure 1. Different components of metabolic syndrome in the study group.

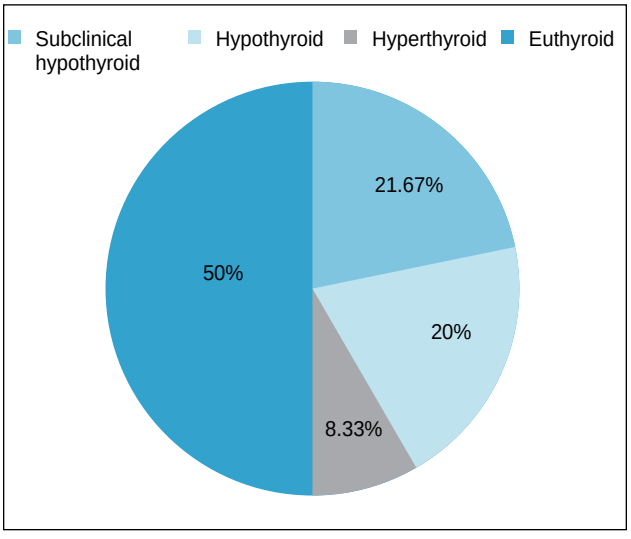

Figure 2. Thyroid dysfunction in study group.

constipation (61.11%), depression (55.55%) and body aches (55.55%). Weight gain was seen in 50% and paresthesia in 44.44% hypothyroid patients. Thyroid gland size was enlarged in (33.33%) 6 patients. Five hypothyroid females (35.71%) had menorrhagia. Hair loss was present in 5 patients (27.77%).

The total number of hyperthyroid patients was 5 in the study. The commonest symptom (Table 2) was nervousness (100%) in our patients. Other symptoms like sweating (80%), hypersensitivity to heat (80%) and palpitation (80%) were also common in these patients. Fatigue, weight loss and enlarged thyroid (goiter) were

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Table 1. Prevalence of Symptomatology of Hypothyroidism in the Study Group

Symptoms	Male (n = 4)		Female (n = 14)		Total (n = 18)	
	No.	%	No.	%	No.	%
Lethargy/ Sleepiness	3	75	11	78.57	14	77.77
Dry and coarse skin	3	75	10	71.42	13	72.22
Cold intolerance	2	50	10	71.42	12	66.66
Puffiness of face	2	50	10	71.42	12	66.66
Body aches	2	50	8	57.14	10	55.55
Weight gain	2	50	7	50	9	50
Constipation	2	50	9	64.28	11	61.11
Depression	2	50	8	57.14	10	55.55
Paresthesia	2	50	6	42.85	8	44.44
Menorrhagia	-	-	5	35.71	5	27.77
Thyroid gland size enlarged	1	25	5	35.71	6	33.33
Hair loss	1	25	4	28.57	5	27.77

Table 2. Prevalence of Symptomatology of Hyperthyroidism in the Study Group

Symptoms and signs	Male (n = 2)		Female (n = 3)		Total (n = 5)	
	No.	%	No.	%	No.	%
Nervousness	2	100	3	100	5	100
Sweating	2	100	2	66.66	4	80
Hypersensitivity to heat	1	50	3	100	4	80
Palpitation/ Increased heart rate	2	100	2	66.66	4	80
Fatigue	1	50	2	66.66	3	60
Goiter	1	50	2	66.66	3	60
Hyperdefecation	1	50	1	33.33	2	40
Weight loss	1	50	2	66.66	3	60

present in 3 patients (60%). One male and 1 female hyperthyroid patient had hyperdefecation.

Twelve thyroid dysfunction patients with metabolic syndrome underwent FNAC of thyroid gland. Out of 12 patients, 8 patients (66.66%) had normal cytological findings. Two (1 subclinical hypothyroid and 1 overt hypothyroid) patients had simple colloid goiter and 1 overt hypothyroid had nodular colloid goiter. One hyperthyroid patient with metabolic syndrome had nodular hyperplasia of thyroid gland.

DISCUSSION

In our study, out of 60 patients of metabolic syndrome, 30 patients (50%) were euthyroid, 13 patients (21.66%) had subclinical hypothyroid and 12 patients (30%) had overt hypothyroid. Five patients (8.33%) of metabolic syndrome had hyperthyroidism. A cross-sectional study from South India by Shantha et al has shown prevalence of subclinical hypothyroidism as 21.9% and overt hypothyroidism in 7.4% cases of metabolic syndrome.

The female-to-male ratio in our study was 2.25:1 in subclinical hypothyroidism and 2:1 in overt hypothyroidism patients. The female-to-male ratio in hypothyroidism ranges from 2:1 to 8:1 in various epidemiological surveys. Some surveys indicate hypothyroidism to be more prevalent in elderly population, reaching as high as 20%. Shrestha et al observed the association of metabolic syndrome in 21, 5 and 6 cases in 48 euthyroid, 24 hyperthyroid and 28 hyporthyroid groups, respectively.

The commonest symptom in hypothyroid patients was lethargy (77.77%). This was consistent with case-control study by Khurram et al in which 67.9% cases had lethargy. In our study too, dry and coarse skin was mentioned by 72.22% of patients like 70-79% cases in another study. Similarly, cold intolerance, that was found in 89% of patients in one series and 93% of another series, was prevalent in 66.66% of our cases, which is quite comparable to the 58.25% in Watanakunakorn's. Five out of 14 (35.71%) females had menorrhagia as in the study by Khurram et al. In a cohort study by Scott and Mussey, 28 women (56%) complained of menstrual disturbance, with the most common complaint being menorrhagia (occurring in 18 [36%] of the women). Other symptoms like body aches, weight gain, constipation, paresthesia, hair loss were similar to what has been described in various studies.

In our study, 66.66% patients had puffiness of face as compared to 63.3% in the study by Khurram et al, 79% in Lerman's series and 67% in Watanakunakorn's series.

Thyroid was enlarged in 6 hypothyroid patients (33.33%) as compared to 6.6% in the study by Samanta.

The most common symptom in hyperthyroid patients was nervousness (100%), followed by sweating (80%), hypersensitivity to heat (80%), palpitation (80%), weight loss (60%), fatigue (60%), hyperdefecation (40%) and goiter (60%), which was statistically comparable with the study by Trivalle et al.

Out of 12 patients who underwent FNAC of thyroid, 8 patients (66.66%) had normal cytological findings. Two (1 subclinical and 1 overt) hypothyroid patients had simple colloid goiter and 1 overt hypothyroid patients had nodular colloid goiter. One hyperthyroid patient with metabolic syndrome had nodular hyperplasia of thyroid gland.

In this study, we found that out of 60 patients of metabolic syndrome, 24 (40%) were male and 36 (60%) were female. Male-to-female ratio was 2:3 proving that disease was more dominant in females. Most of the patients of metabolic syndrome were belonging to age group 40-60 years. Mean age of males was 49.6 ± 8.0 years and mean age of female patients was 46.2 ± 7.1 years. Mean age of patients with metabolic syndrome in a study by Bacon and colleagues was 47 years and similarly another study also noted mean age of 54 years. About 23.3% of the patients met all the five diagnostic components of metabolic syndrome. Waist circumference was elevated in almost all (80%) the cases. Other components of metabolic syndrome were distributed in 50-70% of the patients.

Majority of male patients (45%) had waist circumference in range of 90-100 cm. Mean waist circumference of males was 97.9 ± 7.2 cm. Most of the female patients (40%) also had waist circumference in 90-100 cm range. Mean waist circumference of female patients was 97.8 ± 2.1 cm. In previous studies, mean waist circumference of males and females was 102 cm and 92 cm, respectively. About 62% of the patients had triglyceride level between 150 and 174 mg%. Only 14.3% had elevated triglyceride level more than 200 mg%. Mean triglyceride level of males was 160.1 ± 22.6 mg%. Mean level of triglyceride in females was 162.7 ± 27.2 mg%. Liese et al noted hypertriglyceridemia in 50% of the cases. In previous studies, it was observed that mean triglyceride level in the patients of metabolic syndrome was 191.8 mg%.

About half of the patients (50.0%) had HDL level between 30 and 39 mg/dL. Mean HDL level of males was 40.8 ± 6.4 mg/dL. Female patients had mean HDL level 43.4 ± 7.5 mg/dL. There was a significant variation in mean HDL level between male and female patients. Similar studies in the past observed HDL abnormalities in 63.5% of the patients.

In our study, 40% patients of metabolic syndrome were diabetic. Only 8.3% patients had blood sugar in impaired glucose tolerance (IGT) range, 16.6% patients were newly diagnosed diabetics. Maximum number of patients (41.7%) were diabetic for duration more than 10 years. Matteoni et al also performed a similar study and found diabetes mellitus in 23% of cases.

In our study, 53% of patients with metabolic syndrome were hypertensive. In all, 25% were newly diagnosed hypertensives. About 37.5% had hypertension for duration more the 10 years. Kaplan and colleagues noted prevalence of hypertension in 58% patients of metabolic syndrome.

CONCLUSION

The present study concludes that 50% metabolic syndrome patients had thyroid dysfunction. Subclinical hypothyroidism was present in 21.66% and overt hypothyroidism 20% patients. Hyperthyroidism was observed in 8.33% of metabolic syndrome patients.

The most common symptom in metabolic syndrome patients with hypothyroidism was lethargy/sleepiness followed by dry and coarse skin.

The most common symptom in hyperthyroid metabolic syndrome patients was nervousness (100%) followed by sweating, heat intolerance and palpitation (80%). Thyroid dysfunction patients with metabolic syndrome presenting with goiter underwent FNAC of thyroid - 8 patients (66.66%) had normal cytological findings. Two (1 subclinical and 1 overt) hypothyroid patients had simple colloid goiter and 1 overt hypothyroid patient had nodular colloid goiter. One hyperthyroid patient with metabolic syndrome had nodular hyperplasia of thyroid gland.

Metabolic syndrome and thyroid dysfunction are independent risk factors for cardiovascular disease. Their co-existence may even compound the risk of cardiovascular events. Hence, it is worthwhile to screen metabolic syndrome patients for thyroid dysfunction at the earliest for further decrease in cardiovascular events.

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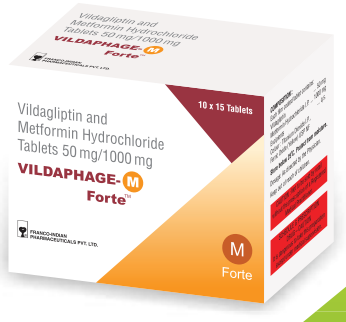

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CASE REPORT

Is It Structural or Metabolic? A Diagnostic Dilemma

E SUMANRAJ*, N VIJAYAKUMAR†, A NANJILKUMARAN†, R UMARANI‡

ABSTRACT

Osmotic demyelination syndrome (ODS), a disease affecting chronic alcoholic and malnourished patients was described by Adams and colleagues in 1959. It is also known as pontine myelinolysis. Pontine myelinolysis can be subdivided into central pontine myelinolysis (CPM) and extrapontine myelinolysis (EPM) depending upon the level of demyelination, within the pons or outside the pons, respectively. Rapid correction of hyponatremia contributes to the pathogenesis of ODS. Whenever a chronic alcoholic and/or malnourished develops confusion, quadriplegia, pseudobulbar palsy and pseudocoma (Locked-in-syndrome) over a period of several days, a high index of suspicion for ODS must be held.

Keywords: Osmotic demyelination syndrome, central pontine myelinolysis, extrapontine myelinolysis, hyponatremia

Osmotic demyelination syndrome (ODS), was described by Adams et al in 1959 as a disease affecting alcoholics and malnourished people. The etiology of ODS was not known for a long time but few authors suspected the cause to be either toxin or nutritional deficiency. 'Central pontine' indicates the site of lesion and the term 'myelinolysis' was used to emphasize that myelin was affected preferentially compared to other neuronal elements. Central pontine myelinolysis (CPM) is a noninflammatory, demyelinating condition characterized primarily by the systemic, noninflammatory destruction of myelin sheath in the basis pontis and primarily results from aggressive correction of hyponatremia.

In 1983, Laureno et al suggested rapid correction of hyponatremia as the cause for the condition, based on experimental data on animal model. They suggested that the condition could be prevented by correcting hyponatremia by <10 mmol/L in 24 hours.

Although uncommon, ODS has been reported at a rate of 0.4-0.56% for patients admitted to neurology services and 0.05% of cases admitted in a general hospital. A study found 0.3-1.1% of patients with unsuspected CPM during autopsies, with a greater percentage of CPM noted in patients with liver transplant and chronic liver disease. An autopsy-based study documented a prevalence rate of 0.25-0.5% in the general population and 10% in patients undergoing liver transplantation.

CASE REPORT

A 63-year-old male presented to the emergency department (ED) with an unsteady gait, giddiness and left-sided weakness. His medical history was significant for hypertension, on irregular treatment and history of consumption of alcohol in the past. He had retrospective history of intravenous (IV) fluid infusion at a private hospital 2 hours prior to the initial presentation to ED.

General physical examination was unremarkable. Neurological examination revealed that the patient was alert, oriented with facial deviation towards right side and power was grade 0/5 both in left upper limb (UL) and lower limb (LL) with NIHSS score of 11. Fundus examination was normal. An initial diagnosis of cerebrovascular accident (CVA) left hemiplegia with left upper motor neuron (UMN) facial palsy was made.

Laboratory investigation showed that the patient had significant hypernatremia (149 mmol/L) at the time of presentation. Computed tomography (CT) of the brain (Fig. 1) performed approximately 3 hours after initial presentation was consistent with features of CVA (right parasagittal posterior parietal cortex).

On next day, 16 hours after initial presentation he developed dysarthria, dysphagia and inability to use his right LL. Motor examination showed decreased tone in left UL and LL, power of grade 0/5 in left UL

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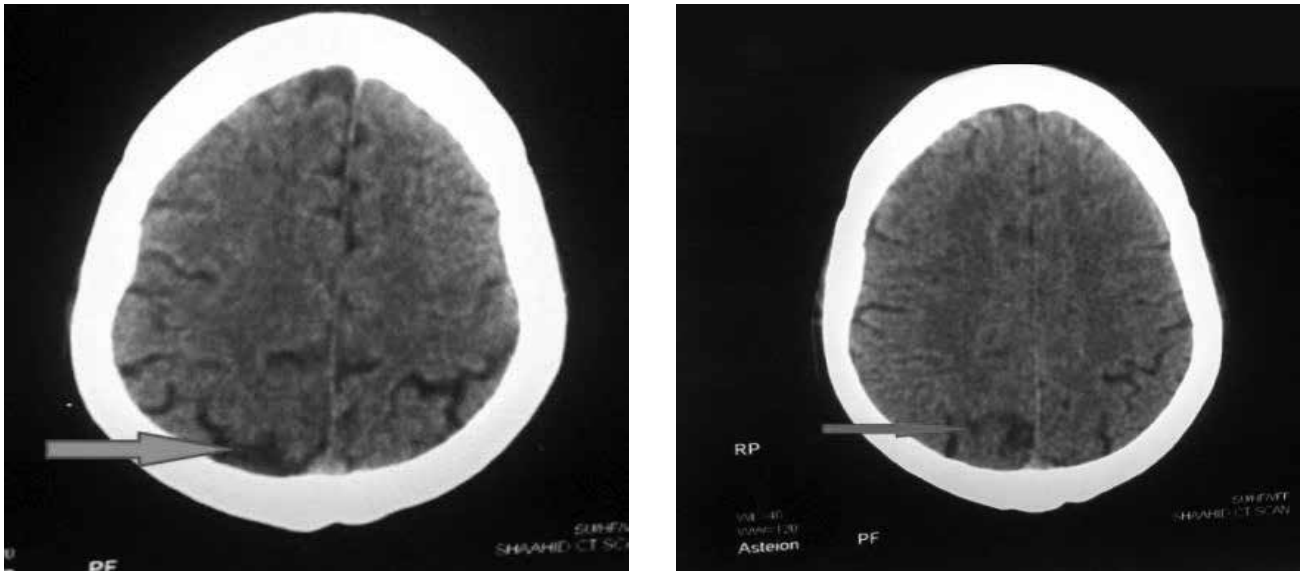

Figure 1. CT brain images showing patchy hypodensity at right posterior parietal cortex (*arrow*).

and LL; grade 2/5 in right LL with exaggerated deep tendon reflexes, left equivocal plantar response (NIHSS score of 16). Pupils were pinpointed and sluggishly reacting to light. Ocular fundus examination was normal. Patient was shifted to intensive care unit (ICU) and mechanically ventilated. Provisional diagnosis of probable posterior circulation restroke at the level of pons was made. Laboratory investigations revealed normal cell count and renal parameters. However, repeat sodium level was elevated (146 mmol/L).

Magnetic resonance (MR) (Fig. 2) imaging, performed 36 hours after the initial CT, showed well-defined area of diffusion restriction in the lower central pons bilaterally.

Differential diagnosis of pontine infarct, pontine hemorrhage and ODS was made.

In view of IV fluid infusion prior to presentation to our ED and clinical features of ataxia, quadriparesis, dysphagia, dysarthria without ophthalmoplegia and sensory loss suggestive of ODS with two elevated values of sodium and also classical MRI findings of diffusion restriction in the lower central pons bilaterally, diagnosis of ODS was made and treated accordingly. During the course of hospitalization, patient developed VAP for which he was treated and was discharged 3 weeks after admission with residual minimal left hemiparesis.

DISCUSSION

It is important to differentiate between structural and metabolic causes of neurological deficits, and if structural, the level of lesion has to be localized. Lower cranial nerve palsies and bilateral findings point towards lower pontine lesion, the cause of which may be:

- Pontine infarct
- Pontine hemorrhage
- Osmotic demyelination syndrome (ODS).

Pontine Infarct

Isolated pontine strokes are relatively frequent, but they can occur as part of the posterior circulation infarction. Ventral infarcts are the most common type of isolated pontine infarction (51-58%).

Anteromedial infarct causes hemiparesis or hemiplegia, contralateral ataxia, dysarthria, dysphagia, nystagmus and often ipsilateral facial palsy. Less frequently associated is contralateral loss of proprioception, paresis of the ipsilateral horizontal gaze and internuclear ophthalmoplegia. Anterolateral infarct may produce hemiparesis, ataxia, loss of position sense and loss of vibration sense. Pure motor stroke, ataxic hemiparesis, dysarthria-clumsy hand or sensorimotor stroke are the other forms of manifestations of the anterolateral strokes.

Dorsolateral pontine strokes may lead to contralateral hemiparesis, ipsilateral facial weakness, ipsilateral loss of facial pain and temperature sensation, hearing loss and ataxia. Rostral dorsolateral pontine infarct can manifest as ipsilateral Horner's syndrome, contralateral ataxia and contralateral loss of body pain and temperature sensation.

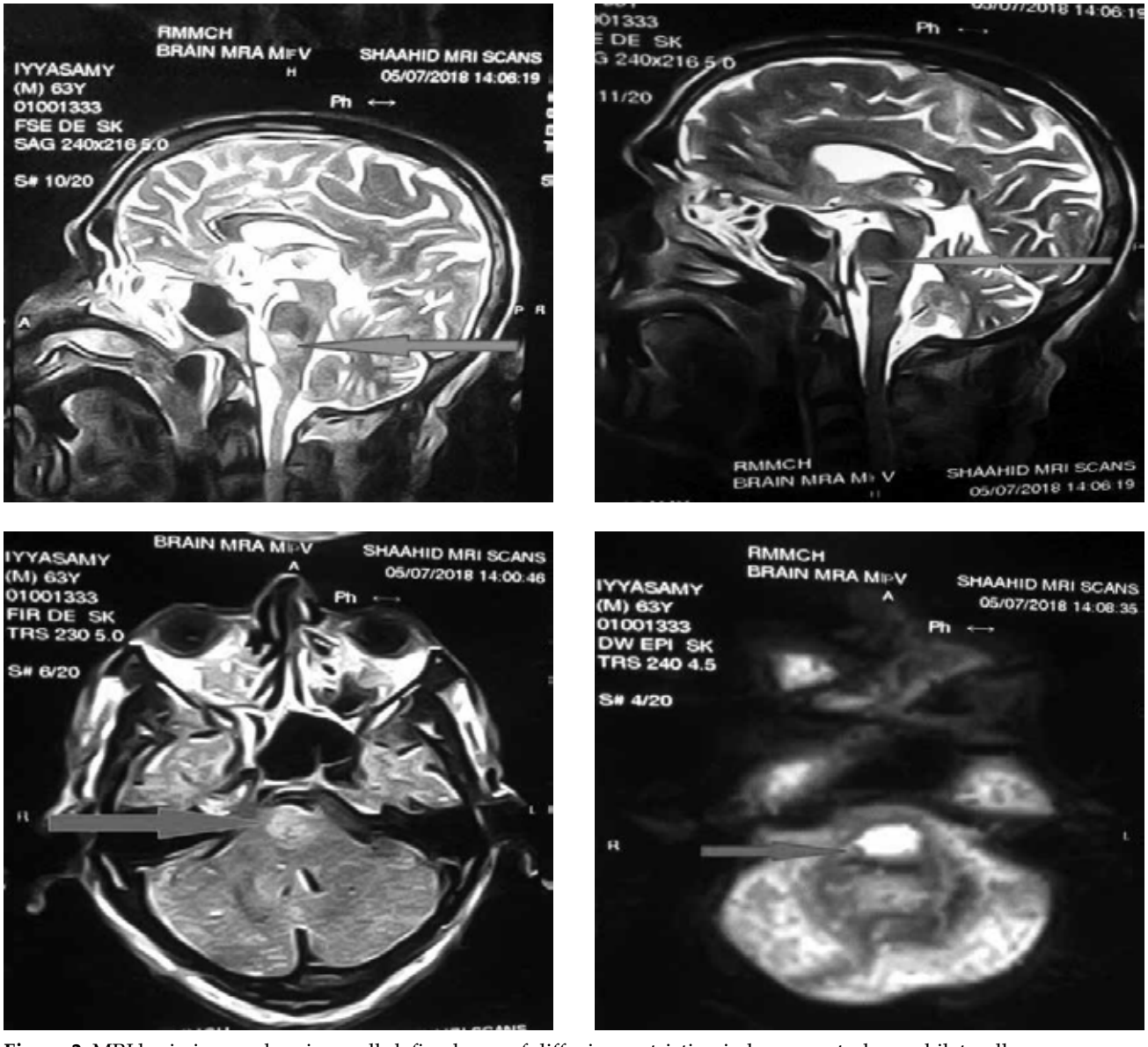

Figure 2. MRI brain image showing well-defined area of diffusion restriction in lower central pons bilaterally.

Pontine Hemorrhage

Classic clinical presentation of pontine hemorrhage is acute onset of coma, tetraparesis, respiratory failure and oculomotor signs, and most patients have diminished sensorium. Prodromal symptoms, such as headache, nausea and vomiting, respiratory dysfunction and dysarthria may be present.

Osmotic Demyelination Syndrome

ODS is characterized by its subacute sequential presentation, initial encephalopathy or seizures, followed by rapid recovery in relation to electrolyte or osmolality correction, and subsequent clinical deterioration. Clinical manifestations include predominant ataxia (reflecting involvement of pontocerebeller fibers), dysarthria, dysphagia, quadriparesis and alteration in sensorium. Pupillary and oculomotor signs were less frequently noted. Extrapontine extension results in behavioral abnormalities and movement disorders. The transverse pontocerebellar fibers are most frequently involved, followed by rostrocaudal tracts. Tegmentum and corticospinal tracts are usually spared.

CONCLUSION

Presence of seizures, predominant ataxia, quadriparesis, pupillary and oculomotor signs with hypernatremia and classical MRI findings of bilateral diffusion restriction are noted in ODS. Behavioral and abnormal movements

occur if there is an extrapontine extension. Absence of Horner's syndrome, internuclear ophthalmoplegia and sparing of primary and posterior column sensation favors ODS.

Early diagnosis and early differentiation between structural and metabolic cause of neurological deficits will help avoid inadvertent usage of anticoagulants, antiedema measures, repeated imaging (radiation exposure) and stroke resuscitative interventions. Targeted therapy towards the correction of metabolic parameters will lead to a favorable outcome.

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CASE REPORT

XY Female with Complete Androgen Insensitivity Syndrome with Bilateral Inguinal Hernia

BHAVANA S

ABSTRACT

Complete androgen insensitivity syndrome (CAIS) is an X-linked recessive rare disorder in which the individual is phenotypically female and genotypically male; a male pseudohermaphrodite. CAIS is suspected when the individual is evaluated for primary amenorrhea, infertility or when unilateral/bilateral inguinal hernia is diagnosed in girls. We report the case of a 30-year-old, married lady presented to Gynecology OPD with complaints of swelling in the groin, on both the sides since 4 months. She was investigated and all her blood tests were of male range and in accordance with CAIS. Bilateral gonadectomy with herniorraphy was done and the patient was discharged on estrogen replacement therapy.

Keywords: Complete androgen insensitivity syndrome, inguinal hernia, bilateral gonadectomy, herniorraphy, estrogen replacement therapy

The complete androgen insensitivity syndrome (CAIS), previously called testicular feminization syndrome is an X-linked recessive rare disorder. The individual is phenotypically female and genotypically male; a male pseudohermaphrodite. The individuals are reared as girls and the condition is suspected when the individual is evaluated for primary amenorrhea, infertility or when unilateral/bilateral inguinal hernia is diagnosed in girls.

CASE REPORT

A 30-year-old, married lady presented to Gynecology OPD with complaints of swelling in the groin, on both the sides since 4 months. The swelling increased on coughing, straining; reduced on lying down. There was no history suggestive of obstruction/irreducibility. She had not attained menarche. She is married to a widower since 8 years. The husband has 2 children from first wife. They have no problems during sexual intercourse. She has 3 siblings; all are married and have children. On examination, she was a tall, well-built and well-nourished female. Height - 167 cm, weight - 74 kg, arm span - 165 cm, thyroid - normal, secondary sexual characters-axillary hair and pubic hair absent, breasts-Tanner 3 (well-developed with pale areolae, immature nipple (Fig. 1). The abdomen was soft. The external genitalia was female. On per speculum examination, 4 cm long blind vaginal pouch was seen. The inguinal

Figure 1. External appearance: Female, absent axillary and pubic hair, well developed breasts present.

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Figure 2. Intraoperative appearance of the contents of the herniating sac on the left side: Gonad, tubular structure, fibromuscular band.

region on the right and left side showed, a pyriform nontender swelling of 2.5 × 2.5 cm^2 and 2 × 2 cm^2, respectively, descending till upper part of labia majora. The swellings were felt above and medial to pubic tubercle and cough impulse was present. Thus clinically bilateral inguinal hernia was diagnosed.

Sonography showed absent uterus and ovaries, oval hypoechoic structures on both sides of inguinal region suggestive of bilateral inguinal hernia. The abdominal organs were normal. Laparoscopy confirmed absence of uterus and ovaries. The chromosomal analysis, Trypsin and Giemsa produce G-banded chromosomes (GTG) banded karyotyping showed 46 XY pattern. The blood investigations: Serum testosterone - 3.04 ng/mL (male range 1.8-9.0 ng/mL, female 0.2-1.2 ng/mL); luteinizing hormone or LH - 21.04 mIU/mL (male age 20-70 years: 1.5-9.3 mIU/mL, >70 years 1.3-34.6 mIU/mL); follicle-stimulating hormone (FSH) - 2.53 mIU/mL (male 1.4-18.1 mIU/mL); serum estradiol 55.17 - pg/mL (male 11.6-42.0 pg/mL). All the blood tests were of male range and in accordance with CAIS.

After counseling, the patient was posted for surgery: Bilateral gonadectomy with herniorrhaphy. Intraoperatively the contents of the sac were gonads, tubular remnant and fibromuscular band on both sides (Fig. 2). The histopathology report confirmed testicular tissue with smooth muscle fragments, on both the sides. The postoperative period was uneventful. The patient was discharged on the 10th day. Estrogen replacement therapy with tablet premarin 0.625 mg daily was advised.

DISCUSSION

Androgen insensitivity syndrome is a rare disorder with incidence of 1 in 20,000-99,000 genetic males and the prevalence is 0.8-2.4% in phenotypic females with inguinal hernia.[1] The basic etiology is the loss of function- mutation in the androgen receptor gene. The affected individuals have 46 XY karyotype, normal testes, normal production of testosterone, normal conversion to dihydrotestosterone, normal amount of anti-mullerian hormone. Thus the uterus, cervix, fallopian tubes and proximal vagina do not develop. In the fetal period, insensitivity to testosterone prevents masculinization of external genitalia. The lower one-third of vagina develops, as it originates from urogenital sinus and presents as a blind vaginal pouch. There is absence of axillary and pubic hair, lack of acne, absence of voice changes at puberty. The breasts are well-developed due to conversion of testosterone to estradiol.

The testes may be located anywhere along the path of embryonic testicular descent in the abdomen, inguinal canal or labia. About 80-90% of individuals with CAIS develop inguinal hernia.[1] The testes in CAIS individuals cause pubertal feminization. Some studies have shown carcinomatous changes in the testes of the children of CAIS in the age group of 13-14 years and believe that testicular biopsy is warranted as soon as the syndrome is diagnosed. The recent studies reveal tumor incidence (dysgerminoma, gonadoblastoma) of 0.8% in CAIS and 5.5% in AIS overall, and the risk increases markedly after puberty and reaches 33% at the age of 50 years.[1,2] Thus, gonadectomy is advised after puberty. Once the testes have been removed, estrogen needs to be supplemented to maintain external female form, to prevent osteoporosis and cardiovascular changes due to the deprivement of estrogen.[1]

The studies have shown that individuals reported psychological trauma at diagnosis, which was compounded by interaction with the medical care system.[1] During counseling it was found that, the patient was reared as a female and leading a happy married life. Thus informing the patient about the karyotype would be inadvisable and would have devastating psychological problems to the patient and family. Thus, they were informed that mullerian aplasia occurred and gonads were abnormally located, with chances of malignancy and should be removed. The interaction and counseling of the affected individual and family needs sensitivity and care.

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48th Annual Digital Meeting of the Research Society for the Study of Diabetes in India

DIABETES MELLITUS COMPLICATIONS

Several biochemical pathways mediate the micro- and macrovascular complications with hyperglycemia as the initial step. These complications are further influenced by other risk factors like hypertension, dyslipidemia, obesity, etc. There are other mechanisms like lipid peroxidation, oxidative stress, which also contribute to these complications. Aggressive management of hyperglycemia, hypertension, dyslipidemia and other contributing factors will delay the progression of these vascular complications.

Dr Vijay Viswanathan, Chennai

HYPERTENSION IN DIABETES: A DEADLY DUO

- Coronavirus disease 2019 (COVID-19) is associated with diabetes and/or hypertension, leading to increased morbidity and mortality in patients.
- Lifestyle modification remains the key to controlled diabetes and hypertension.
- SGLT2 inhibitors have a role in controlling hypertension and CVD.
- Angiotensin-converting enzyme/Angiotensin receptor blockers (ACE/ARBs) are the drugs of the first choice in the diabetic patient suffering from hypertension.

Dr Siddharth N Shah, Mumbai

SGLT2 INHIBITORS AND GLP-1RA: THE RISING STARS IN GUIDELINES OR ADJUNCT THERAPY IN TYPE 1 DIABETES

- Treatment of type 2 diabetes has become complex.
- GLP-1RA and SGLT2 inhibitors have prominent places in guidelines due to their effect on outcomes in type 2 diabetes beyond HbA1c (ASCVD, HF, CKD).
- GLP-1RA and SGLT2 inhibitors are promising adjunct therapies in type 1 diabetes, but benefits on HbA1c, insulin dose and weight need to be weighed against side effects (nausea, DKA). Benefits beyond HbA1c need to be proven in type 1 diabetes.

Dr Chantal Matheiu, Belgium

CREDENCE/DAPA-CKD

- Diabetic kidney disease occurs in 40% of type 2 diabetes patients. Because of their pleiotropic effect on the pump (heart), pipes (blood vessels) and filter (kidney), SGLT2 inhibitors (gliflozins) are excellent options for changing the course of the metabolic-cardiorenal continuum.
- The dedicated cardiovascular outcomes trials (CVOTs) on these molecules, i.e., EMPA-REG, CANVAS, DECLARE-TIMI, have demonstrated significant improvement in cardiorenal outcomes in patients with type 2 diabetes empagliflozin, canagliflozin and dapagliflozin, respectively.
- These trials have clearly shown advantages of SGLT2 inhibitors (canagliflozin and dapagliflozin) to reduce renal and CV outcomes in patients with diabetic kidney disease.
- Dapagliflozin goes one step ahead in establishing its utility in patients with CKD without type 2 diabetes.

Dr Sunil Kumar Kota, Berhampur

MEAL REPLACEMENT FORMULAS: FOR WEIGHT LOSS OR GLYCEMIC CONTROL

- Scientific evidence using meal replacement formulas have shown a reduction in weight and improvement in glycemic control.
- When used in newly diagnosed diabetes (<6 years diagnosis) as a part of a low-calorie diet, it can initiate a reversal of type 2 diabetes.
- Meal replacers are an ideal choice to replace an unhealthy snack to improve the protein intake while reducing carbs and calories and providing satiety.

Dr Sheryl Salis, Mumbai

NONDIABETIC RENAL DISEASE IN PATIENTS WITH DIABETES WITH ALBUMINURIA

- Diabetic nephropathy (DN) is not the sole renal disease in diabetics.

- Therapy and prognosis of DN and nondiabetic renal disease (NDRD) are different, and it is essential to differentiate between the two entities.
- DN is irreversible, and management can only prevent progression.
- Many NDRDs are often treatable and even curable.
- The accurate diagnosis provides disease-specific treatment and improves long-term prognosis.
- Proper treatment of such patients is associated with good clinical outcomes.
- Renal biopsy should be considered where the disease's course is atypical and clinical suspicion of NDRD is high.
- Challenging to convince a patient for renal biopsy but practicing physicians and diabetologists should try to convince the patients for renal biopsy where one is suspecting NDRD or something unusual rather than avoiding renal biopsy.

Dr Jagdeep Chugh, New Delhi

DIABETES CARE IN AGING POPULATION: OUR TARGETS AND APPROACH SAME?

Management in the elderly diabetes:

- Epidemiology: >20% of patients over 65 have T2DM; 10% of diabetes cases are diagnosed after the age of 65.
- Research and evidence: No long-term studies in the geriatric population; Heterogeneity necessitates a patient-centered approach.
- Treatment guidelines: Healthy geriatric patients may adhere to the same goals and therapy as younger patients; But "Start Low, and Go Slow"; Frail patients at risk for hypoglycemia, functional or cognitive impairment, and with a life expectancy of <5 years may have less intensive goals; Fasting blood glucose (FBG) <150 mg/dL and HbA1c 7-8 are acceptable endpoints.
- Five tips for the management of people aged ≥65 years old and type 2 diabetes.
  - Treat lifestyle advice and its reinforcement as an important intervention.
  - Early intensification of oral agents offers effective glycemic control and reduces the likelihood of future complications.
  - When choosing the next oral hypoglycemic agent (OHA) after metformin, consider the higher risk of hypoglycemia in people aged ≥65 years.
  - When choosing a dipeptidyl peptidase-4 (DPP-4) inhibitor, remember that differences exist within the class that may carry clinical implications for people with T2DM.
  - In summary, try to avoid treatment inertia and consider the right treatment at the right time for the right patient.

Dr Jugal Kishor Sharma, New Delhi

APPROACH TO A PATIENT WITH DFU

- Proper preventive footwear.
- Periodic footcare education.
- Foot examination every 3 months.
- Minimum weight-bearing. Maintain integrity (Intact) skin prevent, ulceration (Primary prevention).
- Achieve early healing of ulcerated skin (Remission).
- Keep healed ulcer healed and prevent reulceration (Recurrence).

Dr Sharad Pendsey, Nagpur

HIGH CV RISK AND CKD: A SINGLE DISEASE SPECTRUM

- Cardiovascular disease (CVD) is more frequent and severe in patients with chronic kidney disease (CKD) and is often neglected, underdiagnosed and undertreated. Increased CV risk in patients with CKD is multifactorial.
- It is only partly due to 'traditional' CV risk factors hypertension, diabetes mellitus, etc. A significant contribution is due to nontraditional kidney-specific risk factors, which result in a substantial increase in CVD burden, thus making the prevention of CVD by targeting traditional risk factors difficult.
- There is a need for innovative strategies to target nontraditional CV factors and more aggressive early preventive strategies.
- CKD should be viewed among the highest-risk groups for CV events and disease and require special attention and aggressive management at an individual patient level. Even in the guidelines and future research.
- Prevention of progression of CKD means prevention of CVD.
- Early aggressive preventive strategies and multifactorial intervention strategies in the later-stage are the needs of the hour.

Dr Vinod Mittal, New Delhi

U-TURN OF CVOTs IN DIABETES TREATMENT: DO WE NEED THEM?

- T2DM CVOTs have provided good risk-benefit evaluations.
- CVOTs were designed to show the safety of new glucose-lowering therapies.
- Findings have changed the paradigm of management of T2DM.
- Need for improvement in trial designs to make them more efficient, generalizable and cost-efficient.

Dr Kamlesh Khunti, UK

DIABETIC FOOT ULCER – PHYSICIANS PERSPECTIVE

- The attention to foot complications is generally poor.
- A significant proportion of type 2 diabetic patients is not offered foot education and examination, even in those showing a significant increase in the risk of foot complications.
- Even in the presence of foot complications or significant risk factors, many of the patients and/or their healthcare providers do not pay any attention to foot care.
- Thus, physicians or healthcare providers play a crucial role in orienting patient practices.

Dr Kaushik Ramaiah, Tanzania

CHARCOT ARTHROPATHY

- Charcot arthropathy in diabetes patients is increasing as a result of peripheral neuropathy.
- Charcot arthropathy can lead to severe deformity, disability, ulcers and amputation.
- Patient with diabetes must seek medical care and avoid delay in medical attention. Early diagnosis of Charcot arthropathy is of utmost importance by health workers for successful outcomes.
- Immobilization is essential to avoid further destruction.

Dr Zulfiqarali G Abbas, Tanzania

TREAT-INDIA 2 STUDY

- TREAT-INDIA 2 largest real-world data on teneligliptin effectiveness.
- To assess teneligliptin's effectiveness in improving glycemic control amongst Indian patients with T2DM in a real-world setting.
- The effectiveness of teneligliptin was analyzed based on mean change in glycemic parameters, i.e., HbA1c, FPG and postprandial plasma glucose (PPG) in those 3-months of treatment in 10,623 enrolled patients from 18 centers across India.
- The glycemic target of HbA1c ≤7%, FPG ≤130 mg/dL and PPG ≤180 mg/dL was achieved by 35%, 81% and 71% patients, respectively at 12 weeks.
- There was a statistically significant reduction in all the glycemic parameters with teneligliptin monotherapy and as well as in combination with other antidiabetic drugs ($p < 0.0001$ for all reductions) HbA1c reduction was 0.99%, which was statistically very significant.
- An essential difference between TREAT-INDIA 1 and 2 studies is that TREAT-INDIA 2 study also gives insights on the effectiveness of teneligliptin in special populations such as: Patients with renal impairment and patients of different age groups.
- Significant reductions in glycemic parameters were also found in T2DM patients with renal impairment.
- Teneligliptin effectively controlled glycemic parameters in all age groups (three groups: <60 years, 60-75 years and >75 years).

Dr Rajeev Chawla, New Delhi

DIABETIC KIDNEY DISEASE – MAGNITUDE OF PROBLEM AND MOLECULAR MECHANISMS

There are about 6.6 million cases of diabetic nephropathy (DN) in India. DN is one of the most important causes of premature death among patients with diabetes and a major health concern.

The natural history of DN differs according to the type of diabetes and whether microalbuminuria (defined as >30 mg but <300 mg albumin in the urine per day) is present. If untreated, 80% of people with type 1 diabetes and microalbuminuria will progress to overt nephropathy (i.e., proteinuria characterized by >300 mg albumin excreted daily), whereas only 20-40% of those with type 2 diabetes over a period of 15 years will progress.

Early detection of DN, the multifactorial approach targeting the main risk factors (hyperglycemia, hypertension, dyslipidemia and smoking), and the use of renoprotective agents such as the drugs that act on the renin-angiotensin-aldosterone system, may delay progression of kidney disease in DN, besides reducing cardiovascular mortality.

Dr Arvind Gupta, Jaipur

CAROLINA/CARMELINA

- With CAROLINA and CARMELINA trials, linagliptin has been studied in varied patient profiles.
- CAROLINA and CARMELINA provide evidence across a broad-spectrum of type 2 diabetes disease duration, CV and kidney risk. Together, CARMELINA and CAROLINA demonstrate the long-term CV safety profile of linagliptin and glimepiride.
- In CAROLINA, among adults with relatively early type 2 diabetes and elevated cardiovascular risk, the use of linagliptin compared with glimepiride over a median 6.3 years resulted in a noninferior risk of a composite cardiovascular outcome.

Dr Sachin Chittawar, Bhopal

DIABETES MELLITUS AND GENITOURINARY INFECTIONS

- Genitourinary tract infections are more common in patients with diabetes mellitus; they are associated with more complications and run a prolonged and protracted course due to more antimicrobial resistance of the uropathogens. These infections often lead to urosepsis, the most severe form of urinary tract infection (UTI) with mortality up to 30-40%.
- The most effective preventive measure is strict glycemic control. This will check overgrowth, colonization and adherence of microorganisms to uroepithelium in a glucose-rich environment in many tissues and especially in the urogenital tract due to glycosuria in uncontrolled diabetic patients. Strict glycemic control also checks the defective immunity seen in diabetic patients.
- Urogenital infections in diabetes mellitus patients is a new challenge in patients using SGLT2 inhibitor class of drugs in their management. SGLT2 inhibitors are associated with an increased incidence of urogenital infections as they cause pharmacologically-induced glycosuria. Though current evidence says genital infections are more common than UTIs and they respond well by temporarily withholding SGLT2 inhibitors and adding appropriate antibiotics without any complications. However, it is prudent that SGLT2 inhibitors should not be started or should be withheld if already started, at least in patients with a history of recurrent and complicated genitourinary infections, until further research provides evidence of added safety.

Dr Chandrasekhar Valupadas, Telangana

ANEMIA IN DIABETES

- The incidence of anemia in patients with diabetes mellitus is very frequently associated with the presence of kidney disease.
- For people with type 2 diabetes, the most common causes include iron deficiency and a decrease in erythropoietin levels, especially in those with kidney disease.
- It is important to promptly correct anemia in people with diabetes or DM-CKD, especially to improve the quality of life, improve clinical outcomes and decrease complications and mortality.
- Good metabolic and blood pressure control are essential methods to prevent anemia by preventing microvascular damage.

Dr Bachuvar Ravikumar, Nizamabad

IS THERE ANY ROLE OF HYDROXYCHLOROQUINE IN DIABETES MANAGEMENT?

- Hydroxychloroquine reduces HbA1c in the range of 0.9-1.3%. Additional benefits on lipids and marginal weight reduction.
- Cardiovascular benefits: In rheumatoid arthritis patients, it reduces CV events; OXI trial (Hydroxychloroquine in myocardial infarction [MI] in patients at Helsinki) is ongoing in post-MI patients.
- In which patients to use? Can be started in any patients inadequately controlled on two or more antidiabetic drugs (OADs) and/or insulin. It reduces insulin requirement and also a dose of other OHA when used with them. The real risk of retinopathy after 5 years is only 1% and after 10 years 2%.
- AAO recommends an initial ophthalmic evaluation within 1 year of starting HQ.
- In the absence of risk factors, subsequent ophthalmic evaluation can be done in patients receiving hydroxychloroquine for more than 5 years. If used for more than 5 years, include spectral-domain optical coherence tomography (SD-OCT) in annual screening.

Dr Sanjiv Indurkar, Aurangabad

CURRENT PREVAILING INSULIN PRACTICES IN INDIA (FROM CENTRAL INDIA)

- There is a pressing need to start insulin early.
- More patient awareness is required.

- We need more trained insulin advisors or diabetes educators. There is a need to increase technology use in monitoring post insulinization.

Dr Bharat Saboo, Indore

TOP 10 PAPERS OF INTERNATIONAL JOURNAL OF DIABETES IN DEVELOPING COUNTRIES

- Diabetic retinopathy (DR) is a marker of cardiovascular disease risk. DR 'score' can be used in Indians to forecast the annual incidence of DR.
- Women living in rural India are as much at risk for developing metabolic syndrome as those from urban areas. Physical exercise and lower body mass index (BMI) protect.
- Normal BMI and higher body fat are seen both in Jats from Haryana and tribal women from Manipal.
- Genetic studies can help to understand postprandial lipemia.
- Elevated iron markers are associated with diabetic microvascular complications.
- Charcot neuropathy in diabetes is not uncommon; in the acute phase, it can be mistaken for cellulitis and be associated with autonomic neuropathy.
- Hand dysfunction (similar to the foot) is seen in diabetes.
- Lipohypertrophy occurs commonly with insulin use in adults; the patients miss it.
- Self-care in both children and adults with diabetes can be improved than what it is now.
- In Shillong, the median monthly cost of treatment of diabetes was Rs. 5,375/; in coastal Karnataka, the annual median total cost of treatment was Rs. 5,041/-.

Dr GR Sridhar, Visakhapatnam

A STUDY OF THE PREVALENCE OF THE ANTIBODIES IN TYPE 1 DIABETES MELLITUS

Type 1 diabetes mellitus (T1DM) is associated with a high prevalence of autoantibodies, and antibody-negative T1DM is rare in our population.

The association with other organ-specific antibodies (especially thyroid and adrenal glands) and celiac disease are substantial. Screening of other organ-specific antibodies, e.g., anti-TPO antibody, antithyroglobulin antibody, antitissue transglutaminase antibody IgA (tTG IgA), and anti-21α-hydroxylase antibody may also be useful in this population.

Dr Kaushik Pandit, Kolkata

ADOPTING REAL-TIME MONITORING OF GLUCOSE AS A PARTNER IN DIABETES MANAGEMENT

Changing the discussion.

- Talking about time-in-range
- Tackling highs and lows
- Use of appropriate drugs and assessing their efficacy via visualization
- A conversation about acceptability.

Dr Partha Kar, UK

CURRENT PREVAILING INSULIN PRACTICES IN INDIA (FROM NORTH EAST INDIA)

- Nearly all the country regions showed a similar picture of the physician's perception of insulin initiation with minimal changes.
- However, geographical differences in dietary habits play an essential role in initiating a patient on a particular insulin regimen.

Dr Rupam Choudhury, Guwahati

LOW PROTEIN DIETS VS. VERY LOW PROTEIN DIETS IN DIABETIC NEPHROPATHY

Low protein diets improve glomerular filtration rate (GFR) in diabetic nephropathy patients.

Dr Zamurrud Patel, Mumbai

CLINICAL INTERPRETATIONS OF AUTOANTIBODY POSITIVITY IN AUTOIMMUNE DIABETES

- Measuring antibodies is beneficial in the diagnosis, prediction, and prevention of – Latent autoimmune diabetes in adults (LADA); Autoimmunity in gestational diabetes.
- Ruling out autoimmunity in young-onset diabetes.

Dr C B Sanjeevi, Sweden

INTERMITTENT FASTING: TIPS FOR CLINICIANS

- Intermittent fasting is an upcoming method to control diabetes and cardiac issues. It is not a one fit for all.
- There are promising results in weight loss and glycemic control and emerging benefits in the client's lipid profile. The downside is muscle loss, which is not good. Enough protein has to be given, and resistance exercise is advised to allow fat loss and not muscle loss.
- There are no guidelines as yet, and close monitoring of the clients is essential, even those

on hypoglycemic agents, especially when given to individuals on insulin. The eating period should have less number of meals, not eating every hour of the non-fasting period.

- Meals should have five food groups to avoid deficiencies.
- Snacks should not be the processed wheat flour or those with sugar or the wrong type of fat.

Dr Dharini Krishnan, Chennai

CARDIOMETABOLIC-BASED CHRONIC DISEASE: A NEW FRAMEWORK FOR EARLY PREVENTIVE CARE

- Obesity and diabetes are highly prevalent and complex chronic diseases.
- Obesity is better addressed when considered as an adiposity-based chronic disease (ABCD) to expose targets for early and sustainable preventive/ comprehensive care.
- Similarly, type 2 diabetes should be addressed as a dysglycemia-based chronic disease (DBCD).
- Since CVD is the most relevant consequence of ABCD and DBCD, clinicians should approach all patients using the cardiometabolic-based chronic disease preventive care framework.

Dr Jeffrey Mechanick, USA

TOP 10 PAPERS FROM ADA

The papers discuss therapeutic interventions in diabetes and some new inputs from the drugs already in use.

- In Insulin Icodec, the third-generation basal insulin was used in a head-to-head comparison study with Glargine 100 for inadequately controlled T2DM. It was found to have equal efficacy with comparable hypoglycemia, though it was slightly more in the initial days.
- Oral insulin also showed promise when administered to T2DM patients on oral OADs, wherein a significant reduction in HbA1c without increasing hypoglycemia rates or weight gain was observed compared to placebo.
- The news on SGLT2 inhibitors was that dapagliflozin became the first agent in this category of drugs to prevent diabetes. In the nondiabetic subset of subjects in the DAPA-HF study, there was a significant decrease in diabetes development compared to placebo (32%). This is of interest since the subjects with heart failure have a higher incidence of developing diabetes.
- Canagliflozin (Cana) in a real-world study showed the expected response of glucose-lowering with weight loss, but in subjects shifted from Cana 100 or any other SGLT inhibitors to Cana 300, there was a marginal decline in HbA1c as also additional weight loss.
- A subanalysis of the CREDENCE data with Cana showed that the initial drop in GFR does not alter the benefits of the drug for renal outcomes, the results being similar in those who had no change, a modest decline or significant fall in the GFR.
- Empagliflozin RWE study (EMPRISE) showed a significant drug benefit for major adverse cardiovascular events and hospitalization for heart failure compared with DPP-4 inhibitor use in propensity matched subjects, but the difference was seen only for heart failure events when the comparator was glucagon-like peptide 1 (GLP-1) analogs.
- In a subgroup analysis of the VERIFY study, the data among Latin Americans were similar to the overall cohort, with the vildagliptin + metformin being beneficial without side effects than metformin monotherapy.
- Teneligliptin improved the flow-mediated vasodilatation independent of the effect on the endothelial precursor cells (EPCs) despite decreasing stromal cell-derived factor (SDF).
- Interesting results were seen with glucagon analog in preventing hypoglycemia after the bariatric surgery for weight loss.
- The monoclonal antibodies (golimumab) administered after the onset of diabetes in type 1 diabetes decrease the insulin dose, with better C-peptide response.

Dr Bipin Kumar Sethi, Hyderabad

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News and Views

Most People can Produce Neutralizing Antibodies Against SARS-CoV-2

A study published in *PLOS Pathogens* has stated that a large number of people have the potential to produce neutralizing antibodies against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in severe cases of coronavirus disease 2019 (COVID-19).

The study also supports the use of combination antibody therapy for the prevention and treatment of COVID-19. Michael Mor of Tel Aviv University, and colleagues made use of molecular and bioinformatics techniques and compared B-cell responses among 8 patients with severe COVID-19 and 10 patients with mild symptoms, 1.5 months following infection. Patients who were very ill had higher concentrations of receptor-binding domain (RBD)-specific antibodies as well as raised B-cell expansion. Twenty-two antibodies were cloned from two patients. Of these, 6 were found to have potent neutralization against SARS-CoV-2. It appears that most people can produce neutralizing antibodies against SARS-CoV-2 in severe cases of the disease… *(ET Healthworld)*

COVID Clot Prevention: Early Prophylactic Anticoagulation

A new study suggests that starting heparin prophylaxis within 24 hours of hospital admission for COVID-19 was tied to considerably better outcomes.

Investigators noted that starting anticoagulation early was linked with 27% lower relative risk of 30-day mortality compared to no anticoagulation (14.3% vs. 18.7%, hazard ratio [HR] 0.73, 95% confidence interval [CI] 0.66-0.81). Preventive heparin use was associated with similar positive outcomes for inpatient mortality (HR 0.69, 95% CI 0.61-0.77) and initiation of therapeutic anticoagulation (HR 0.81, 95% CI 0.73-0.90). Additionally, early prophylaxis was not linked with increased risk of bleeding that needed transfusion (HR 0.87, 95% CI 0.71-1.05). The study included 4,297 patients admitted to Veterans Affairs (VA) hospitals between March 1 and July 31, 2020, with confirmed severe COVID-19 and no history of anticoagulation. The findings are published in *The BMJ*… *(Medpage Today)*

Inhaled Hyaluronan may Help COPD Patients

Aerosolized high-molecular-weight hyaluronan (HMWHA) appears to improve acute exacerbations of chronic obstructive pulmonary disease (COPD), suggests a new study.

In comparison with placebo, HMW-HA was found to be linked with a significantly shorter duration of noninvasive positive-pressure ventilation (NIPPV), lower systemic inflammatory markers and decreased measured peak airway pressure.

Researchers looked at 44 patients with a history of acute exacerbations of COPD requiring NIPPV. Three patients were excluded owing to heart failure. Twenty patients were given HMW-HA while 21 received placebo in association with NIPPV and standard medical therapy. Patients given HMW-HA were free from NIPPV sooner than those who were given placebo (mean, 5.2 vs. 6.4 days; $p < 0.037$). Patients given HMW-HA also had significantly shorter hospital stay compared to those in the placebo group (mean, 7.2 vs. 10.2 days; $p = 0.039$)… *(Medscape)*

Acute Malnutrition Estimated to Affect 2.3 Million Children Under 5 in Yemen in 2021

It is estimated that around 2.3 million children below 5 years of age in Yemen will likely suffer from acute malnutrition in 2021, warn four United Nations agencies.

Overall, 400,000 among these are estimated to have severe acute malnutrition and could even die if urgent treatment is not provided. These numbers represent an increase in acute malnutrition and severe acute malnutrition of 16% and 22%, respectively, among children under 5 years of age in comparison with 2020. The data come from the Integrated Food Security Phase Classification (IPC) Acute Malnutrition report that has been released by the Food and Agriculture Organization of the United Nations (FAO), UNICEF (the United Nations Children's Fund), the World Food Programme (WFP), the World Health Organization (WHO) and partners… *(WHO)*

Wide Variability in Blood Glucose Tied to More CVD in Diabetes Patients

Patients with type 2 diabetes with the highest variability in A1c levels over a period of 2 years were found to

have significantly more first cardiovascular disease (CVD) events compared to similar patients with less A1c variability, reported a retrospective analysis of over 29,000 US patients.

Patients in the quartile with the greatest level of A1c variability were shown to have a 59% higher rate of CVD events, in comparison with patients in the quartile with the lowest level of A1c variability. Every 1 unit rise in A1c standard deviation was tied to a significant 18% increase in CVD events after adjusting for confounders. The results were published in *Diabetes Obesity and Metabolism… (Medscape)*

US CDC Issues Guidance for Reopening of Schools

The US Centers for Disease Control and Prevention (CDC) has issued new guidance for reopening of US schools. The agency recommends universal wearing of masks and physical distancing as important strategies to control COVID-19.

The guidelines also stress on facility cleaning, personal hygiene as well as contact tracing. CDC Director Rochelle Walensky stated that with the strategies suggested by the agency, there will be little to no transmission of COVID-19 in schools, if followed properly. The agency also recommended that priority should be given to teachers and school staff for COVID-19 vaccination. US President Joe Biden had also assured that most K-8 schools would be reopened within 100 days of his taking office on January 20. The President lauded the agency's new guidance as he highlighted the problems faced by children due to school closure… *(Reuters)*

COVID Antibodies may Last for 8 Months After Vaccination, Says AIIMS Director

The Director of All India Institute of Medical Sciences (AIIMS) has stated that antibodies against the SARS-CoV-2 virus may last for up to 8 months or even longer following vaccination against COVID-19.

He further stated that scientists are exploring the long-term protection provided by the vaccines. He mentioned that antibodies will develop around 14 days following the second dose of the vaccine, adding that while it was not clearly known as to how long the protection will last, but it is believed to last for a duration of at least 8 months, or longer… *(ET Healthworld – IANS)*

Alien Cells may Account for COVID 'Brain Fog'

New research suggests that the long-term neurologic symptoms, such as brain fog, that some patients with COVID-19 experience, may occur as a result of the occlusion of brain capillaries by large megakaryocytes. The findings, shared in a research letter, report on 5 post-mortem cases from patients who succumbed to COVID-19. Researchers noted large cells that resembled megakaryocytes in cortical capillaries. Immunohistochemistry validated that they were megakaryocytes. According to the researchers, megakaryocytes have not been seen in the brain previously. The report was published online in *JAMA Neurology.*

Lead author David Nauen noted these cells in the first evaluation of brain tissue from a COVID-19 patient. He found no viral encephalitis, but there were unusually large cells in the brain capillaries. He stated that he had never seen these cells in the brain before… *(Medscape)*

High Rates of Anxiety among Physician Mothers

A new report suggests that physician mothers are reporting increased rates of moderate-to-severe anxiety during the COVID-19 crisis. Among them, frontline workers and informal caregivers have the highest rates of anxiety.

A survey was conducted among the Physician Moms Group on Facebook. Among over 1,800 respondents, around 41% of them had scores above the Generalized Anxiety Disorder 7-item scale (GAD-7) cut-off for moderate-to-severe anxiety. Additionally, 18% were found to have severe anxiety. Frontline workers and informal caregivers had higher anxiety levels. About 46% of them scored on the higher end of the GAD-7. The data is published in the *American Journal of Psychiatry… (Medpage Today)*

Drug to Reduce Bone Marrow Suppression due to Chemotherapy Approved

Trilaciclib became the first drug in its class to be approved by the US FDA for reducing the incidence of chemotherapy-induced bone marrow suppression in patients being given chemotherapy for extensive-stage small cell lung cancer.

The drug may provide protection to the bone marrow cells against damage from chemotherapy by inhibition of cyclin-dependent kinase 4/6.

Three randomized, double-blind, placebo-controlled trials conducted in patients with extensive-stage small cell lung cancer randomized a total of 245 patients to either trilaciclib or a placebo prior to chemotherapy. Patients given trilaciclib were found to have reduced odds of having severe neutropenia in comparison with

patients receiving a placebo. Among the patients who had severe neutropenia, those on trilaciclib treatment had it for a shorter duration on average, compared to patients who received a placebo… *(FDA)*

Humidity from Masks may Decrease Severity of COVID-19

A study, published in the *Biophysical Journal*, led by researchers at the NIH's National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), has noted that face masks considerably increase the humidity in the air that a person wearing the mask breathes in.

According to the investigators, this higher level of humidity in the inhaled air could possibly explain why wearing mask is tied to lower disease severity in those infected with COVID-19. Of note, hydration of the respiratory tract is beneficial for the immune system. High levels of humidity can potentially decrease the spread of a virus to the lungs by means of promoting mucociliary clearance (MCC)… (*HT – ANI*)

New SOPs Issued for Offices to Curb the Spread of Coronavirus

The Union Health Ministry has released a set of new "SOPs to contain the spread of COVID-19 in offices". The SOPs suggest that if one or two cases of COVID-19 are reported at a workplace, the disinfection can be limited to the areas occupied and visited by the patient over the previous 48 hours. Work can resume following disinfection procedure according to the stated protocols. The ministry added that in case of a large number of cases at a workplace, the entire block or building need to be disinfected prior to resuming work. Staff residing in containment zones must inform their supervisors about the same and not report to the workplace until the containment zone is denotified. These staff should be allowed to work from home… *(ET Healthworld – PTI)*

Pfizer-BioNTech COVID-19 Vaccine Decreases Symptomatic Infection in Real World: Israeli Researchers

Researchers from Israel suggest that the Pfizer-BioNTech COVID-19 vaccine seems to decrease symptomatic COVID-19 infections by over 90% in the real world.

Preliminary findings indicate that the vaccine is highly effective in a mass vaccination campaign. The Clalit Research Institute looked at data on 1.2 million people; nearly half of these received the Pfizer-BioNTech vaccine. Patients receiving the vaccine were compared with those who didn't. The rate of symptomatic COVID-19 was found to reduce by 94% among those who were given two doses of the vaccine. Additionally, the rate of serious illness was found to be reduced by 92%.

The findings are in line with data obtained from Pfizer's vaccine trial, which stated that the vaccine yielded 95% protection against symptomatic COVID-19… *(CNN)*

Younger People Half as Likely as Adults to Contract COVID-19: Study

A new modeling study has shown that individuals below the age of 20 years have about half the odds of contracting COVID-19 infection, compared to adults. These individuals also have lesser odds of transmitting the disease to others.

The study looked at 637 households whose members had undergone polymerase chain reaction (PCR) testing in spring last year. Some of them also underwent serology testing for antibodies to SARS-CoV-2. It was noted that those below 20 had 43% lesser susceptibility to COVID-19 as compared to those above 20. Children appeared to have greater odds of getting a negative PCR result in spite of being infected. This could probably account for the reports from across the globe that lesser number of children are diagnosed in comparison with adults.

The findings are published in the journal *PLOS Computational Biology*… *(NDTV – PTI)*

About One-third of People with Mild COVID-19 have Symptoms Months Later: Study

A study published in *JAMA Network Open* assessed 177 people with confirmed COVID-19 infection for a period of up to 9 months. The study group included 150 outpatients with mild COVID-19 who were not hospitalized.

Researchers from the University of Washington noted that 30% of the respondents had persistent symptoms, the most common being fatigue and loss of smell or taste. Over 30% of the study respondents reported worse quality of life in comparison with that prior to falling ill. Additionally, 14 subjects (8%), including 9 who had not been hospitalized, had trouble performing at least one usual activity, like daily chores… (*CNN*)

Short Sleep Tied to Incident Dementia and All-cause Mortality

Novel evidence links sleep deficiency, dementia and mortality.

A new study included 2,812 adults, 65 years of age

and older, from the National Health and Aging Trends Study (NHATS). The study subjects completed surveys about sleep disturbance and duration in 2013 and 2014. Investigators assessed the link between sleep disturbance and deficiency and incident dementia and all-cause mortality over a period of 5 years. Fully adjusted Cox multivariate analysis revealed that subjects who slept 5 hours or less per night had about double the risk for incident dementia compared to those who slept longer (HR, 2.04). The risk of dementia was found to be higher among those who took 30 minutes or longer to fall asleep (HR, 1.45). The findings are published in *Aging*… *(Medscape)*

WHO Update on New Molecular Assays for Diagnosis of TB and Drug Resistance

The WHO has announced vital updates on new molecular assays in a Rapid Communication, which is expected to result in significant improvements in the diagnosis of tuberculosis (TB) and drug resistance among adults, adolescents as well as children.

A meeting of a Guideline Development Group was convened in December 2020 to update WHO policies on molecular assays employed for the diagnosis of TB and drug resistance. The evidence reviewed and presented in the Rapid Communication point to high diagnostic accuracy for 3 new technologies, including moderate complexity automated Nucleic Acid Amplification Tests (NAATs), to detect TB and resistance to rifampicin and isoniazid; low complexity automated NAATs to identify resistance to isoniazid and second-line anti-TB agents; and high complexity hybridization-based NAATs to detect resistance to pyrazinamide… *(WHO)*

Pulse Oximeters not to be used to Diagnose COVID-19: US FDA

The US FDA has cautioned that pulse oximeters should not be used to diagnose COVID-19. The devices could give inaccurate readings under some situations, stated the agency.

The WHO had included the use of pulse oximeter to detect patients who may require hospitalization in its clinical advice for treating COVID-19 in the month of January. The FDA has stated that the devices cannot be used to diagnose or exclude COVID-19. The agency further recommended not to depend on them to evaluate health. The agency recommended that attention should be focused on other indicators of low oxygen, including blueness of the face or a rapid pulse… *(Reuters)*

It is Unlikely That Food and Food Packaging Spread COVID-19

It is highly unlikely that food and food packaging can spread COVID-19, stated the US FDA, US Department of Agriculture and the CDC.

An FDA statement mentioned that available information and international scientific consensus support that foods that people consume and food packaging they touch are highly unlikely to spread COVID-19 infection. The agencies emphasized that there was a dearth of reliable evidence that could suggest that food or food packaging can transmit SARS-CoV-2. The FDA added that the amount of virus particles that could be picked up through touching a surface would be very small while the amount that is required to cause infection by means of oral inhalation would be very high. Therefore, the odds of catching infection by touching the surface of food packaging or eating food appear to be very low… *(CNN)*

A Third of Patients Recovered from COVID may have PTSD

A single-center study in Italy has shown that nearly 30% of the patients who recovered from COVID-19 developed post-traumatic stress disorder (PTSD).

Overall, 381 patients were followed. Women were more likely to develop PTSD (55.7%). Those who went on to develop PTSD had higher rates of history of psychiatric disorder (34.8%), and had higher odds of having had delirium or agitation during acute illness (16.5%). These patients were also reported to have more persistent medical symptoms following their initial illness (62.6%). Besides PTSD, it was noted that 17.3% had depressive episodes and 7% had generalized anxiety disorder. The study is published in *JAMA Psychiatry*… *(Medpage Today)*

■■■■

Lighter Side of Medicine

HUMOR

DON'T GET TOO COMFORTABLE

The CEO of a large TPA dies and goes to heaven. St. Peter shows him to a lovely villa, wonderful music, great views, full staff of servants, gourmet meals, etc. The CEO says, "This is terrific!"

"Don't get too comfortable," says St. Peter. "You're only approved for a three–day stay."

DOCTOR COMPLAINING TO MECHANIC

A doctor is talking to a car mechanic, "your fee is several times more per hour then we get paid for medical care."

'Yeah, but you see, doc, you have always the same model! It hasn't changed since Adam. But we have to keep up to date with new models coming every month"

CAN I HELP YOU?

A young businessman had just started his own firm. He had just rented a beautiful office and had it furnished with antiques. He saw a man come into the outer office. Wishing to appear the hot shot, the businessman picked up the phone and started to pretend he had a big deal working. He threw huge figures around and made giant commitments.

Finally he hung up and asked the visitor, "Can I help you?"

"Yeah, I've come to activate your phone lines."

JOGGING SHOES

Deciding to take up jogging, the middle–aged man was astounded by the wide selection of jogging shoes available at the local sports shoe store.

While trying on a basic pair of jogging shoe, he noticed a minor feature and asked the clerk about it.

"What's this little pocket thing here on the side for?"

"Oh, that's to carry spare change so you can call your wife to come pick you up when you've jogged too far."

STEPS TO HAPPINESS

Everybody Knows: You can't be all things to all people. You can't do all things at once. You can't do all things equally well. You can't do all things better than everyone else. Your humanity is showing just like everyone else's.

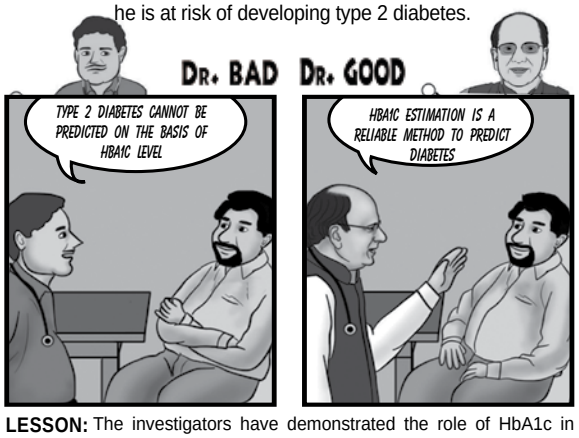
So: You have to find out who you are, and be that. You have to decide what comes first, and do that. You have to discover your strengths, and use them. You have to learn not to compete with others, because no one else is in the contest of *being you*.

Then: You will have learned to accept your own uniqueness. You will have learned to set priorities and make decisions. You will have learned to live with your limitations. You will have learned to give yourself the respect that is due. And you'll be a most vital mortal.

Dare To Believe: That you are a wonderful, unique person… That you are a once-in-all-history event… That it's more than a right, it's your duty, to be who you are… That life is not a problem to solve, but a gift to cherish. And you'll be able to stay one up on what used to get you down.

Dr. Good and Dr. Bad

SITUATION: A 39-year-old man whose HbA1c level had increased from the past 2 years (from 5.7% to 6.4%) was told that he is at risk of developing type 2 diabetes.



LESSON: The investigators have demonstrated the role of HbA1c in predicting type 2 diabetes in different situations. It can be used for determining people at high risk of developing type 2 diabetes in both short- and long-term.

Diabetes Care. 2018;41(1):60-8.

The Asian Journal of
DIABETOLOGY

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Manuscripts should be prepared in accordance with the 'Uniform requirements for manuscripts submitted to biomedical journals' compiled by the International Committee of Medical Journal Editors (Ann. Intern. Med. 1992;96: 766-767).

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- The statistical universe i.e., the population from which the sample for the study is selected.
- Method of selecting the sample (cases, subjects, etc. from the statistical universe).
- Method of allocating the subjects into different groups.
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- Confidence intervals for the measurements should be provided wherever appropriate.

Results

- These should be concise and include only the tables and figures necessary to enhance the understanding of the text.

Discussion

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References

These should conform to the Vancouver style. References should be numbered in the order in which they appear in the texts and these numbers should be inserted above the lines on each occasion the author is cited (Sinha[12] confirmed other reports[13,14]...). References cited only in tables or in legends to figures should be numbered in the text of the particular table or illustration. Include among the references papers accepted but not yet published; designate the journal and add 'in press' (in parentheses). Information from manuscripts submitted but not yet accepted should be cited in the text as 'unpublished observations' (in parentheses). At the end of the article the full list of references should include the names of all authors if there are fewer than seven or if there are more, the first six followed by et al., the full title of the journal article or book chapters; the title of journals abbreviated according to the style of the Index Medicus and the first and final page numbers of the article or chapter. The authors should check that the references are accurate. If they are not this may result in the rejection of an otherwise adequate contribution.
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Paintal AS. Impulses in vagal afferent fibres from specific pulmonary deflation receptors. The response of those receptors to phenylguanide, potato S-hydroxytryptamine and their role in respiratory and cardiovascular reflexes. Q. J. Expt. Physiol. 1955;40:89-111.

Books

Stansfield AG. Lymph Node Biopsy Interpretation Churchill Livingstone, New York 1985.

Articles in Books

Strong MS. Recurrent respiratory papillomatosis. In: Scott Brown's Otolaryngology. Paediatric Otolaryngology Evans JNG (Ed.), Butterworths, London 1987;6:466-470.

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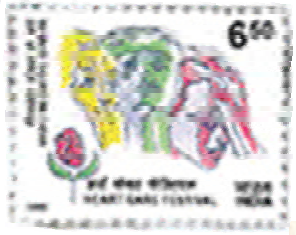

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- Public conference on Heart Care, September 3-4, 1988 at Siri Fort Auditorium, New Delhi.
- Run for Your Heart on December 11, 1991. Government of India earmarked the occasion by releasing a Re. 1.00 commemorative postal stamp, which was released by Shri Narsimha Rao, the 10th Prime Minister of India.
- Perfect Health Mela, an innovative health awareness concept was used for the first time in the world in 1993. Government of India earmarked the event by releasing a commemorative postal stamp of Rs. 6.50.
- Perfect Health Parade on the lines of Republic Day Parade on April 7, 2000 (World Health Day) from Vijay Chowk to Red Fort. Flagged off by Smt. Sheila Dikshit, the Chief Minister of Delhi.
- Mega Health Camp at Ajmer 11-12th Feb 2012. Govt. of Rajasthan released a commemorative postal cover & cancellation stamp to mark the occasion.

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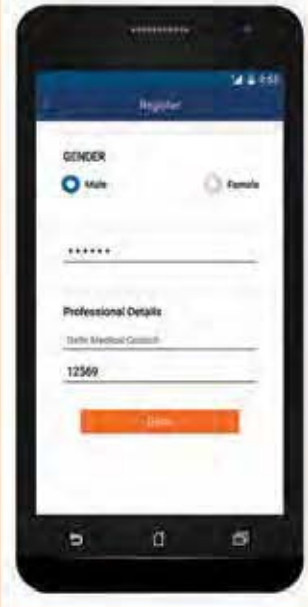

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