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The Medical Bulletin

Guest Editorial

Dr. R. Rajasekar
MD. FICP, FACP (USA), FRCP
(Glasgow, Ireland, London &Edinburgh).
Senior Consultant Physician & Diabetologist - Kumbakonam

MY VIEWS ON MEDICAL CONDITIONS

People may have different views on management of medical conditions. Let me share my observations, as a practicing physician since more than 40 yrs. No doubt we all know the value of lifestyle modifications (LSM).

Five healthy habits may decrease risk of cardiac disease and cancer, thereby prolonging life span by more than 10 years according to a recent Study in USA.5 Es .My Mnemonics.
Eating healthy,
Exercising regularly,
Expend excess weight to maintain a healthy body weight
Eschew Smoking
Evade excess alcohol consumption
No one can deny the value of these drugs. BAAS(My Mnemonics).
B. Beta-blockers
A. Ace Inhibitors/ARBs
A. Antiplatelet->Aspirin, Clopidogrel
S. Statins

The drugs, no doubt do the best in situations of Acute Coronary Syndrome/Stroke in particular. The Ace inhibitors act especially in Ischemic Preconditioning --modulation-> make the Myocardium to be adaptable with available coronary circulation ie perfusion. Many a time the drugs revolutionize the outcome of the ailments. I have patients with CAD/ LVD of Ejection fraction of 22% since 24 yrs. No doubt the patients follow LSM especially Salt/Fluid restrictions in LVD.in addition to drugs--BAAS/& OADs/Insulin/Antihypertensive in case they are Diabetics/Hypertensive.

In those days there was no appropriate vaccine for Rabies--> BPL vaccine ie betapropropriolactone vaccine (better vaccine in those days).We have had Demyelenation problem following BPL vaccine. Now no such complications due to innovative vaccines like Modern cell-culture or embryonated-egg vaccine. Similarly, for Intra-cerebral Hemorrhage we have had no proper modality of treatment in those days. Now Revolution is taking place like Thrombolysis in Stroke, Brain Stimulation, Stent Retrieval approaches. Even device applications in Cardiac ailments also raised our eyebrows and bring longevity for patients. Of course Transplants are being done for Heart, Liver, Lung,

and Kidney. Presently, Thermo-plasty is being done for COPD. In fact, long back "Renal transplant is on Vogue".

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When we were students Beta-blockers -> contraindicated in CHF Now-? To reduce sympathetic tone, Beta-blockers not only a sheet anchor --to reduce oxygen demand .Now Lipohilic Beta-blockers -->cross blood brain barrier ie has the capacity to prevent SCD(Sudden Cardiac Death) eg. Metoprolol, Bisoprolol, Nebivolol..In addition Nebivolol influences-->Nitric oxide Arginine Pathway thus creating vadodilatation-->so apt for HT/CHF also to some extent. Atenolol is not lipophilic Beta-blocker and so it does not cross blood brain barrier --> so does not prevent sudden cardiac death.

✡ Look at nature -- Lipoprotein is a transporter of lipids. Of course we all know there are two pathways->Exogenous and Endogenous.

Moreover Lipoprotein has an outer core of apolipoproteins, unesterified cholesterol, and phospholipids; the spherical core contains triacylglycerols and cholesteryl esters. Actually esterified cholesterol -->lipophilic. The un-esterified cholesterol is not much lipophilic, infact it is also hydrophilic --Why so? because it has to travel in plasma which is a watery medium. So Nature had made everything adaptable. Even Biological modulation of our body occurs, as age advances. If associated with diseases vascular ageing also occurs. We can calculate it by Framingham score.

Let us view at Clustering of DM.

Cluster 1: Severe autoimmune diabetes (SAID)

Cluster 2: Severe insulin-deficient diabetes (SIDD)

Cluster 3: Severe insulin-resistant diabetes (SIRD)

Cluster 4: Mild obesity-related diabetes (MOD)

Cluster 5: Mild age-related diabetes (MARD)

S (AID)-Cluster 1

S (IDD)-Cluster 2

S (IRD)-Cluster 3

M (OD)-Cluster 4

M (ARD)-Cluster 5

Cluster 3, has highest degrees of insulin resistance and also revealed marked risk for diabetic kidney disease than the other groups. Those of insulin-deficient cluster(Cluster-2) had the risk for diabetic retinopathy.

This study takes us towards a more clinically useful diagnosis, and represents an important step towards precision medicine in diabetes.

The Innovative biomarkers for pre-diabetes, diabetes with attendant complications" are so advanced, a latest biomarker-> Myonectin which may be a useful marker in predicting the development of pre-diabetes and diabetes-> published in the year Jan.2018.Why I am pointing is Science is every day , advancing. We can aptly apply in a pertinent manner.

Let us also have a preview of ECG in DM. DM significantly alters the cardiac electrophysiology

by several complex mechanisms--Contribution --> Creation of electrical instability of the heart--> Potentially life-threatening arrhythmias and sudden cardiac death.

Every day new studies are released. Indoleamine2, 3dioxygenase (IDO) level as a marker for significant coronary artery disease, is published recently. So we have to keep ourselves updated.

Let us also look into Diabetic Nephropathy (DN).Apart from Albuminuria and Non Albuminuria Diabetes Kidney disease. ADA now recommends replacement of terms Micro-albuminuria and Proteinuria to Increased Urine Albumin Excretion (UAE)

❊ Tubular biomarkers are reported as predictors of diabetic kidney disease consist of cystatin C, kidney injury molecule-1, neutrophil gelatinase-associated lipocalin, alpha 1-microglobulin, N-acetyl- β-D-glucosaminidase, and liver-type fatty-acid binding protein.

Several studies show that these markers are not only more

Sensitive, but are much earlier predictors of diabetic nephropathy than micro-albuminuria.

Although their advantages over micro-albuminuria are evidence-based, majority still need to be validated for diagnostic purposes.

Let us also have a purview of recent data of new Renal Biomarkers: ANGPLT2

(Angiopoietin-like protein 2)

and Urine and Serum ZAG: ANGPTL2 could even be a biomarker that has direct involvement in podocyte dysfunction and is independent of progression of DKD stages. Urine and Serum ZAG (Zinc alpha 2 glycoprotein) might be useful as early biomarkers for detection of DN (Diabetic Nephropathy) in T2DM patients, detectable earlier than micro-albuminuria. Although it remains the gold standard for early detection of diabetic nephropathy (DN), it is not a sufficiently accurate predictor of DN risk. Another biomarker urinary podocin can serve as an early marker for diabetic nephropathy as well as a marker of disease progression and severity among the patients with Type 2 Diabetes.

A recent study says, Crosstalk exists between tubular epithelial cells and glomerular endothelial cells in diabetic renal disorder and it plays a task.

Further research efforts should be aimed towards demonstrating that prevention of progression of the crosstalk between TECs and GECs is feasible and results in improved outcomes. The Formula eGFR Calculation is also vital.

CAM' eGFR Formula.

❊ My Mnemonics. 2C 2A 2M.

2 C. CK - Cockcroft--Gault formula

Chronic kidney disease epidemiology collaboration equation formula
2 A- Age Related Formula -
Schwartz formula- For Children
Prabhat's formula- Above 30years.
2 M. MDRD-- Modification of diet in renal disease formula
Mayo Quadratic Clinic formula.
Newly, Heart failure drug treatment: the fantastic four–
My Mnemonics --BAMS--Knocks HF--(HFrEF)-heart failure with reduced ejection fraction
B. Beta-blocker
A. ARNI--angiotensin receptor/neprilysin inhibitor;
M. MRA--mineralocorticoid receptor
Antagonist;
S.SGLT2 inhibitor--sodium–glucose co-transporter

Let us think of Adult Vaccination which is also gaining importance in health.

Now COVID -19 is pandemic, threat to Humanity and the Whole world is preparing to tackle it. Vaccination is mandatory for its prevention.

Quinary prevention is also important. It is Prevention of health-related hearsay or misinformation, or its ill effects on the health of persons.

Telecommunication to support health care is Telemedicine which is now playing a vital role in this COVID era. This is empowering patients with a deadly duet of Tom and Jerry --Diabetes, BP control by encouraging self-monitoring of Blood Glucose and Home BP.

We can't give it up everything just at one stroke on hearing any one's opinion. What about so much of involvement of Scientists in research? Let me conclude with Pedro Brugada's(Doyen of Cardiology- Inventor of Brugada Syndrome) famous saying-

"Simplicity may be beauty in art, but Science is complex beauty that cannot be reduced into simplicity."

His quote holds nicely in all situations. Hope you all agree with my views, which I have shared. The ball is in our court.

Thank you all for the patient perusal of my message.