



the
FAMILY
DOCTOR

THE OFFICIAL JOURNAL OF IMA COLLEGE OF GENERAL PRACTITIONERS



DEAN, IMA CGP
Dr. AVINASH BHONDWE

HON. SECRETARY
Dr. C. ANBARASU

EXECUTIVE EDITOR
Dr. T.N. RAVISANKAR

CO EDITOR
Dr. L. YESODHA

ASSOCIATE EDITOR
Dr. S. REKHA,
Dr. SATYAJIT BORAH

MAY - 2022

Content

Dean Page

Using Advanced Medical Gadgets in General Practice

Dr.Avinash Bhondwe

Page No: 3 to 5

Guest Article

MOUTH IS THE MIRROR OF SYSTEMIC HEALTH an Overview of Clinical Cases

Dr. B Thayumanavan Dean, Professor & Head

Page No: 6 to 13

Review Articles

Hypertension subtypes and their essentials in Family practice - a clinical up to date

Dr.V.S.K.Raghu Vamsi, MD Physician Ukraine (Honors)

Page No: 14 to 17

AN APPROACH TO THE MANAGEMENT OF FIBROID UTERUS

DR. Thendral.K., MS (OBG), DNB (OBG), FMAS

Page No: 18 to 20

ECG Updates

Page No: 21 to 22

Oxygen Concentration - Team CGP IMA HQs

Page No:23

MEDICO LEGAL PAGE

Page No: 24

MCQ

Dr.V.S.Hariharan M.R.C.P, Consultant Physician & Internist

Page No: 25 to 27

Reports

IMA Coimbatore Branch

IMA Tambaram Branch

Page No: 28 to 33

MCQ Answers

Page No: 34

Using Advanced Medical Gadgetry in General Practice



Dr. Avinash Bhondwe

Dean, IMA CGP (HQ)

Family physicians or general practitioners (GPs) are the caretaker of our healthcare system. They are the first point of contact for patients for any sickness or preventive visit. India has about 800,000 medical doctors, from all the pathies, of which about 400,000 are GPs. But more than three quarters of these are in urban centers which make up only about 20% of India's population. Access to a doctor in urban India is about the same as it would be on average in the United States. However, the ratio of GPs to patients outside these metro areas is about 1 GP for every 7500 patients on average and as low as 1 for every 25,000 people in more remote areas.

Most Indian villages don't have population to sustain GPs

Why is that the case? Although India is densely populated, the economics of being a GP don't really work unless there is a catchment area of at least a few tens of thousands of paying customers. Moreover, a support infrastructure of labs and pharmacies is also needed. Most villages don't have the population to sustain a GP, which explains the concentration of GPs in urban and peri-urban India. The gap is filled by over 2 million rural medical practitioners or quacks who have no formal medical education but prescribe medications and are de facto, the healthcare system for much of India.

This situation is unlikely to change anytime soon. Even to bring another 200 million Indians under the coverage of a GP using density norms of the World Health Organization, we will have to invest in training another 200,000 GPs, or in effect, increasing the current number by a third. Moreover, simply training more doctors will not solve the problem if the economics of practicing in rural areas is unsound.

Technology is changing healthcare and role of doctors

The fundamental economics of GPs has not changed in nearly a century. But in that period, technology has changed a lot and is augmenting the role of doctors to enable them to do more.

Twenty years ago, most ECGs were read by a cardiologist. Today, most are machine read and the most advanced algorithms and neural network-based systems are more accurate than 99% of cardiologists. This does not mean that a machine can replace a cardiologist. It can simply remove some of the more routine and mundane tasks that a cardiologist would spend time and allow them to focus more on their patients' wellbeing and treatment.

This is no different that smart phones which enable us to not have to remember phone numbers or addresses and allows us to retain our memory for more important things.

Technology has revolutionized every part of medicine including surgery, cardiology, cancer diagnosis but it is missing in action in primary care. The equipment at the disposal of most GPs is still a stethoscope, blood pressure apparatus and perhaps an otoscope.

In fact, the most advanced piece of technology in a GP's office may be a smart phone, but one with 1000 times the computing power of the equipment that put man on the moon. That seems like a lost opportunity. Could a GP be doing more for more patients with that technology. Could we somehow use this connectivity to see more patients than the 50-70, who show up in their waiting room every day. That was the promise of telemedicine, but sadly most of telemedicine has not advanced beyond a video portal that connects patients to doctors. But there is more to medicine than a video chat – without the human touch and some ability to feel, touch and measure vitals and diagnostics, medical consultation is meaningless.

In some developing countries, like Kenya, such a model is already underway supported by the Bill & Melinda Gates Foundation. Ten clinics, operated by the NGO CFW are located in remote parts of Kenya where the population density would not support a medical doctor's salary.

A single doctor in Nairobi monitors multiple consultations at the same time. Based on her instructions, a nurse at each clinic is able to carry out diagnostics on more than 50 parameters using Health Cube technology which was developed in India. On average, each doctor is able to see 60 patients a day across rural Kenya. Using this model of remote diagnostics enabled telemedicine consultation, the patient saves on the cost of going to a city for healthcare and a doctor is able to help more patients without travelling.

We have an opportunity to simultaneously solve the problem of non-existent rural healthcare, and the economics of GPs through digital health. Although India leads the world in digital technologies, that advantage is missing in its clinics. It is time we brought technological breakthroughs into primary care.

MOUTH IS THE MIRROR OF SYSTEMIC HEALTH

An Overview of Clinical Cases

Dr.Thayumanavan B , Dr.Murali R V ,Dr. Abu Dakir I ,Dr. Jeyanthi Kumari T ,Dr. Selvakumar T ,
Dr.Suriaprakash R

1. Dr. B Thayumanavan
Dean, Professor & Head

Department of Oral & Maxillofacial Pathology
Sathyabama University Dental College and Hospital,
Rajiv Gandhi salai, Jeppiaar nagar, Sholinganallur,

Chennai, India
thayumds@gmail.com

2. Dr. R V Murali

MDS, Former Professor & Head,
Department of Orthodontics,

Sree Balaji Dental College & Hospital,
Chennai, India
muralikothai@gmail.com

3. Dr. Abu Dakir

MDS, Former Professor,

Department of Oral & Maxillofacial Surgery
Sree Balaji Dental College & Hospital,

Chennai, India
drabu_dakir@yahoo.co.in

4. Dr. T Jeyanthikumari
MDS, Assistant Professor,

Department of Prosthodontics,

Tamil Nadu Government Dental College & Hospital
Chennai, India

drjeyanthimds@gmail.com

5. Dr. Selvakumar T
BDS, Dental Surgeon,
DCare Dental Solutions,
263A, Aarthi Towers,

East Tambaram, Chennai, India
thaiselvakumar25@gmail.com

6. Suriaprakash.
RDental Intern

DCare Dental Solutions,
263A, Aarthi Towers,

East Tambaram, Chennai, India

ABSTRACT

Mouth is the window to assess one's general health condition, since oral manifestation remains, a primary sign at instances of nutritional deficiencies, endocrine imbalances, gastro-intestinal disturbances, communicable diseases, immunologically mediated diseases, blood dyscrasias and radiation exposures. Oral cavity harvests innumerable microorganisms, which can cause dental caries and periodontal disease. Many researches correlate the association of periodontal disease with other systemic diseases such as cardiovascular disease, stroke, and bacterial pneumonia. Pregnant women with periodontitis are at a higher risk of bearing pre-term and/or low-birth-weight babies.

This article focuses on the inter-relationship between some of the most common systemic diseases and their oral manifestations, thereby emphasizing the need for oral health evaluation and treatment as part of preventive medical therapy for various systemic diseases.

INTRODUCTION

Sir William Osler called the oral cavity as - mirror of the body. The oral changes are well recognised, under naked eye on careful visual examination and it does not require any specialized equipment. Since some of the oral diseases are linked to systemic disorders, any alterations in and around the oral cavity must be looked upon with utmost care by the general physicians to better treat the disease by early diagnosis.¹ Most of the systemic diseases have oral manifestations, which affects the oral mucosa, tongue, gingiva, dentition, periodontium, salivary glands, facial skeleton, perioral skin, and other related structures.² Early and accurate diagnosis of these oral tissue alterations offers early management for the benefit of the patient. This article is a brief overview on oral manifestations of common systemic diseases.

NUTRITIONAL DEFICIENCIES

Nutritional deficiency may emerge first as oral symptoms due to the high cell turnover of the oral mucosa. Changes in the papillae of the tongue, mucosal colour, mucosal integrity, and oral sensations are evident. Deficiencies of Vitamin A, Vitamin D, Vitamin D resistant rickets, Hypophosphatasia, Vitamin K, Vitamin C, Riboflavin and Niacin all have oral manifestations.

1. VITAMIN A deficiency may manifest as decreased oral epithelial development, impaired tooth formation, enamel hypoplasia and periodontitis
2. VITAMIN C deficiency is known to cause scurvy oral manifestations of which include bleeding gums and gingivitis
3. VITAMIN D may show hypo-mineralization and compromised tooth integrity, delayed eruption pattern, absence of lamina dura and abnormal alveolar bone patterns.

HAEMATOLOGICAL DISEASE

Mouth is the site that shows earliest signs of haematological diseases such as anaemia, leukaemia, thrombocytopenic purpura and multiple myeloma. The oral manifestation may be seen as a local haemorrhage to infections and cellular infiltration of the tissues.

1. ANAEMIA: Prominent oral manifestations of pernicious anaemia are angular cheilitis, mucosal pallor, painful, atrophic and erythematous mucosa, mucosal ulceration, loss of papillae on the dorsum of the tongue, burning and painful tongue.



Fig 1: Loss of papillae on dorsum of the tongue (Bald Tongue)

1. LEUKEMIA: Gingival hypertrophy, petechiae, ecchymosis, mucosal ulcers, and haemorrhage are seen in leukemic patients.⁴



Fig 2: Petechiae on leukemic patient

2. THROMBOCYTOPENIC PURPURA: Idiopathic Thrombocytopenic purpura is seen as small single or multiple petechial haemorrhages, as ecchymosis, as haemorrhagic blisters or as spontaneous bleeding.⁵



Fig 3: Thrombocytopenic purpura

ENDOCRINAL DISEASES

Abnormal hormonal regulation might cause oral symptoms. The oral cavity is a common site for manifestations of Diabetes mellitus, hyperparathyroidism, hypoparathyroidism, hypercortisolism, hypoadrenocorticism.

DIABETES MELLITUS

The effects of diabetes are reflected directly in the oral cavity. The oral problems in diabetics include gingivitis, periodontitis, fungal infections, dental caries, enamel hypoplasia, tooth sensitivity, crackling of oral mucosa, angular cheilitis, xerostomia, taste dysfunction, salivary dysfunction, neurosensory dysfunction, and lichen planus, burning mouth syndrome, premalignant lesions and malignancy.^{6,7}

- **DENTAL CARIES** – Diabetic patients have increased incidence of developing new and recurrent dental caries.



Fig 4: Dental caries on Diabetic patient

- **SALIVARY DYSFUNCTION** - Patients with diabetes are more likely to have drymouth or xerostomia and experience salivary gland dysfunction.^{8,9}
- **ORAL MUCOSAL DISEASES** - Diabetic patients are associated with a greater likelihood of developing oral mucosal lesions such as lichen planus and recurrent aphthous stomatitis.



Fig 5: Lichen planus

- **ORAL INFECTIONS** - Diabetics are more susceptible to opportunistic infections such as oral candidiasis, mucormycosis and aspergillosis. Fungal infections of oral mucosal surfaces and removal prostheses are commonly found in adults with poorly controlled diabetes.¹⁰



Fig 5: Oral Thrush (Candidiasis)

- **TASTE DISTURBANCES** - Taste is an essential component of oral health and is affected adversely in patients with diabetes.¹¹ Diabetic patients also have hypogeusia or diminished taste perception.¹²
- **GINGIVITIS AND PERIODONTITIS** - Diabetes is linked with increased gingival inflammation in response to bacterial plaque. Diabetes increases not only the prevalence and severity of periodontitis but also the progression of bone loss and attachment loss over time. Periodontitis has been reported as sixth complication of diabetes.¹³



Fig 6.1: Gingivitis



Fig 6.2: Periodontitis

DERMATOLOGICAL DISEASES

Oral symptoms can arise alone or prior to general skin changes in a number of dermatologic disorders such as Lichen planus, pemphigus, pemphigoid, Erythema multiformae, Steven Johnson Syndrome, Psoriasis, Epidermolysis bullosa dystrophica, Acanthosis nigricans are seen.

- **LICHEN PLANUS** - Oral symptoms of lichen planus might appear weeks or months before skin lesions appear. Appropriate diagnosis and management of the disease at this stage might curb the disease from spreading to other mucosal regions and skin. Oral lichen planus is characterised by Wickham striae, which can range in appearance from radiating white striae to vesiculo-bullous, atrophic, or erosive forms.¹⁴



Fig 7.1: Wickham striae of Lichen planus on buccal mucosa



Fig 7.2: Lichen planus on Tongue

- **PEMPHIGUS** - Pemphigus is orally manifested as bullae that tend to rupture as soon as they form. The oral mucosa also exhibits Nikolsky's phenomenon and may be denuded by the peripheral enlargement of the erosions. Lesions are tender, bleed easily have ragged border and be covered by a white or blood tinged exudate.¹⁴



Fig 8: Desquamative gingivitis in Pemphigus Vulgaris

- **PEMPHIGOID** - They present as vesiculobullous lesions, which are relatively thickwalled and, may persist for 24 to 48 hours before they rupture and desquamate. When ruptured they leave a raw, eroded, bleeding surface.¹⁴
- **ERYTHEMA MULTIFORME** - Oral manifestations include hyperaemic macules, papules or vesicles, which may become eroded or ulcerated and bleed freely. The tongue, palate, buccalmucosa and gingiva are commonly involved.¹⁴



Fig 9.1: Target iris lesion of EM



Fig 9.2: Extensive plaque like oral lesion of EM

- **STEVEN JOHNSON'S SYNDROME** – Oral lesions may be extremely severe and so painful that mastication is impossible. Mucosal vesicles or bullae occur which rupture and leaves surfaces covered with a thick white or yellow exudate. The lips may exhibit ulcerations with bloody crusting and are painful.¹⁴

CONNECTIVE TISSUE DISEASES

Connective tissue diseases that worsen rapidly with time can be conquered at earlier stages by looking out for initial signs of such diseases in oral cavity which include Sjogren's syndrome, Systemic Lupus Erythematosus, Scleroderma and Rheumatoid Arthritis.

- **SJOGREN'S SYNDROME** - It is characterized by dry mouth (xerostomia), keratoconjunctivitis sicca, and other collagen diseases-often rheumatoid arthritis. Signs and symptoms include difficulty in chewing and mastication, altered taste sensation, difficulty with speech, mastication and denture use, an increase in incidence of dental caries and burning sensation of the oral mucosa.¹⁵
- **SYSTEMIC LUPUS ERYTHEMATOSUS** - The oral lesions which are in discoid form begin as erythematous areas, usually depressed, and typically with white spots or radiating white striae. Occasionally, superficial, painful ulceration may occur with crusting or bleeding.
- **RHEUMATOID ARTHRITIS** – In patients with rheumatoid arthritis, the temporomandibular joint (TMJ) is often involved. This is usually characterized by erosions in the condyle leading to a decreased range of motion of the mandible with pain upon movement. Oral dryness and salivary gland swelling can also be found in patients with rheumatoid arthritis.¹⁶

IMMUNOLOGICAL DISEASES:

Immune-deficiency conditions like HIV/AIDS present several oral problems such recurrent painful mucosal ulcerations, oral candidiasis, ulcerative gingivitis which should be examined with care for an early management of the patient.

CONCLUSION

The potential association between systemic diseases and oral cavity needs to be addressed quickly to provide prompt intervention which in-turn brings better prognosis. To bring more awareness on the intimate relationship between oral health and systemic health, a healthy interaction between dental and medical professionals must be initiated. Frequent oral health assessment should be made mandatory, as a part of general preventive medical health reviews.

References

1. The oral cavity and disease. *JAMA*. 1957;165(2):159, doi:10.1001/jama.1957.02980200039012
2. Mouth as mirror of diseases; Vishal Mehrotra, Parvathi Devi, ThimmarasaVenkappa Bhovi, Bhuvan Jyot GomalJournal of Medical Sciences July- December 2010, Vol. 8, No. 2
3. Sheetal A, Hiremath VK, Patil AG, Sajjanetty S, Kumar SR. Malnutrition and its oral outcome - a review. *J Clin Diagn Res*. 2013;7(1):178-180. doi:10.7860/JCDR/2012/5104.2702
4. Lynch MA, Ship II. Initial oral manifestations of leukaemia. *J Am Dent Assoc* 1967; 75: 932-40.
5. Khammissa RAG, Fourie J, Masilana A, Lawrence S, Lemmer J, Feller L. Oral manifestations of thrombocytopenia. *Saudi Dent J*. 2018; 30(1):19-25. doi:10.1016/j.sdentj.2017.08.004
6. Ship JA. Diabetes and oral health: an overview. *J Am Dent Assoc* 2003;134:45-10S.
7. Thayumanavan B, Jeyanthikumari T, Abu Dakir, Vani NV. Diabetes and oral health- An overview of clinical cases. *Int J Med and Dent Sci* 2015; 4(2):901-905.
8. Chavez EM, Borrell LN, Taylor GW, Ship JA. A longitudinal analysis of salivary flow in control subjects and older adults with type 2 diabetes. *Surg Oral Med Oral Pathol Oral Radiol Endod* 2001;91:166-73.
9. Moore PA, Guggenheimer J, Etzel KR, Weyant RJ, Orchard T. Type 1 diabetes mellitus, xerostomia, and salivary flow rates. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2001;92(3):281- 291.
10. Guggenheimer J, Moore PA, Rossie K, Daniel Myers, Mary Beth Monguelluzzo, Harvey M Block, et al. Insulin-dependent diabetes mellitus and oral soft tissue pathologies, II: prevalence and characteristics of Candida and Candidal lesions. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2000;89(5):570-576.
11. Settle RG. The chemical senses in diabetes mellitus. In: Getchell TV, editors. *Smell and taste in health and disease*. New York: Raven Press;1991.p.829-43.
12. Stolbova K, Hahn A, Benes B, Andel M, Treslova L. Gustometry of diabetes mellitus patients and obese patients. *Int Tinnitus J* 1999;5(2):135-40.
13. Loe H. Periodontal disease: the sixth complication of diabetes mellitus. *Diabetes Care* 1993;16(1):329-334.
14. Shafer's Textbook of Oral Pathology. 4th ed. Oral aspects of metabolic disease. In: WB.Saunders, 1993: p. 616-72.
15. Long RG, Hlousek L, Doyle JL. Oral manifestations of systemic diseases. *Mt Sinai J Med* 1998; 65: 309-15
16. Sullivan S, Fernandez L, MacFarlane IG, et al. Impairment of lachrymal and salivary secretion and cellular immune responses to salivary antigens in rheumatoid arthritis. *Ann Rheum Dis* 1978; 37: 164-7

***Cite this article as: Thayumanavan B.
Mouth is the mirror of systemic
health – An overview of clinical cases***

***Source of support: Nil
Conflict of interest: No***

Hypertension subtypes and their essentials in Family practice - a clinical up to date

An opinion paper

Dr V.S.K Raghu Vamsi

MD Physician Ukraine (Honors),

Family physician and Clinical Researcher

Member Indian society of Hypertension, Associate Member Hypertension Canada, Overseas Affiliate member British and Irish Society for Hypertension, Professional Member European Society of Cardiology

Hypertension is defined as an elevation of systolic blood pressure and diastolic blood pressure, its prevalence and incidence in India being unfortunately high among populations greater than 60 years age. Hypertension contributes to an increased risk of mortality and morbidity in older as well as younger age groups. Higher risk attributes to people with existing comorbidities such as atrial fibrillation, Chronic kidney disease, myocardial infarction, neuro stroke, ocular stroke, aneurysms, diabetes mellitus type 2. According to 2018 Joint ESH-ISH meeting at Beijing, China categories of hypertension were formulated and put into clinical practice to provide much more ease in diagnosing and early management¹.

Hypertension types have been graded basing on systolic blood pressure (SBP) and diastolic blood pressure (DBP) for diagnostic efficacy and therapeutic excellence:

1. Optimal - SBP <120 mmHg and DBP <80 mmHg
2. Normal - SBP 120-129 mmHg and/or DBP 80-84 mmHg
3. High normal - SBP 130-139 mmHg and/or DBP 85-89 mmHg
4. Grade 1 - SBP 140-159 mmHg and/or DBP 90-99 mmHg
5. Grade 2 - SBP 160-179 mmHg and/or DBP 100-109 mmHg
6. Grade 3 - SBP ≥180 mmHg and/or DBP ≥110 mmHg
7. Isolated systemic hypertension - SBP ≥140 mmHg and DBP <90 mmHg

On a clinician's perspective hypertension has further been classified in to four subtypes.

1. **White coat hypertension:** In this subtype the patients in office blood pressure (in a physician's presence) is elevated whereas when measured in isolation, home blood pressure measurement, ambulatory blood pressure measurement is relatively normal or reduced. Normotensive patient can sometimes have elevated blood pressure in presence of a doctor or a hospital staff due to increase in sympathetic tone. The difference between increased in office blood pressure measurement and reduced value in HBPM or ABPM is termed as "White-coat effect" and has a very significant role in patients who are treated and untreated. This effect can also be noticed in resistant and refractory hypertension subtypes as well.
2. **Masked hypertension:** This type is evident in obese population and are left undiagnosed and untreated. increased blood pressure values at HBPM and ABPM whereas a reciprocal decreased office blood pressure

measurement is noted. Such effect is prevalent in 15% untreated population with Grade 1 hypertension and shows a significant association with Denovo Diabetes type2, dyslipidaemia, metabolic syndrome.

3. **Isolated systolic Hypertension:** This subtype a patient exhibits an isolated systolic blood pressure alone with normal to reduced diastolic blood pressure value (SBP >140mmhg and DBP <80mmhg). The most evident population age is > 65years. Treatment options include a low dose angiotensin converting enzyme inhibitors, thiazide like diuretics or calcium channel blockers².
4. **Resistant hypertension:** Hypertension is defined as uncontrolled blood pressure values in both HBPM and ABPM despite the use of three anti-hypertensive agents including a diuretic. These patients are more prone to premature cardiac events, uneventful vascular events, hypertension mediated target organ damage (HMOD). Through thorough clinical research it has been found that the above mentioned uneventful vascular events can be prognosticated using Non invasive central blood pressure measurements and pulse wave velocity along with chronotherapy advised at an earlier instance in such patient populations³.
5. **Pseudoresistant hypertension:** This hypertension subtype patient manifests with factors that can influence a falsely elevated BP in a patient on ≥ 3 antihypertensive agents, such as improper BP measurement technique, white coat RHTN, undertreatment, clinical inertia, and medication nonadherence⁴.
6. **Controlled Resistant Hypertension:** Patients blood pressure is under control when adherent to >4 anti-hypertensive medication at maximal or minimal tolerated doses.
7. **Apparent treatment resistant hypertension:** A scientific statement from the American Heart Association defined apparent treatment-resistant hypertension (ATRH) as uncontrolled blood pressure with concurrent use of three antihypertensive medication classes, or four or more antihypertensive medication classes regardless of blood pressure levels⁵.
8. **Refractory hypertension:** Refractory hypertension is defined as uncontrolled blood pressure despite use of ≥ 5 antihypertensive agents of different classes, including a long-acting thiazide-like diuretic and an MR (mineralocorticoid receptor) antagonist, at maximal or maximally tolerated doses as defined by American Heart Association.
9. **Secondary hypertension** is caused due to another underlying medical condition. This type often prevails 15% in general population and requires immediate intervention. As long-standing hypertension can cause multiple target organ damage there is a need for early detection and treatment.

With the increase in number of cases each year, the severity of the problem to detect and manage hypertensive urgency and the Emergency is escalating at an alarming level. Hypertensive urgency is defined when SBP is >180mmhg, DBP >100mmhg without target organ damage whereas malignant hypertension or hypertensive emergency is when the SBP/DBP is >180/100mmhg with hypertension mediated target organ damage including papilloedema (ocular stroke). The common medication of choice for hypertensive emergency management include Labetalol, Furosemide, Hydralazine, Captopril, Phencyclidine, Nitroprusside, Nitroglycerin, Moxonidine, Clonidine, Cilnidipine, Nicardipine, etc⁶.

There is very less evidence about refractory hypertension subtype which opens a channel of thoughts on its occurrence, prevalence, early identification, treatment goals, medication adherence and prognosis. Invasive and non- invasive techniques are currently available to study blood pressure and HMOD, its pathogenesis and linkage to vascular stiffness and ageing.

Pulse wave velocity and central blood pressure (CBP) are currently gold standard in detecting arterial stiffness and early markers for uneventful vascular events reduction. Central aortic blood pressure measured through a pulse waveform using a non-invasive cuff-based machine is currently a breakthrough in early pre-clinical atherosclerosis identification and correction either with medication or lifestyle changes. Although much higher studies are required there is very little evidence on these early markers namely arterial stiffness, augmentation index, pulse pressure, pulse wave velocity and lastly vascular age.

Endothelial dysfunction has long been linked to atherosclerosis development along with oxidative stress. Early signs of endothelial dysfunction being obstructive sleep apnoea, erectile dysfunction, Myocardial infarction, Angina pectoris, aortic dissection, the cerebral/ cardiac stroke, the retinovascular occlusion (eye stroke), the phaeochromocytoma, the postoperative hypertension acute and preeclampsia are few examples.

Arterial stiffness is an independent marker which is directly proportional to endothelial dysfunction and development of pre-clinical atherosclerosis⁷. It is hypothesised that arterial stiffness is aberrantly increased in refractory hypertension and additional chronotherapy is indicated to reduce cardiovascular mortality. Hypertension, when uncontrolled is a long standing non-communicable disease which is much neglected and highest prevalence of medication non-adherence is evident. Many studies have come up on vascular stiffness and central aortic blood pressure in both Indian and European populations but still higher longitudinal and prospective studies are awaited for much evidence.

Acknowledgements: Firstly, I would like to thank Prof Prkacin Ingrid, Associate professor, Department of Internal medicine, Merkur University hospital, Zagreb University, Croatia and Prof Padmanabh, Kamath Professor and HOD, Department of Cardiology, Kasturba Medical college, Mangaluru, India for guiding me under whose eminent supervision, several papers have been authored internationally on hypertension. Secondly, I would like to thank Dr R.Ramesh and Dr Jayashree madam for mentoring me from the beginning of IMA CGP's prestigious Fellowship course in Family Medicine course, through whom I have had the opportunity to learn and implement novel treatment strategies in my Family practise.

References:

1. European Heart Journal, Volume 39, Issue 33, 01 September 2018, Pages 3021–3104, <https://doi.org/10.1093/eurheartj/ehy339>
2. Koracevic G, Stojanovic M, Kostic T, Lovic D, Tomasevic M, Jankovic-Tomasevic R. Unsolved Problem:(Isolated) Systolic Hypertension with Diastolic Blood Pressure below the Safety Margin. Medical Principles and Practice. 2020;29(4):301-9.
3. Vamsi, Varahabhatla & Golub, Antonio & Mija, Pezić & Fekete, Petar & Findri, Pavao & Prkacin, Ingrid. (2018). Central blood pressure and pulse wave velocity in patients with resistant hypertension. Signa Vitae. 14.
4. Acelajado MC, Hughes ZH, Oparil S, Calhoun DA. Treatment of resistant and refractory hypertension.Circ Res. 2019; 124:1061–1070. doi: 10.1161/CIRCRESAHA.118.312156
5. Calhoun DA, Jones D, Textor S, Goff DC, Murphy TP, Toto RD, White A, Cushman WC, White W, Sica D, et al.. Resistant hypertension: diagnosis, evaluation, and treatment. A scientific statement from the American Heart Association Professional Education Committee of the Council for High Blood Pressure Research. Hypertension. 2008; 51:1403–1419. doi: 10.1161/HYPERTENSIONAHA.108.189141
6. Vamsi, Varahabhatla & Kamath, Padmanabh & Achappa, Basavaprabhu & Prkacin, Ingrid. (2019). REDEFINING HYPERTENSIVE URGENCY AND MALIGNANT HYPERTENSIVE EMERGENCY. 22. 77-78.
7. Varahabhatla Vamsi, Basavaprabhu Achappa, Padmanabh Kamath, Vaman Kulkarni, Ingrid Prkacin. Are pulse wave velocity and arterial stiffness markers for early pre-clinical atherosclerosis detection in resistant hypertensive patients?. Rev Cient Cienc Med 2020;23(1): 27-31

AN APPROACH TO THE MANAGEMENT OF FIBROID UTERUS

DR. Thendral.K., MS(OBG),DNB(OBG), FMAS,

Senior Consultant Obstetrician , Gynaecologist and Laparoscopic surgeon
Birth Right by Rainbow Children,s Hospital , Guindy, Chennai.

Uterine fibroids are the most common benign tumours arising from the uterine smooth muscle. They usually develop in child bearing age group with a life time prevalence of 30%. These tumours rarely present before menarche and tend to regress after menopause. Most fibroids are asymptomatic. However 4 in 10 women with fibroids develop symptoms like abnormal uterine bleeding , dysmenorrhea, dyspareunia , pain abdomen, fertility issues, bulk symptoms like frequent urination, retention of urine , constipation.

There is a wide range of therapeutic options available for symptomatic fibroids. The choice of treatment depends on the woman's age ,symptoms and desire for fertility .

Expectant management may be used in asymptomatic cases, in women attempting pregnancy , lesions that are stable as demonstrated by serial imaging studies for one year , peri or post menopausal ,uterus <12 weeks size. In asymptomatic cases, yearly follow up is reasonable. Women on expectant management are encouraged to contact their clinician if new symptoms develop.

Pharmacological treatment:

Pharmacological options offer short term symptom relief in some situations. These consist of non hormonal and hormonal treatment.

Non –hormonal : Tranexamic acid- It is most commonly used for heavy menstrual bleeding in women with fibroids . It is an antifibrinolytic drug that reduces menstrual loss.

Hormonal treatment:

Combined oral contraceptive pills: The data for its use is inconclusive. Fibroids have estrogen and progesterone receptors and both estrogen and progesterone promote their growth. They can induce endometrial atrophy and result in reduction of menstrual blood loss.

LNG-IUS: The levonorgestrel intrauterine system is an effective treatment for HMB. This results in improvement of hemoglobin and relieving symptoms. It doesnot help much in reduction of fibroid volume but is associated with high expulsion rates in association with increased fibroid volume.

GnRH analogues: The use of GnRH analogues are restricted to preoperative period. They result in reduction of the size of the fibroids by 36% and improvement in symptoms after 12 weeks. There is a rebound growth after discontinuation. They induce a menopausal hypoestrogenic state which results in intolerable side effects and bone loss. This can be minimised by add back therapy with low dose estrogen and progesterin or tibolone after initial phase of downregulation. Treatment is therefore restricted to a maximum of 6 months. Preoperative use helps in ease of hysterectomy and myomectomy and changing routes of surgery.

Uterine artery embolisation : it is considered as an effective alternative to hysterectomy. UAE is associated with quicker recovery when compared to surgery . There were more minor complications and an almost five-fold increase in the likelihood of further interventions in 2-5 years. The most common side effects were post-procedure pain and vaginal discharge but major complications were rare.

MRI-guided focused ultrasonography: This is another conservative option for women with fibroids. The procedure involves using high frequency ultrasound waves which produce heat to denature proteins leading to cell death and shrinkage of fibroids. MRI is used to target the fibroids and treatment is monitored by assessing the temperature of the treated tissue. The advantages are quick recovery and very low morbidity. It is not recommended yet for women who wish to conceive. The fibroids which are less vascular and low signal intensity on MRI are associated with better results. MRgFUS is associated with a seven – fold need for reintervention within 12 months.

Surgical treatment:

Surgical management of uterine fibroids may be required in women with severe pressure symptoms , failed medical therapies , failed UAE or in large pedunculated subserosal or submucous fibroids.

It can be either myomectomy or hysterectomy . The size, location of fibroids in the uterus and desire of fertility determines the choice of surgical procedure. Hysteroscopic , laparoscopic , vaginal or laparotomy routes may be used to remove fibroids. Minimally invasive techniques are becoming increasingly popular because of high patient satisfaction, better reproductive outcomes, less pain , shorter hospital stay and speedy recovery.

Myomectomy:

Hysteroscopic myomectomy is the procedure of choice for submucous fibroids presenting with HMB, recurrent miscarriages and infertility. Grade 0 and Grade 1 fibroids can be easily removed hysteroscopically , but difficulties are likely to be encountered in Grade 2 fibroids as most of the fibroid is in the myometrium. Resectoscopic slicing is the gold standard technique for intracavitary fibroids.

Laparotomy/laparoscopic myomectomy:

Laparoscopic myomectomy is considered as a safe and effective treatment option for women with infertility and also in symptomatic premenopausal cases who wish to retain their uterus. Laparoscopic myomectomy is associated with longer operating times, less blood loss , less post operative pain and fewer complications than open

myomectomy. It is the preferred technique in infertile women as it is associated with minimal tissue handling . Conventional open myomectomy may be useful in huge and multiple fibroids.

Hysterectomy : The definitive surgical option for fibroid uterus is hysterectomy. It is associated with highest satisfaction for menstrual symptoms. The routes of hysterectomy are laparoscopic , vaginal , laparotomy.

The approach to the management of fibroids in the uterus can be considered broadly in 2 categories based on desire for fertility.

1. women not desiring fertility : The aim of treatment is towards reduction of symptoms. In this group, women present with HMB as their main symptom . The management of this group of women with submucosal fibroids is

- first tier: 1. Hysteroscopic resection of fibroids FIGO type 0,1,2 (submucosal) or
- 2.medical treatment to reduce the heavy menstrual bleeding.(if hysteroscopy not available)

In all other types of fibroids presenting with HMB- medical management is used.

Second tier: (for bleeding and bulk symptoms)

- GnRH analogues
- Uterine artery embolisation

Progesterone receptor modulators like mifepristone and ulipristal acetate are withdrawn due to potential for liver toxicity.

2. women with fibroids desiring fertility :

Medical treatment is not successful for women attempting conception due to its adverse effects and rebound growth after stopping treatment.

- 1. Fertility with HMB - Submucous fbroids grade 0,1 and some grade2 – minimally invasive approach is preferred -b hysteroscopic resection as it is associated with optimal outcomes
- 2. Fertility + bulk symptoms+/- HMB - All fibroids other than submucosal – Lap myomectomy or open myomectomy

Topic – ECG Update

Dr. M. Raja MBBS.,DNB (Med)

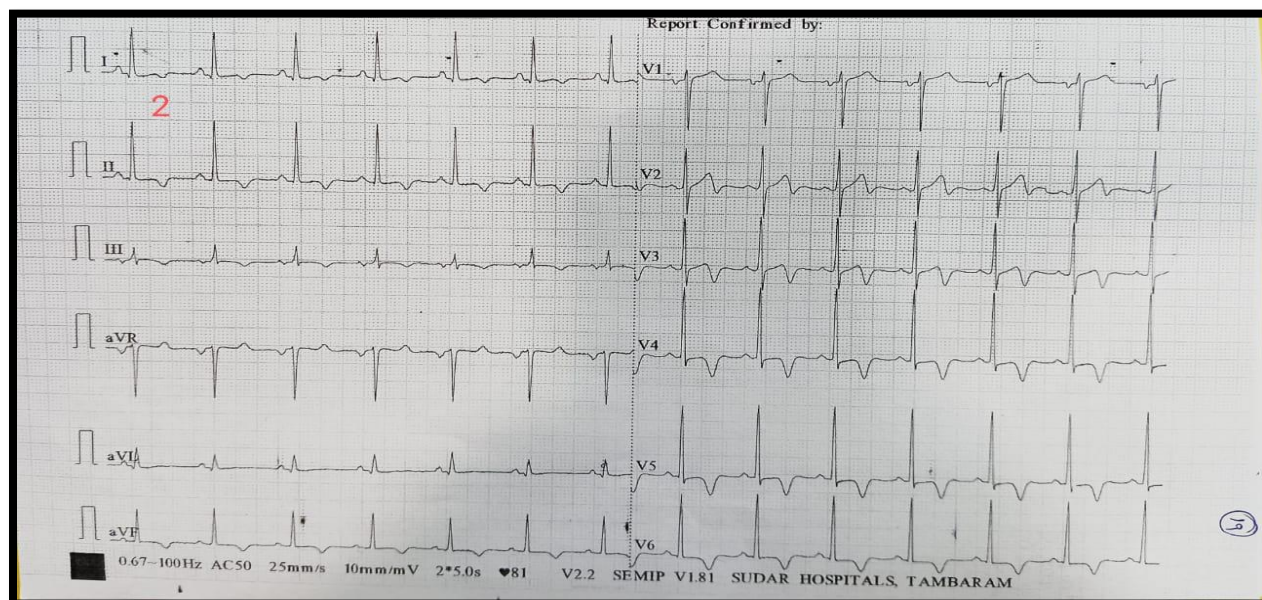
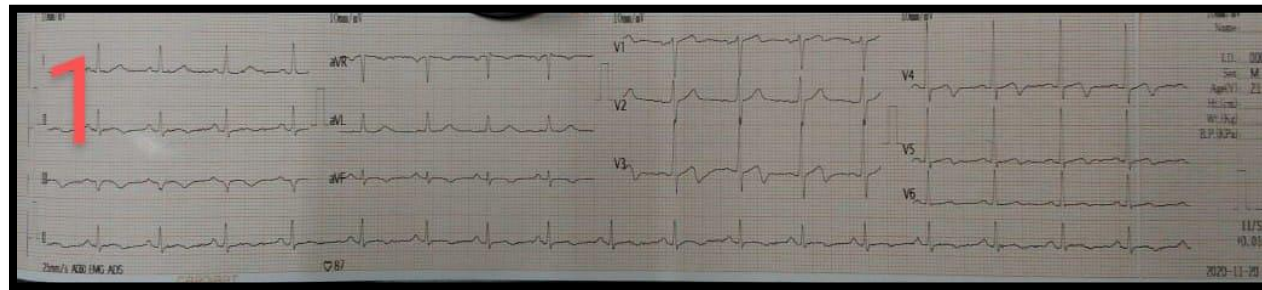
Consultant Physician
VHS Hospital, Chennai

Findings :

ECG 1 : Biphasic T in V3, V4, V5

ECG 2 : Deep symmetrical T inversions in V3 - V6

Recent H/O chest pain resolved



Diagnosis: Wellen's Syndrome

Diagnostic criteria:

- 1. Deeply inverted T or biphasic T in V2-V3 (may extend to V1-V6)
- 2. Recent H/O angina resolved
- 3. ECG pattern present in pain Free State
- 4. No precordial Q waves; Preserved R wave progression in Precordial leads
- 5. Normal or slightly elevated cardiac biomarkers

T wave patterns in Wellen's syndrome:

Type A: biphasic T waves

Type B: deep and symmetric T inversion

Leads: V2 - V3 (may extend to V1-V6)

Clinical significance:

- 1. Highly specific for critical stenosis of Left Anterior Descending Artery
- 2. Requires invasive therapy
- 3. Medical management is ineffective
- 4. Donot subject to TMT - high risk of MI or cardiac arrest

Oxygen Concentration

Team CGP IMA HQs

It is a device used at home to supply concentrated Oxygen to patients who suffer from COPD, Status Asthmatics, Emphysematous patients, Lung cancer, Congestive cardiac failure etc.,

Atmospheric air which contains high concentration of Oxygen and Nitrogen is separated by pressure swing technology (PSA) or membrane gas separation to concentrated oxygen and supply for patients.

Oxygen concentrator uses molecular sieve to absorb nitrogen onto zeolite numeral at high pressure.

It is a reliable and economical technique for small to mid and scale Oxygen generation.

An Oxygen concentrator has air compressor, cylinder filled with zeolite pellets a pressure equalizing reservoir and some valves to give oxygen at high concentration.

Older units were supplying 5 liters of 90% concentrated and with the present technology 10 liters/minutes is possible.

In membrane gas separation members act as permeable barrier with compounds moving across and at different rates so as to separate Oxygen and Nitrogen.

In both clinical and emergency situation oxygen concentrates are very safe as there is no possibility of leak or rupture which can cause combustion of fire.

An oxygen manufacturing unit uses the same technology in a bigger way to produce oxygen in large volumes.



MEDICO LEGAL PAGE

NATIONAL MEDICAL COMMISSION

Ethics and medical registration board has published a public notice dated 23.05.22 a Registered Medical Practitioner (Professional conduct) Regulation 2022 for public opinion till 22.06.22.

We will be bring some of the salient features of the draft as a serial from this issue onwards.

The draft is 104 pages with Professional Regulation 2022, running 60 pages are dedicated for Professional regulation and 44 pages for guidelines for practice of Telemedicine in India.

Professional draft are 45 PAGES in number and there are six guidelines.

1. Generic medicine and prescription guidelines
2. Template for writing prescription
3. NMC code of medical ethics
4. Guideline in penalties
5. Guideline on informed consent in clinical practice
6. Conduct of RMP's on social media
7. Leave & fitness certificate
8. Format of medical Record.
9. List of Certificates, reports, notifications etc., issued by Doctors for the purpose of various acts / administrative regulations.
10. Continuous professional development guidelines – 20 pages.

MCQ

Dr.V.S.Hariharan M.R.C.P

Consultant Physician & Internist

1. A 73-year-old woman attends for her repeat prescription of 100 mcg levothyroxine daily, which she has been taking for the past 30 years. The last record of any blood test was six years ago. She mentions a recent episode of quite severe localised back pain which has now settled to a dull ache around the L2 region. She has no neurological signs
Which is the SINGLE MOST likely diagnosis?
 - A. Lumbar stenosis
 - B. Osteomalacia
 - C. Osteomyelitis
 - D. Osteoporosis
 - E. Paget's disease
2. A 42-year-old woman has noticed increasing weakness and numbness in her legs and arms over the past few days, and today she is feeling short of breath on exertion. Six weeks ago she had diarrhoea while on holiday . She was treated with ciprofloxacin and recovered fully. Which is the SINGLE MOST likely diagnosis?
 - A. Drug-induced neuropathy
 - B. Guillain-Barré syndrome
 - C. Motor neurone disease
 - D. Myasthenia gravis
 - E. Multiple sclerosis
3. A old man with persistent hypotension after a admission for a Acute Myocardial infarction was advised intra-aortic balloon pump to corelate with the dicrotic notch.

The dicrotic notch coincides with....

- A. Aortic valve opening
- B. Aortic valve closure
- C. Mitral valve opening
- D. Mitral valve closure

4. 70 year old man was admitted with lethargy and lower back pain. He has been complaining of nausea recently. His blood reports are below
Heamoglobin 10.8mg/dl
WBC count 10650cell/dl
Platelet count 1,20,000
ESR 70mm/hr
Creatinine 2.1
Calcium 11.8mg/dl
Serum PSA 4.8
IgM levels normal and elevated IgG levels
He is most probably would be diagnosed to have
- A. Prostate cancer
 - B. Hyperparathyroidism
 - C. Multiple myeloma
 - D. Waldenstrom macrogammaglobulinemia
5. Which of the following drugs is the most likely to cause gynaecomastia?
- A. Atenolol
 - B. Omeprazole
 - C. Thyroxine
 - D. Citalopram
 - E. Spironolactone
6. A 30 year old female who is 28 weeks pregnant presents with palpitations. On examination you find her heart rate to be 180. She is placed on a cardiac monitor which reveals a broad complex tachycardia. She is hypotensive, she feels short of breath and on auscultation of the chest there is evidence of bibasal crackles. How should this patient be managed?
- A. IV verapamil
 - B. Non synchronised DC cardioversion
 - C. IV amiodarone
 - D. Synchronised DC cardioversion with monitoring of foetal heart rate
 - E. IV adenosine

7. Which is of the following disease is least associated with clubbing
- A. COPD
 - B. Cyanotic heart disease
 - C. Bronchiectasis
 - D. Lung cancer
8. A 55 year old man with a history of heavy alcohol intake presents with acute confusion. A diagnosis of hepatic encephalopathy is made and treatment with lactulose is commenced. What is its mode of action in this context?
- A. Reduces absorption of chlordiazepoxide
 - B. Inhibits proliferation of ammonia forming organisms in the gut
 - C. Absorbed from gut
 - D. Causes hypermagnesaemia
9. A 40 year old man who usually drinks only 2 units of alcohol a day went on an alcohol binge with his friends. On that day, he vomited 10 times and was brought to hospital feeling very unwell. He has not previously had any symptoms of dyspepsia or abdominal pains. During physical assessment, he vomits a large bowlful of blood. What is the likely cause of his haemetemesis?
- A. Oesophageal varices
 - B. Duodenal ulcer
 - C. Mallory Weiss tear
 - D. Gastritis
 - E. Gastric outlet obstruction
10. A 45 year old man has had a 5 year history of severe sharp, epigastric pains and diarrhoea. He gets 2-3 episodes of these symptoms a day. His GP has prescribed proton pump inhibitors which has helped partly, but he still complains that the symptoms are severe. Which one of the following might confirm the diagnosis?
- A. Amylase
 - B. ERCP
 - C. C-peptide
 - D. Insulin
 - E. Gastrin level

IMA CGP Coimbatore Branch May Month Report - 2022

The monthly CGP-CME meeting was held on 24.05.2022 as a High Tea meeting. The topic that was discussed was UPDATE ON STROKE MANAGEMENT. Meeting was started by 3.45pm and lasted for nearly one and a half hours. Meeting was graced by the presence of IMA-TNSB State Asst. Secretary Dr. M. Mariappan & the IMA-TNSB-CGP Joint Secretary Dr. C.P. Shanmugasundaram Sirs.

The meeting was started with Welcome address by Branch President Dr. Sathian Sir and the speakers were introduced by the CBE-CGP Chairman Dr. Karuna ma'am.

The speakers Dr. K. Arunadevi., DNB., DM (Neurology) Consultant Neurologist, delivered a talk on Dilemmas in Diagnosis of Stroke. And the second speaker Dr. Rasmi Ranjan Pathi, MD (RD)., PDCC., - Interventional Radiologist delivered a talk on Success Stories in Early Stroke Management by early intervention techniques.

The meeting was well attended by the IMA members of Coimbatore. Mementos were presented to the speakers.

Following the CME programme - under our GREEN THE NATION project, tree saplings were given to the speakers.

Following the meeting a promotion for PPLSS & FSS 1&2 Schemes were done by the State Asst. Secretary Dr. M. Mariappan Sir to the IMA Members.

Vote of thanks was proposed by the Coimbatore Branch CGP Secretary Dr. Shrinivas.SR
Enclosed are a few snaps of the meeting.

TNMC Credit points were given to the participants.

IMA Tambaram Branch Report



INDIAN MEDICAL ASSOCIATION - Tambaram Branch
COLLEGE OF GENERAL PRACTITIONERS WING

Scientific Feast - 2022

🕒 09:00 AM to 04:50 PM



TIME	PROGRAM	SPEAKER
Chair Person: Dr. Kumudha Lingaraj & Dr.K.P.Pitchumani		
09:00 – 09:15 AM	Role of Hormone pills in menstrual irregularities from menarche to menopause	Dr.Umaiyal Murugesan
09:15 – 09:30 AM	Common Hepatobilliary disorder faced by family physician	Dr.N.Murugan <i>(Apollo Hospitals)</i>
09:30 – 09:45 AM	Impact of diet and lifestyle of women health	Paleto Group
09:45 – 10:00 AM	Question & Answer / Mementos	
Chair Person: Dr.S.Jayaraman & Dr.N.N.Anand		
10:00 – 10:20 AM	Minimally invasive and robotic cardiac surgery – Who is it for?	Dr.M.M.Yusuf <i>(Apollo Hospitals)</i>
10:20 – 10:35 PM	Essential and newer concepts of common respiratory ailments – Primary care physician perspective. Teach your patient (Usage of inhaler devices)	Dr. S.Subramanian
10:35 – 10:50 PM	Choose ideal hypertensive drug in family practice	Dr.V.Padma
10:50 – 11:00 PM	Question & Answer / Mementos	
Chair Person: Dr. B.Mahadevan & Dr.M.K.Sudhakar		
11:00 – 11:15 AM	Bariatric surgery for metabolic syndrome – Interesting case series	Dr.Raj Palaniappan <i>(Apollo Hospitals)</i>
11:15 – 11:30 AM	Introduction – Robotic Uro Oncology	Dr.N.Ragavan <i>(Apollo Hospitals)</i>
11:30 – 11:45 AM	Adult Vaccination in 2022 – What is new?	Dr.D.Suresh Kumar <i>(Apollo Hospitals)</i>
11:45 – 12:00 PM	Question & Answer / Mementos	
12:00 – 02:00 PM	Inaugural function followed by lunch	



INDIAN MEDICAL ASSOCIATION - Tambaram Branch
COLLEGE OF GENERAL PRACTITIONERS WING



Scientific Feast - 2022



09:00 AM to 04:50 PM

TIME	PROGRAM	SPEAKER
Chair Person: Dr.V.S.Hariharan		
Rapid Fire Round 02:00 – 02:45 PM	Recurrent Hypoglycemia	Dr. Neo Church Tharsis
	Pedal Oedema	Dr. C.N. Sai Vigneshvar
	Laterally placed anterior triangle swellings	Dr.A.Manoj
	Raised TSH alone in 70 plus – Do we treat?	Dr.S.Geethalakshmi
	Steroid in skin diseases	Dr.S.Varalakshmi
Chair Person: Dr.T.N.Sai Meenakshi & Dr.M.Balasubramanian		
02:45 – 03:05 pm	Fats (oil) - A friend or a Foe	DR.Daphnee.D.K
06:05 – 03:25 PM	Wound management and surgical skill required in family practice	Dr.R.Manivannan
03:25 – 03:40 PM	Low back ache	Dr.Sudhan Christudas (<i>COSH Hospitals</i>)
03:40 – 04:00 PM	Common emergencies in family practice	Dr.Neo Church Tharsis
04:00 – 04:15 PM	Question & Answer / Mementos	
04:15 – 04:20 pm	Vote of thanks	Dr.N.Mythili (Joint coordinator, IMA TBM CGP)







MCQ Answers

ANSWER KEY:

1. D. Osteoporosis
2. B. Guillain-Barré syndrome
3. B. Aortic valve closure
4. C. Multiple myeloma
5. E. Spironolactone
6. B. Non synchronised DC cardioversion
7. A. COPD
8. B. Inhibits proliferation of ammonia forming organisms in the gut
9. C. Mallory Weiss tear
10. E. Gastrin level

CGP EDITORIAL TEAM



**EDITOR IN CHIEF
Dr. C. ANBARASU**



**EXECUTIVE EDITOR
Dr. T.N. RAVISANKAR**



**CO EDITOR
Dr. L. YESODHA**

ASSOCIATE EDITORS



Dr. S. REKHA



Dr. SATYAJIT BORAH