



HEALTHY HEART

VOLUME-10 | ISSUE-113 | APRIL 05, 2019



First ever two Heart Valve Replacements in Gujarat (without open surgery) using the New Revolutionary Technology 'TAVI'

PARADIGM
SHIFT IN
HEART VALVE
TREATMENT IN
THE 21ST CENTURY



BOTH CASES IN A
"WIDELY AWAKE"
PATIENT THROUGH
A SMALL PUNCTURE
IN LEG

CIMS HOSPITAL has created a history in medical world in Gujarat by performing a total of 8 cases till date using the new revolutionary technology 'TAVI' (Transcatheter Aortic Valve Replacement or Implantation) with a 100% success rate.

On March 13, this procedure was performed on two of the Severe Aortic Stenosis Patients avoiding routine open heart surgery. Also, these were the first ever two cases of percutaneous MyVal (Indian balloon expandable valve) in awake state (first case of valve replacement with patients fully awake) which has made history today in medical scenario in Gujarat at CIMS Hospital.

CASE -1

A 72 year old patient - high risk, fragile, severe calcific AS presented with 100 mm gradient AVA: 0.5 cm² with previous CABG, Renal insufficiency, severe COPD, underweight at ONLY 49 kg. around -STS score: 6.5% mortality

CASE -2

Patient who was at a high risk, obese 90 kg, low 15-20% EF, with low flow low gradient

Cardiologists

Dr. Satya Gupta (M) +91-99250 45780	Dr. Milan Chag (M) +91-98240 22107
Dr. Vineet Sankhla (M) +91-99250 15056	Dr. Urmil Shah (M) +91-98250 66939
Dr. Vipul Kapoor (M) +91-98240 99848	Dr. Hemang Baxi (M) +91-98250 30111
Dr. Tejas V. Patel (M) +91-89403 05130	Dr. Anish Chandarana (M) +91-98250 96922
Dr. Gunvant Patel (M) +91-98240 61266	Dr. Ajay Naik (M) +91-98250 82666
Dr. Keyur Parikh (M) +91-98250 26999	

Congenital & Structural Heart Disease Specialist

Dr. Kashyap Sheth (M) +91-99246 12288	Dr. Milan Chag (M) +91-98240 22107
Dr. Divyesh Sadadiwala (M) +91-8238339980	

Cardiothoracic & Vascular Surgeons

Dr. Dhiren Shah (M) +91-98255 75933
Dr. Dhaval Naik (M) +91-90991 11133
Dr. Amit Chandan (M) +91-96990 84097

Paediatric & Structural Heart Surgeons

Dr. Shaunak Shah (M) +91-98250 44502

Cardiovascular, Thoracic & Thoracoscopic Surgeon

Dr. Pranav Modi (M) +91-99240 84700

Cardiac Anaesthetists

Dr. Chintan Sheth (M) +91-91732 04454
Dr. Niren Bhavsar (M) +91-98795 71917
Dr. Hiren Dholakia (M) +91-95863 75818

Cardiac Electrophysiologist

Dr. Ajay Naik (M) +91-98250 82666
Dr. Vineet Sankhla (M) +91-99250 15056

Neonatologist and Paediatric Intensivist

Dr. Amit Chitaliya (M) +91-90999 87400
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Honorary Editor : Dr. Tejas V. Patel



Dear friends,

Hypertriglyceridemia is most often identified in individuals who have had a lipid profile as part of cardiovascular risk assessment. This topic reviews the evidence that hypertriglyceridemia contributes to the development of adverse cardiovascular events, the mechanisms by which this might occur, the disorders of triglyceride metabolism that have been identified, and recommendations for the management of hypertriglyceridemia.

Hypertriglyceridemia Current Approach for Management

DEFINITION:

Patients can be categorized in following four groups based on their fasting triglyceride level:

- Normal – <150 mg/dL
- Mild hypertriglyceridemia – 150 to 499 mg/dL
- Moderate hypertriglyceridemia – 500 to 886 mg/dL
- Very high or severe hypertriglyceridemia – >886 mg/dL

In individuals with established cardiovascular disease, the prevalence will be higher. Serum triglyceride values above 1000 mg/dL occur in fewer than 1 in 5000 individuals.

PATHOPHYSIOLOGY OF HYPERTRIGLYCERIDEMIA:

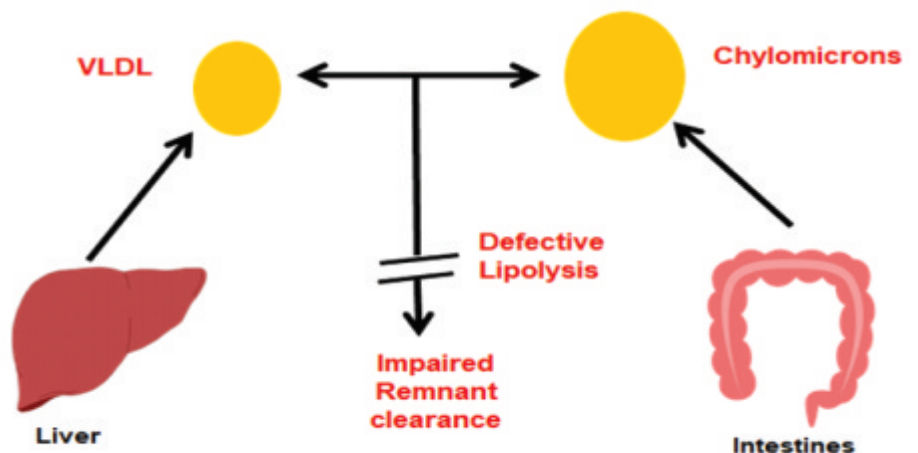
The understanding of the pathophysiology of triglycerides opens up avenues for development of new

drug targets. Hypertriglyceridemia occurs through 1. Abnormalities in hepatic VLDL production, and intestinal chylomicron synthesis 2. Dysfunctional LPL-mediated lipolysis or 3. Impaired remnant clearance.

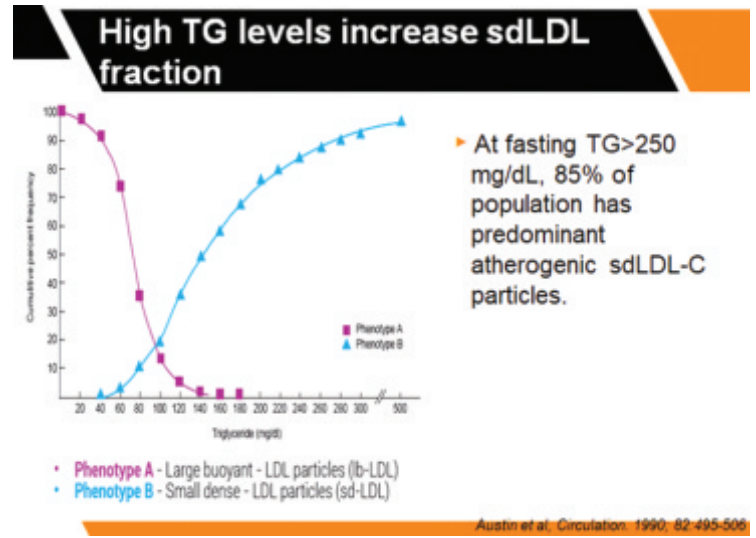
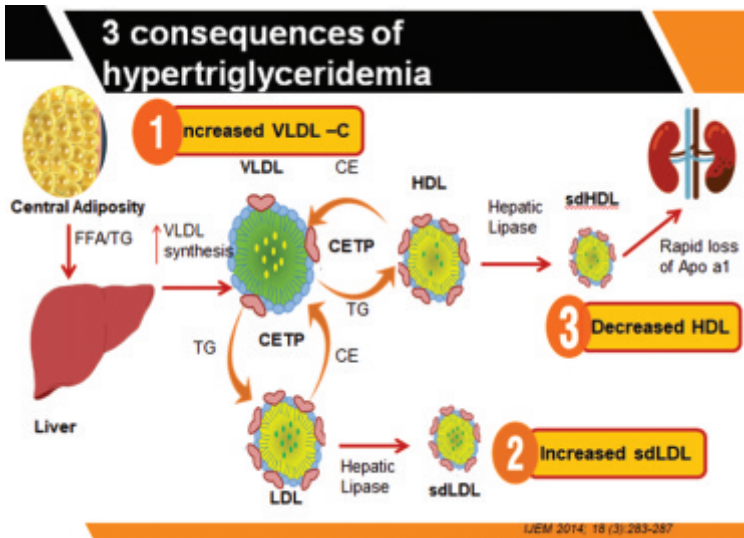
TRIGLYCERIDES AND CVD RISK

The causal association between elevated fasting and/or nonfasting triglycerides and cardiovascular risk has been uncertain due to the association between other lipoproteins and other conditions associated with increased cardiovascular risk such as disorders of insulin resistance. Due to delayed clearance of triglyceride-rich lipoproteins on VLDL particles that carry apo C-III or reduced lipoprotein lipase activity, which is common in insulin resistance, the VLDL remnants may

Development of Hypertriglyceridemia



Biochim Biophys Acta. 2012 May;1821(5):826-32.



enter the vessel wall or be converted to small LDL particles. Small LDL particles have conformational changes in apoB that impair the efficiency of LDL receptor-mediated clearance, thereby allowing these particles to circulate for a longer duration where they become susceptible to oxidation, glycation, and glyco-oxidation. High concentrations of chylomicron remnants or VLDL particles result in lower levels of HDL cholesterol, a process that results from cholesteryl ester transfer protein-mediated lipid exchange between triglyceride-rich lipoproteins and the cholesterol cargo of HDL particles. Triglyceride-enriched HDL particles have reduced macrophage cholesterol efflux capacity. Triglyceride-rich lipoproteins increase endothelial activation, facilitate monocyte infiltration into the arterial wall, and increase activation of pro-inflammatory genes via AP-1.

CAUSES:

Acquired disorders —

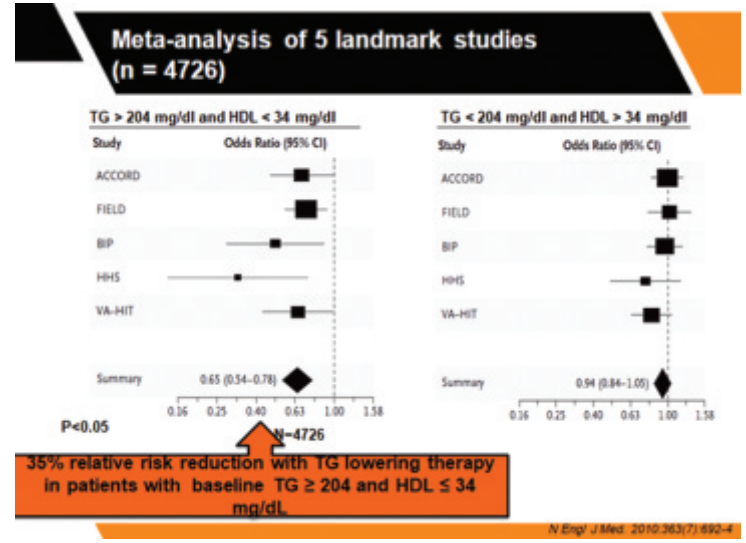
- Obesity
- Diabetes mellitus, where there is a

relationship to poor glycemic control and, in type 2 diabetes, obesity

- Nephrotic syndrome, often in association with hypercholesterolemia
 - Hypothyroidism
 - Serum total cholesterol and triglyceride concentrations normally increase markedly during pregnancy
 - Estrogen replacement
 - Tamoxifen
 - Beta blockers, with the exception of carvedilol, which has little effect on serum triglycerides. Alpha blockers lower serum triglycerides, while low-dose diuretics, angiotensin converting enzyme inhibitors, and calcium antagonists have little or no effect
 - Immunosuppressive medications, such as glucocorticoids and cyclosporine
 - HIV antiretroviral regimens
 - Oral isotretinoin therapy for acne vulgaris
- Hereditary disorders —
- Chylomicronemia

- Familial hypertriglyceridemia
 - Familial combined hyperlipidemia
 - Familial dysbetalipoproteinemia
- #### CLINICAL MANIFESTATIONS:
- Most patients with hypertriglyceridemia have no symptoms or signs associated with the biochemical abnormality.
- In patients with acquired disorders such as diabetes or obesity, clinical manifestations are usually due to the underlying disorder rather than the lipid abnormality.
 - In patients with hereditary disorders, skin lesions such as xanthomas and xanthelasmas may be present.
 - In patients with very high triglyceride levels (above 1000 mg/dL), pancreatitis may develop. It should be kept in mind that the diagnosis of triglyceride-mediated pancreatitis cannot be made in the absence of chylomicronemia.

The serum in patients with hypertriglyceridemia may be opalescent due to an increase in very low density lipoprotein; at higher levels, it may be milky due to hyperchylomicronemia.



MANAGEMENT

At what level to treat Hypertriglyceridemia? - Evidence & Recommendations

In a meta-analysis of 5 landmark studies, PPAR agonist therapy reduced CV events significantly by 31% in 4726 patients with TG > 204 mg/dl and HDL < 34 mg/dl. The benefits were not seen in other remaining patients.

LIFESTYLE MODIFICATIONS-

Hypertriglyceridemia is often induced or exacerbated by potentially correctable disorders. Nonpharmacologic interventions such as weight loss in obese patients; aerobic exercise; avoidance of concentrated sugars, alcohol, and medications that raise serum triglyceride levels; and strict glycemic control in diabetics should be

first-line therapy. Appropriate dietary management of hypertriglyceridemia differs between mild-to-moderate and severe hypertriglyceridemia.

Dietary management of mild-to-moderate hypertriglyceridemia should focus on "eating less" with a goal of weight loss, and also on reduction of carbohydrates, especially high glycemic and high fructose foods. Dietary fat is not a primary source for liver triglyceride. For patients with mild-to-moderate hypertriglyceridemia who are above their ideal body weight, we suggest a hypocaloric diet in combination with regular moderate-to-intense aerobic exercise. The diet should restrict consumption of high glycemic index/load foods as well as refined sugars, fruit juices, and high fructose beverages; we suggest increased consumption of fish that contain high amounts of omega-3 fatty

acids.

At fasting triglyceride levels above 500 to 1000 mg/dL, the clearance of chylomicrons from the blood becomes very slow, such that chylomicrons from the previous night's meal are still present in morning fasting blood. This sets the stage for accumulation of chylomicron triglyceride derived from dietary fat, leading to a risk of pancreatitis and other manifestations of fasting chylomicronemia. Therefore, at very high fasting triglyceride levels it is crucial to restrict dietary fat greatly, to less than 25 to 40 g daily.



TG MEDICATIONS : WHICH ? WHEN ?

- If TG \geq 500 mg/dL: Rx all to prevent pancreatitis (& ASCVD)
- If TG 200-499 mg/dL: consider Rx to prevent ASCVD*

Drug/Class	Triglycerides
Fenofibrate	20-50%
Omega-3 oil (EPA + /- DHA; EE vs FFA) (pharmacologic doses)	20-45%
Niacin	20-50%
Statins**	7-30%

TG Lowering
 1 for TG \geq 500
 2 for TG 200-499

1 for TG 200-499
 2 for TG \geq 500

** High-intensity statin Rx will TG 20-50% in pts with HTG

After :

- Expert Panel on Detection, Evaluation & Treatment of High Blood Cholesterol in Adults JAMA 2001;285:2486-97.
- Robinson JG, Stone NJ, Am J Cardiol, 2006;98 (suppl):39i-49i
- Robinson JG, Davidson MH, Expert Rev Cardiovasc Ther. 2006;4:461-76
- Briel M, et al. BMJ 2009;338:b92
- Miller M et al. Circulation, 2011;123:2292-2333.
- *Chapman MJ et al. Eur Heart J. 2011;32(11):13445-1361

DRUGS:

FIBRATES:

Lipid-modifying effects are mediated primarily via interaction with peroxisome proliferator-activated receptor- (PPAR).

- Fenofibrate can be prescribed as
 - nanocrystal formulation (145 mg daily taken without regard to meals)
 - micronized capsules (200 mg daily taken with dinner)
 - fenofibric acid (also called choline fenofibrate; 145 mg daily without regard to meals)
- Fibrates have been associated with muscle toxicity, more risk with statin.
 - mediated by competitive inhibition of CYP3A4, leading to a reduction in statin metabolism.

– Pravastatin and fluvastatin are not extensively metabolized by the CYP3A4

NICOTINIC ACID :

Nicotinic acid at doses of 1500 to 2000 mg daily can reduce triglyceride levels by 15 to 25 percent. But it...

- Worsen glucose tolerance in diabetic patients
- Niacin flush with high dose

FISH OIL :

Fish oil supplements that contain eicosapentaenoic acid / docosahexaenoic acid concentrate reduce very low-density lipoprotein (VLDL) production and can lower the serum triglyceride concentration by as much as 50 percent or more.

- REDUCE-IT STUDY
 - Icosapent ethyl : purified ethyl ester of EPA, 2g BD

– Reduces cardiovascular events in statin-treated patients with high triglyceride levels and either established cardiovascular disease or diabetes plus risk factors

Inclusion: Fasting TG levels 200 mg/dL and <500 mg/d, LDL-C >40 mg/dL and \geq 100 mg/dL and on stable statin therapy (\pm ezetimibe) for \geq 4 weeks

SAROGLITAZAR

First approved dual PPAR alpha/gamma agonist approved for the treatment of diabetic dyslipidemia and hypertriglyceridemia in T2DM uncontrolled with statin therapy. Larger studies going on for more evidence and safety.



CIMS HOSPITAL AHMEDABAD

is looking to fill the following positions
with committed - to - care professionals



URO SURGEON

- QUALIFICATION MCh / DNB (Urosurgery)
- EXPERIENCE Minimum 0-3 years
- EXPERTISE Renal Transplant Surgery
- Laproscopic Surgery



PAEDIATRICIAN & NEONATOLOGIST

- QUALIFICATION MD / DNB / Dch (Paediatrics)
- EXPERIENCE Minimum 3-5 years
- EXPERTISE Paediatrician should be able to handle
OPD, NICU or PICU, all the general and
critical ailments related to children and
neonates.



ONCO SURGEON

- QUALIFICATION MCh / DNB (Onco Surgery)
- EXPERIENCE Minimum 2-5 years
- EXPERTISE Breast Cancer Surgery
- Ortho Onco Specialist



SPINE SURGEON

- QUALIFICATION MS / DNB (Ortho) with
Fellowship in Spine Surgery
- EXPERIENCE Minimum 3-5 years
- EXPERTISE Spine surgeon should do treatment of
all kinds of spine problems including
minimally invasive- endoscopic spine
surgeries and scoliosis correction



CRITICAL CARE SPECIALIST

- QUALIFICATION MD (Medicine), MD (Anaesthesia)
- MD (Pulmonology)
- Fellowship in Critical Care (IDCCM)
- EXPERIENCE Minimum 2-3 years
- EXPERTISE Intensive Care Management
- ICU specialist



TRAUMA SURGEON/ HEAD EMERGENCY

- QUALIFICATION MS (Gen. Surgery) / MD with
Fellowship in Emergency Medicine
- EXPERIENCE Minimum 5 years
(Heading Emergency Department)
- EXPERTISE Handling All kind of Emergencies

THE EVER EXPANDING NEW MEDICAL TEAM AT CIMS

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DR. MAHAVIR TADAIYA
MBBS, MS, M.Ch
Consultant Onco Surgeon
Mo. +91-99099 27664
mahavir.tadaiya@cimshospital.org



DR. MEETA MANKAD
MBBS, MD, MCh - Teacher
(Gynaec- oncology)
Gynaecologic Oncologist
Mo. +91-98250 24913
meeta.mankad@cimshospital.org

CIMS ORTHOPAEDIC WELCOMES



DR. PARTH PAREKH
DNB (ORTHO), D(ORTHO), MNAMS
Consultant Orthopaedic Foot &
Ankle Surgeon
Mo. +91-9712300124
parth.parekh@cimshospital.org

FOR APPOINTMENT : +91-79-3010 1008 (M) +91-98250 66661



CIMS Learning Centre

Skills Development Centre

Music Of Heart & Lung: Enhance Your Skills By Experts
 (Audio Clips to sharpen your Auscultation Skills)

June 30, 2019 (Sunday)

Course Directors Cardiologists : Dr. Satya Gupta / Dr. Vipul Kapoor / Dr. Tejas V. Patel / Dr. Keyur Parikh /
 Dr. Milan Chag / Dr. Urmil Shah / Dr. Hemang Baxi / Dr. Anish Chandarana /
 Dr. Ajay Naik / Dr. Vineet Sankhla
 Pulmonologists : Dr. Nitesh Shah / Dr. Amit Patel / Dr. Kalpesh Panchal
 Duration : 1 day
 Number of Seats : 50
 Venue : CIMS Auditorium

Programme Overview:

Our newest auscultation course is designed to help Physicians, Interns, MBBS & MD Students to learn different types of heart sound, murmurs and respiratory sounds. This programme will have theoretical lectures on basic concepts of heart sounds & murmurs followed by practical teaching using audio clips of various normal and abnormal heart sound, murmur and lung sound. Dedicated 2 hours session on basic aspects of various respiratory sounds and practical demonstration by audio clips.

Programme Highlight:

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> • Heart Sounds • Normal Heart Sound • First Heart Sound • Second Heart Sound • Extra Heart Sounds (S3 & S4) • Systolic Murmurs • Diastolic Murmurs | <ul style="list-style-type: none"> • Mitral Valve Click Sound (mvp) • Pulmonary Arterial Hypertension • Mitral Stenosis And Regurgitation • Aortic Stenosis • Regurgitation • Carotid Bruit | <p>Lung Sounds</p> <ul style="list-style-type: none"> • Vesicular - Normal • Crackles - Fine & Course • Wheeze • Rhonchi • Bronchial • Pleural Rubs |
|--|---|--|

Online registration & payment on www.cims.org/clc

Non-refundable

Registration Fees: ` 500/- | Spot Registration Fees: ` 1,000/-

For any query, please email on : clc@cimshospital.org

> Certificate of attendance will be given at the end of the course.



Gold Seal of Quality



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Published on 5th of every month

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Ph. : +91-79-2771 2771-72
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HEART TRANSPLANT BY CIMS CARDIAC TEAM

CIMS CARDIAC TEAM COMPLETED ITS 8TH HEART TRANSPLANT ON MARCH 26, 2019.

The team which has pioneered Heart Transplant in the State of Gujarat.

The donor was a 25 year old who met with a road traffic accident and was declared brain dead.

The Heart was brought through a Green Corridor and was transplanted in a 43 year old male patient.

The surgery was successful and the patient is doing well.

24 X 7 MEDICAL HELP LINE +91-70 69 00 00 00

CIMS Hospital : Regd Office: Plot No.67/1, Opp. Panchamrut Bungalows, Nr. Shukan Mall, Off Science City Road, Sola, Ahmedabad - 380060.
Ph. : +91-79-2771 2771-72 Fax: +91-79-2771 2770.

CIMS Hospital Pvt. Ltd. | CIN : U85110GJ2001PTC039962 | info@cims.org | www.cims.org

Printed, Published and Edited by Dr. Keyur Parikh on behalf of the CIMS Hospital
Printed at Hari Om Printery, 15/1, Nagori Estate, Opp. E.S.I. Dispensary, Dudheshwar Road, Ahmedabad-380004.
Published from CIMS Hospital, Nr. Shukan Mall, Off Science City Road, Sola, Ahmedabad-380060.