Healthy Heart

Volume-2 | Issue-20 | July 5, 2011

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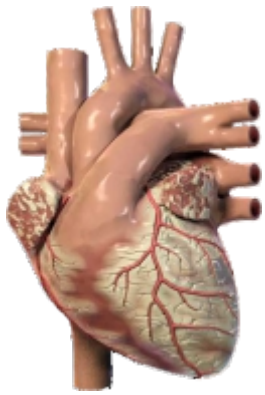
Care Institute of Medical Sciences



Price : ` 5/-

From the desk of editor:

Atherosclerosis is a major cardiovascular burden in the society. There is no disease which has such a severe life threatening outcome: up to 25% patients with acute myocardial infarction (AMI) die before they can seek any medical treatment. And those who are fortunate enough to reach the hospital, 5-10% may still not survive in spite of best efforts. First warning about cardiac ailment may be in form of Acute MI or sudden cardiac death among 60% of men and nearly 50% of women. We, Indians are genetically prone to this accelerated course of coronary heart disease with one of the highest prevalence in the world. Hence, prevention and timely detection of coronary heart disease is of utmost importance. Therapeutic life style changes and judicious use of anti-lipid therapy, especially statins for primary prevention in high risk population and secondary prevention for patients with established atherosclerotic cardio-cerebro-vascular diseases, diabetes, hypertension and dyslipidemia may prevent or reduce the burden of this disease.

Dr. Milan Chag

Do you know your cardiac risk?

Cardiovascular diseases have become an epidemic. It is a leading cause of death worldwide (Figure 1). More and more people of younger generation are affected by this "Life style disease". Prevention is the only way to limit this epidemic. Let us try to understand the very basics which are more pertaining to Indians.

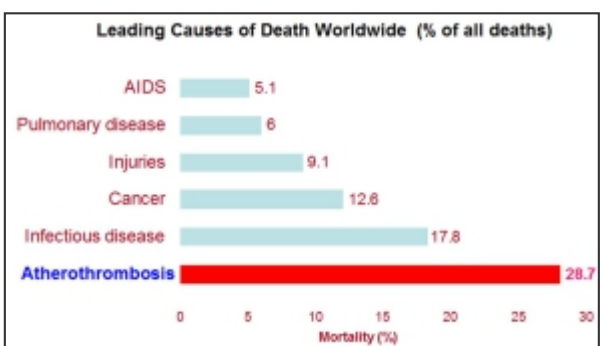


Figure-1

Coronary Artery Disease among Indians:

Several ethnic populations with high prevalence of conventional Risk Factors (RF) have much lower prevalence of Coronary Artery Disease (CAD):

- The Japanese/ Chinese paradox: They have the highest rates of smoking and HT but their CAD rates are 1/5th that of USA and 1/10th that of UK!
- Hispanic paradox: Spanish people have high rates of Diabetes Mellitus (DM) and but their CAD rates are one of the lowest!
- African American/ Afro- Caribbean paradox: High prevalence of obesity, DM, Hypertension (HT) but CAD rates are much lower!
- American Indian paradox: The Pima American Indians have the world's highest rates of DM (80%) and other major risk factors but their CAD rates are the lowest amongst all Americans!
- Indian paradox: Indians have lower rates of conventional RF but CAD rates are the highest in the world !

- Prevalence: 2-4 times higher amongst Indians compared to rest of the world (Figure: 2 shows

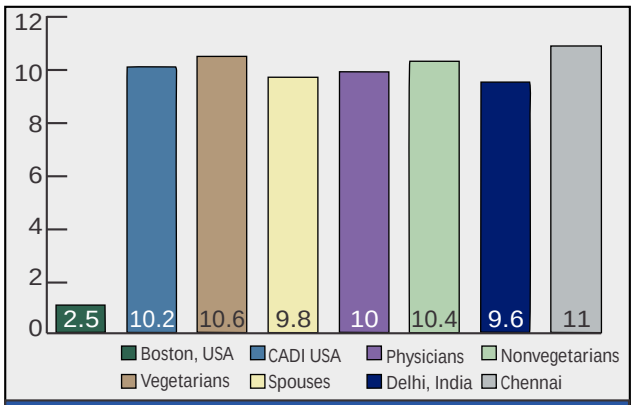


Figure-2 : Prevalence of CHD in Asian Indians in the United States : Comparison with Boston, Delhi and Chennai (Enas EA)

prevalence of CAD in Indians staying in USA and their subgroups compared to native US population of Boston)

- Occurs at younger age: 5–10 years earlier onset of first Myocardial Infarction (MI). Among young (< 40 years), this rate is 5 –10 times higher (Figure: 3)

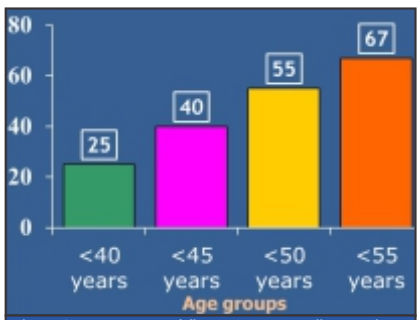


Figure-3 : Percentage of first MI among Indians and Age (Enas EA. How to beat the heart disease epidemic among South Asians. Downers Grove, 2005)

- Indians have more diffuse coronary artery disease.

■ Double Jeopardy from Nature and Nurture :
Many Asian Indians are in double jeopardy from nature and nurture ... nature being the genetically determined and nurture being the unhealthy lifestyle associated with affluence, urbanization, and mechanization.

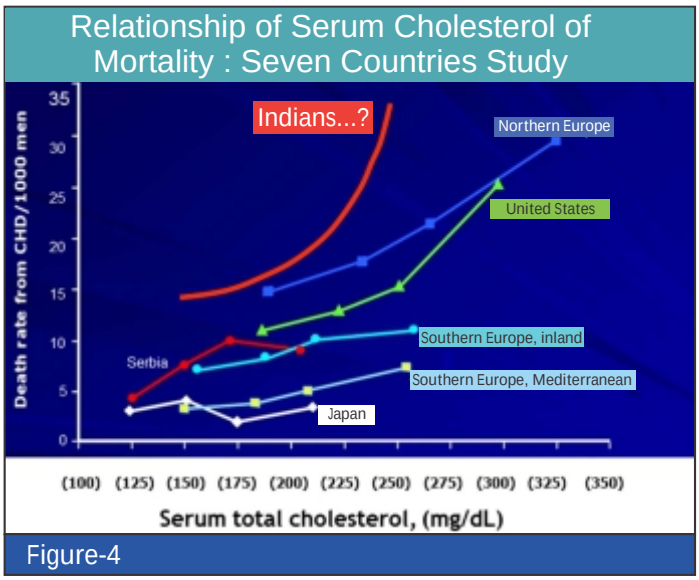


Figure-4

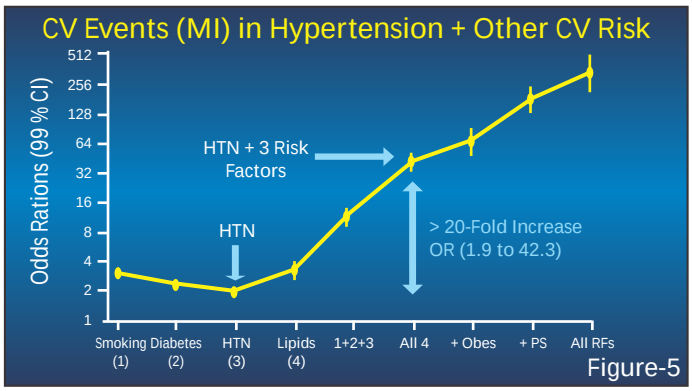


Figure-5

■ Seven Countries Study (Figure 4) is another example of genetic variation and high risk of Coronary Heart Disease (CHD) related mortality. Japanese, southern European countries and Serbia has much lower CHD related mortality for the level of blood cholesterol compared to people of USA and Northern European countries. Probably, Indians have even steeper rise in mortality with increasing cholesterol.

■ It is important to remember that HT, DM, high cholesterol and smoking are independent and common risk factors. When all these four risk factor are present, CHD event risk increases by 20 fold and if there is additional psychosocial stress and obesity, this risk increases by almost 100 fold! (Figure: 5)

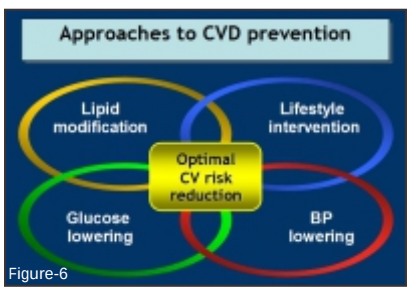


Figure-6

What should we do?

■ For optimal CV risk reduction, combined approach of life style intervention along with total control of blood

Table-1: Dietary Factors useful for LDL Reduction

Interventions	Quantity	Decrease in LDL %
SAFA intake	< 7 %	10
Dietary cholesterol intake	< 200 mg	5
Weight loss	5 kg	5
Plant sterols/stanols	1-3 g/d	5
Soy protein	25 g/d	5
Nuts (almonds)	50 g/d	5
Viscous fiber intake	5-10 g/d	5
Total LDL reduction	Full portfolio	40

Table 2: Indo-US Health Summit Recommendations: Recommended Thresholds of Intervention and Treatment Goals for Asian Indians

	Summit (India)	JNC /NCEP (Western)
Waist size	male<35 inches (<90 cm)	<40 inches (<102 cm)
Waist size female	<31 inches (<80 cm)	<35 inches (<88 cm)
Overweight	BMI >23	BMI >25
Obesity	BMI >25	BMI >30
Blood pressure	<130/80 mm Hg <120/70 in diabetes or HF	<140/90 mm Hg <130/80 mm Hg
Blood sugar	<100 mg/dL (A1C <6.5%)	<100 mg/dl <7.0%
Physical activity	45-120 minute/day	30 minutes/day

pressure, diabetes and lipids to a therapeutic target should be the ultimate goal (Figure: 6, Table-1, Table-2). Lifestyle changes can reduce heart disease deaths by 60 %. As we Indians are at the highest risk of cardio-vascular diseases (life style diseases), our goals and targets for weight, Body Mass Index (BMI), physical activity, DM, HT and lipids are different and we should NOT follow western guidelines as goal to achieve (Table-2). It is good idea to follow these numbers, i.e. should try to achieve all targets of weight, BMI, BP, blood sugar, lipid levels and physical activity.

Lipid Profile target For Indians:

Normal:

- S.Cholesterol <200 mg%
- S.LDL < 100 mg%
- S. TG < 150 mg%
- S.HDL > 45 mg%

Patients with Heart Disease, DM, HT or other Risk Factors:

- S.Cholesterol <150 mg %
- S.LDL < 70 mg %
- S. TG < 120 mg %
- S.HDL > 50 mg %

Table-3 : Noninvasive Risk Stratification: High-Risk (greater than 3% annual mortality rate)

1) Severe resting left ventricular dysfunction (LVEF < 35%)
2) High-risk treadmill score (score ≤–11)
3) Severe exercise left ventricular dysfunction (exercise LVEF< 35%)
4) Stress-induced large perfusion defect (particularly if anterior)
5) Stress-induced multiple perfusion defects of moderate size
6) Large, fixed perfusion defect with LV dilation or increased lung uptake (thallium-201)
7) Stress-induced moderate perfusion defect with LV dilation or increased lung uptake (thallium-201)
8) Echocardiographic wall motion abnormality (involving greater than two segments) developing at low dose of dobutamine (≤10 mg/kg/min) or at a low heart rate (<120 beats/min)
9) Stress echocardiographic evidence of extensive ischemia

*Table-4 : Coronary Calcium Score and All Coronary Disease Events**

Score	n(Weighted)	Event Rate (%)	Relative Risk (95 % CI)
0	1,504	0.54	1.0
1-99	1,973	1.00	1.9 (0.8-4.2)
130-399	686	5.5	10.2 (4.8-21.6)
‡ 400	450	14.0	26.2 (12.6-53.7)

*Includes coronary death, nonfatal myocardial infarction, coronary bypass surgery, and percutaneous coronary angioplasty (n = 4,613). Relative risk is based on comparison to subjects with calcium scores of zero. Analysis of unweighted sample yielded similar results, with relative risks of 1.0, 1.9, 10.3 and 26.9, respectively, for the different strata of calcium scores.
CI – confidence interval.

Yadon Arad et al: (J Am Coll Cardiol 2005;46:158–65)

- One should get non-invasive tests done to detect presence of coronary heart disease. This may be echocardiography, stress ECG or Echo or perfusion scan and Calcium scoring on CT scan. High risk results on initial screening (Table-3) suggest need to undergo coronary angiography.
- Coronary calcium scoring on CT scan is new, simple, non-invasive tool to predict future cardiac event. If calcium score is > 400, one year coronary event rate is as high as 14 %. (Table-4)

New Philosophy is ...

- Even specific LDL threshold level is artificial!
- If clinically significant atherosclerosis develops, the LDL-C warrants treatment regardless of Absolute level (Figure: 7, Figure: 8).
- For Secondary Prevention, 50% reduction in LDL is essential.
- For Primary Prevention, 30% reduction in LDL is essential.

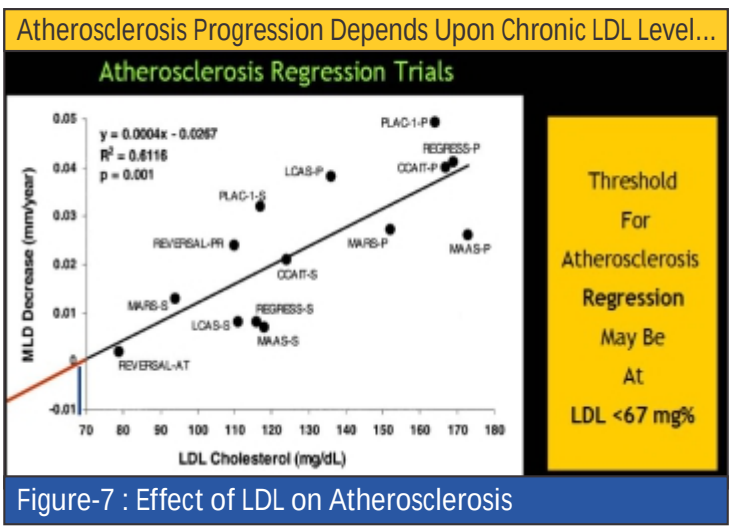


Figure-7 : Effect of LDL on Atherosclerosis

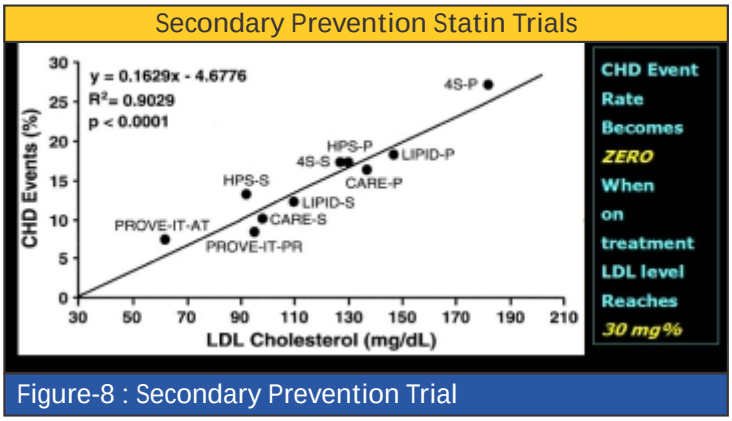


Figure-8 : Secondary Prevention Trial

Potential New Therapeutic Goals for High Risk Patients:

- LDL < 70 mg/dl; nowadays, LDL < 50 mg/dl is considered even better !
- Total Cholesterol/HDL ratio < 3.0
- LDL / HDL ratio < 1.5
- Global Risk Score < 4
- Hs-CRP < 1.0
- Apo B/A-1 ratio < 0.7

Why Statins are so beneficial?

Statins not only improve lipid profile but have several pleiotropic actions which are responsible for overall benefit. Although the lesion size regression may be minimal, plaque stabilizing effects are responsible for reduction in clinical events. Reduction in cholesterol content and inflammatory cells in plaque due to aggressive statin therapy results in plaque stabilization which ultimately leads to prevention of acute coronary syndrome / MI (Figures: 9 and 10).

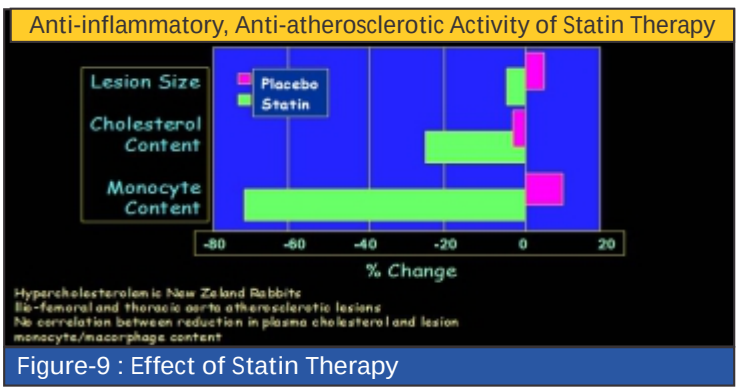


Figure-9 : Effect of Statin Therapy

In conclusion, therapeutic life style changes and judicious use of anti-lipid therapy (Figure 10), especially statins for primary prevention in high risk population and secondary prevention for patients with established atherosclerotic cardio-cerebro-vascular diseases, diabetes, hypertension and dyslipidemia may prevent or reduce the burden of this deadly disease.

We live in a world very different from that for which we are genetically adapted. Profound changes in our environment began with the introduction of agriculture and animal husbandry 10,000 years ago, too recent on an evolutionary time scale for the human genome to adjust. As a result of this ever-worsening discordance between our ancient genetically determined biology and the nutritional, cultural, and activity patterns in modern populations, many of the so

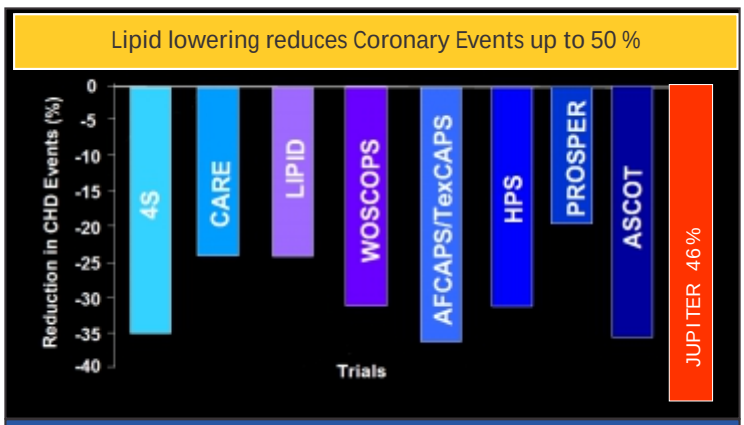


Figure 10: Effect of Lipid Reduction on Coronary Events

called diseases of civilization, including atherosclerosis, have emerged. Evidence from hunter-gatherer populations while they were still following their indigenous lifestyles showed no evidence for atherosclerosis, even in individuals living into the seventh and eighth decades of life. These populations had total cholesterol levels of 100 to 150 mg/dl with estimated LDL cholesterol levels of about 50 to 75 mg/dl. The LDL levels of healthy neonates are even today in the 30 to 70 mg/dl range. Healthy, wild, adult primates show LDL levels of approximately 40 to 80 mg/dl. In fact, modern humans are the only adult mammals, excluding some domesticated animals, with a mean LDL level over 80 mg/dl and total cholesterol over 160 mg/dl. Thus, although an LDL level of 50 to 70 mg/dl seems excessively low by modern American standards, it is precisely the normal range for individuals living the lifestyle and eating the diet for which we are genetically adapted. If our genetically determined ideal LDL is indeed 50 to 70 mg/dl, perhaps lowering the currently average but elevated levels closer to the physiologically normal range may improve not just CHD but also many other diseases commonly attributed to the aging process (James H. O'Keefe et al). If we keep our total cholesterol <150 mg/dl and our LDL < 70 mg/dl throughout life, in fact, atherosclerosis may never develop.

Department of Neonatology & Pediatric Critical Care

Inaugurated on June 19, 2011, Sunday

by

Hon'ble Shri Jay Narayan Vyas (Minister of Health & Tourism, Govt. of Gujarat)

Hon'ble Smt. Vasuben N. Trivedi (Minister of State, Higher & Technical Education and Women & Child Development, Govt. of Gujarat)

CIMS KIDS : Dedicated to the smallest of life.

We are determined to provide comprehensive health care services for children, regardless of how complex their problems may be...

We deliver STATE-OF-THE ART PEDIATRIC CRITICAL CARE SERVICES

Ensuring the best care in initial steps of their lives.

CIMS KIDS Inauguration Photo Gallery

Hon'ble Shri Jay Narayan Vyas


Dr. Milan Chag


Dr. Amit Chitaliya


Dr. Kashyap Sheth

Hon'ble Smt. Vasuben N. Trivedi

With support from Reeta Keyur Parikh Charitable Trust

CVIC 11

CIMS Vascular Interventional Course

July 22-23, 2011

(A "hands-on" Workshop for carotid, renal and complex limb vessels angioplasty)

Organized by CIMS® Care Institute of Medical Sciences

The Heart Care Clinic - CIMS Team has done over 1000 Endovascular cases including a very large number of carotid interventions over the last few years.

COURSE FORMAT

Live cases, didactic presentations, and in-cath training activities will address on carotid, renal/mesenteric, and lower extremities vascular disease management including in-depth discussions on critical limb ischemia. CVIC will focus on medical therapy and interventional devices and techniques, case selection, and complications.

TARGET ATTENDEES

CVIC 11 has been specifically designed for cardiologists and cardiovascular surgeons interested in the management of patients with vascular disease.

Registration Fee
` 10,000/-

For registration & further details contact:
Mr. Ketan Acharya: +91-98251 08257
Mr. Dilip Chauhan: +91-98253 76321
Mr. Chintan Vinchhi : +91-98796 50505

Next CVIC 2011 will be on November 18-19, 2011

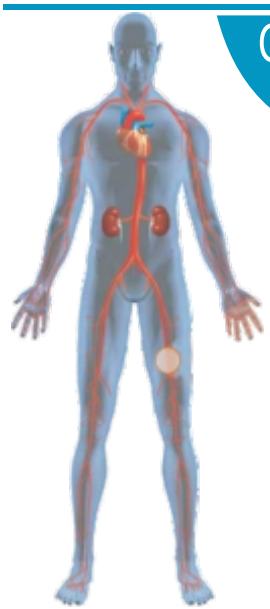
Course Director
Dr. Ashit Jain
MD (USA)

Dr. Ashit Jain is a well known Interventional Cardiologist practicing for the past 20 years in California, USA.

He graduated from the Maulana Azad Medical College, Delhi University, India in the year 1981. He completed his Fellowship in Interventional Cardiology and Peripheral Vascular Disease at Ochsner Medical Center in New Orleans, Louisiana, USA. Dr. Jain has developed an extensive clinical research program at Washington Hospital in Fremont, California and is involved in multiple new device research technologies. He has served as site principal investigator on over 26 multi-center clinical research trials and has written and presented many abstracts and publications in the field.

Dr. Jain is a pioneer in Carotid interventional Programs in the San Francisco Bay Area. He is affiliated with five hospitals in the East Bay of San Francisco has personally performed over 2000 carotid interventions.

Carotid, renal and complex limb vessels angioplasty by Dr. Ashit Jain, MD (USA)



Patients who are at High Risk are:

- Older Age
- Family history of heart or vascular disease
- Past or current smokers
- High cholesterol levels
- H/O Recurrent TIA (Eg.: Temporary blindness/Paralysis), CV Stroke
- H/O HT, DM, IHD
- H/O Smoking or Tobacco use
- Claudication pain
- Non healing foot ulcer
- Proved peripheral arterial disease

Patients will be provided following FREE services:
1. Consultation 2. ABI

Daily screening camp of the concerned patients will be held in the month of July, 2011 at CIMS Hospital. Time : 2.00 pm - 6.00 pm

For registration & further details contact:
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Mr. Dilip Chauhan: +91-98253 76321
Mr. Chintan Vinchhi : +91-98796 50505

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or email on opd.rec@cims.me, www.cims.me

Next CVIC 2011 will be on November 18-19, 2011

Peripheral Vascular Workshop
Inviting cases for workshop

Dear Doctor,

The Heart Care Clinic team and Care Institute of Medical Sciences (CIMS) announces an *Endovascular Workshop (CVIC 11).*

The Heart Care Clinic - CIMS team has done over 1000 Endovascular cases including a very large number of carotid interventions over the last few years.

We are proud to have with us *Dr. Ashit Jain (USA)*, a well-known carotid and peripheral interventional specialist on *July 22-23, 2011* who will be performing complex carotid/peripheral/renal procedures during these days.

You are welcome to send in your patients who display the following symptoms for this workshop.

- Older age
- Family history of heart or vascular disease
- Past or current smokers
- High cholesterol levels
- H/O Recurrent TIA (eg. Temporary blindness/paralysis), CV stroke
- H/O HT,DM,IHD
- H/O smoking or tobacco usage
- Claudication pain
- Non healing foot ulcer
- Proved Peripheral arterial disease

CIMS will provide FREE Consultation, ABI, Colour Doppler to all your patients who come in for screening.

After the carotid intervention, the patient will be sent back to you for further management.

Please contact any of our cardiologists listed on the front page or you can call on +91-9825108257/ 9825376321/ 9879650505 for further details or have your vascular surgeon or specialist contact us.

You can be assured of the best treatment at CIMS for your patients.

Also, Dr. Ashit Jain(Course Director for CVIC 2011) will be conducting a highly educative workshop for interested physicians, cardiologists and cardiac surgeons, to come & watch & participate.

Regards,

CIMS Cardiovascular Team

CVIC 11
CIMS Vascular Interventional Course
July 22-23, 2011

Day-1 (July 22, 2011 - Friday) | **Welcome to CVIC-2011**

What is Peripheral vascular disease? Does it need to be treated aggresively?

Session-1 Stroke Case

- Management of carotid disease
- What's new & effective?
- Carotid treatment plan for individual patient

Session-2 Renal

- Hypertension, should renal artery stenosis be treated?
- Why & when?
- Techniques & variables
- Radial / Femoral: which route to choose ?

Session-3 Lower Limb Cases

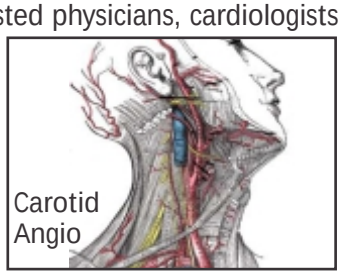
- Management of iliac, femoral, SFA and below knee arterial disease.
- Sometimes through, sometimes around !
- Approaches to treatment
  (Nightmare cases to be shared)

Day-2 (July 23, 2011 - Saturday)
Showcasing the best case – "I DID"

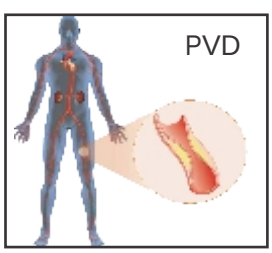
Session-4 Aneurysms

- Abdominal aortic aneurysm management
- Endovascular approaches for the treatment

Conclusion


Carotid Angio


Renal Angio



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