HYPERLIPIDEMIA
(HIGH CHOLESTEROL AND TRIGLYCERIDES)

DR. P.T.V. NAIR

- Question 1

  How many of you take drugs to lower cholesterol and triglycerides ?

- Question 2

  how many of you have discontinued the treatment ?

- Question 3

  How many of you feel that taking drugs to reduce cholesterol and triglycerides is necessary?

- I don't believe in lifestyle modification – I believe in living in STYLE.

  -Vijay Mallya

- I strongly believe in lifestyle modification to have good health and longevity.

  -Dr. P.T.V. Nair

- How many of you want to follow Mr. Vijay Mallya ?

- How many of you want to follow Dr. P.T.V. Nair ?

Introduction

- High Cholesterol and triglycerides are bad cardiovascular risk factors.

- Major contributors to coronary artery disease.

- Causes endothelial dysfunction.

- 1% increase in LDL cholesterol leads to 2 to 3 % increase in CAD.

- More than two thirds of patients treated fail to reach the target level.
- 10 to 15% reduction in total cholesterol results in 20 to 30 % reduction in CAD.
- New born child has LDL of 30 mg.

- ACC/ AHA guidelines for treatment.
- LDL cholesterol > 190mg at any age
- All diabetics above age of 40.
- 10 years risk of developing CAD more than 7%.
- Evidence of Atherosclerosis like CVA, CHD, PVD, etc.

Classification

Type 1- Chylomicrons

Type 2- Increased Cholesterol

               Normal Triglycerides

Type 3- Increased Triglycerides

               Normal Cholesterol

Type 4- Increased VLDL

Type 5- Chylomicrons & increased VLDL

ATP III classification of lipoprotein, cholesterol & triglyceride levels in Adults

LDL cholesterol (mg dl^{-1})

<100	Optimal
100–129	Near or above optimal
130–159	Borderline high
160–189	High
≥190	Very high

Total cholesterol (mg dl^{-1})

<200	Desirable
200–239	Borderline high
≥240	High

ATP III classification of lipoprotein, cholesterol & triglyceride levels in Adults

HDL cholesterol (mg dl^{-1})

<40	Low
≥60	High

Triglycerides (mg dl^{-1})

<150	Normal
150–199	Borderline high
200–499	High
≥500	Very high

Vascular biology & atherogenesis
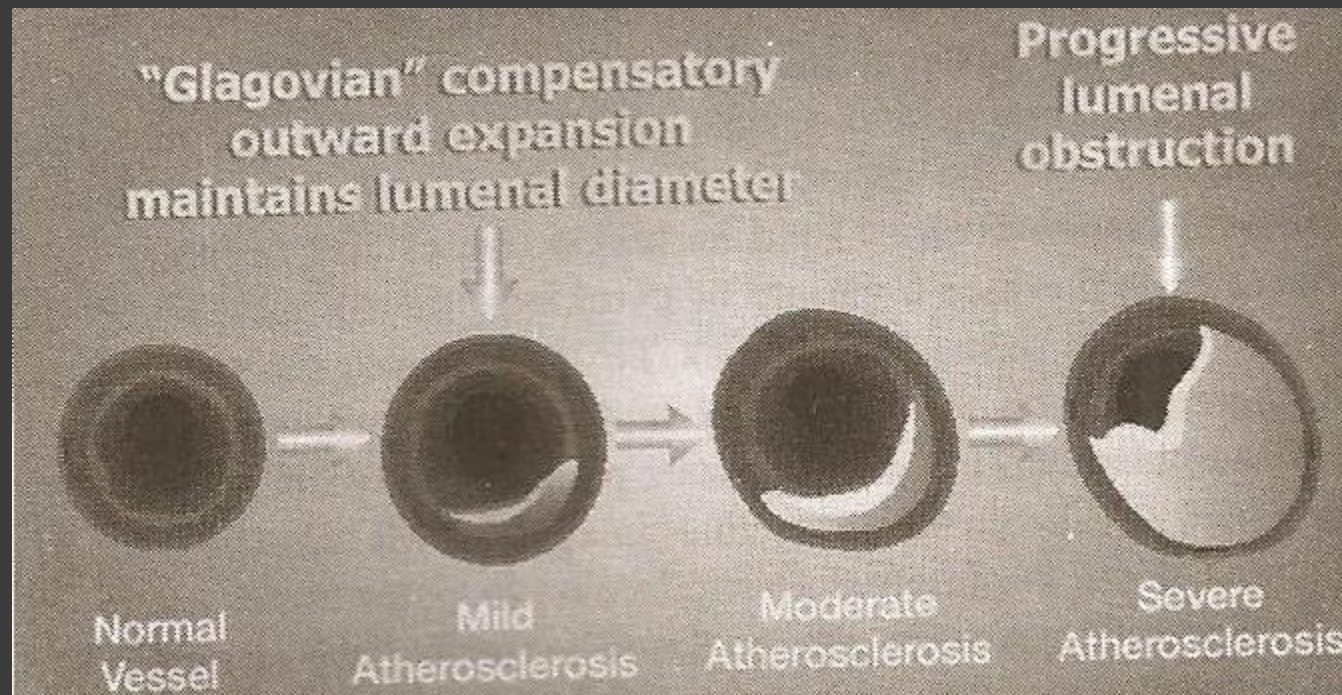
Associated diseases

- Diabetes mellitus
- Hypertension
- Obesity
- Smoking
- Family history

Treatment

- Diet
- Exercise
- Weight reduction
- Lifestyle modification
- No tobacco in any form

Diet

- 1200 to 1400 calories
- No saturated fats
- More fruits and vegetables

Non vegetarians

- Fish
- Chicken without skin
- Egg without yellow

Oil

- Rice bran oil
- Olive oil
- Corn oil
- Soyabean
- Mustard
- Groundnut oil
- Til oil
- No refined oils

- No deep fried item
- No butter or Ghee

- Elderly patients benefit more from the treatment

Alcohol

- Alcohol intake in moderation
- 45 to 50 ml whisky or 120 ml of red wine or 360 ml of beer(any one per day)
- If you are not taking alcohol, please don't start

Exercise

- 30 min brisk walk everyday
- 150 mins per week
- Best exercise
    - Walking
    - Cycling
    - Swimming

Drugs

- Statins

  - High intensity

  - Low intensity

- Ezetemibe

- Fenofibrate

- PCSK 9 inhibitors

- Fish oil

Vitamin D and Statin
Statin and Diabetes

Side effects of Statin

- Myopathy
- Liver enzyme abnormalities

Primary prevention and Secondary prevention of CAD

- To those who believe no explanation is necessary, to those who don't no explanation is possible

Mantra for good health

- Eat well
- Eat on time
- Eat the right food
- Walk everyday
- Smile
- Sleep well
- SEX

Take home message

- Treatment of hyperlipidemia is mandatory
- Discontinuation of treatment is not advisable
- Diet, Exercise, Weight reduction and Lifestyle modification are the most important
- Pleiotropic effects of statin
- Treat to target

Conclusion

- Hyperlipidemia is an important risk factor for cardiovascular diseases
- Life style modification is important
- Use medications where ever necessary
- Clear treatment benefits in elderly
- Moderate alcohol consumption beneficial

Enjoy life Today
Yesterday is gone
and
Tomorrow may never come.

Thank you for your kind attention.