

Risk Factors of Cardio Vascular Diseases

Maria Kurian

BDS Student,

Saveetha Dental College, Chennai

Abstract :

The aim of the review is to study the risk factors of cardiovascular diseases which is used to compare the influence of classic cardiovascular risk factors on the development of Acute Coronary Syndrome & Ischemic Stroke . Hypertension , hyperlipidemia, diabetes and obesity are some of the major cardiovascular risk factors . Cardiovascular diseases usually affects older adults, who are the descendants of cardiovascular diseases where atherosclerosis begins in early life.

Keywords:

Atherosclerosis , Coronary heart disease , Hyperlipidemia, Diabetes, Obesity, Smoking.

INTRODUCTION :

Heart and blood vessel disease/cardiovascular disease also called heart disease includes numerous problems, many of which are related to a process called atherosclerosis. The leading cause of death for patients with diabetes mellitus (DM) is cardiovascular diseases (CVD). Coronary heart disease (CHD) has been considered as a disease predominantly affecting men and for a long time women were not included in cardiovascular category. The life-time risk of Coronary heart disease is one in three for women [1], they are still not fully aware of their risk of CHD and perceive the chance of dying of breast cancer as far more likely than of CHD [2,3][4].As we age, a number of changes occur in our cardiovascular system which leads to an increased risk of cardiovascular diseases.¹ Low-density lipoprotein (LDL) cholesterol is a cardiovascular risk factor for the development of coronary atherosclerosis. Periodontitis is a common disease, the clinical signs of which are seen in early middle age. It is a chronic, tissue-destroying inflammation, which degrades the attachment apparatus of the teeth, causing tooth loss and in its most severe form.

TYPES OF CARDIOVASCULAR DISEASES:

- Coronary artery disease
- Hypertensive heart disease
- Heart failure
- Cerebrovascular disease
- Rheumatic heart fever
- Congenital heart failure
- Peripheral arterial disease
- Inflammatory heart disease
 - a) Endocarditis - caused by inflammation of Endocardium
 - b) Myocarditis - caused by inflammation of Myocardium
- Cardiomyopathy

RISK FACTORS OF CARDIOVASCULAR DISEASES:

There are two types of risk factors , The non-modifiable factors like ethnicity, family history, hyperlipidemia etc. and, The modifiable factors like smoking, obesity, sedentary lifestyle etc.

- Lipids^[4]
 - a) Total cholesterol and low density lipoprotein cholesterol
 - b) High density lipoprotein cholesterol
 - c) Triglycerides
 - d) Apolipoproteins A-I and B
 - e) Lipoprotein(a)
- Smoking^[4]
- Hypertension^[4]
- Diabetes^[4]
- Obesity^[4]
- Family history^[4]
- Homocysteine^[4]
- Fibrinogen^[4]
- Infections^[4]
- Inflammation^[4]
- Psychosocial factors^[4]
- Estrogens^[4]
- Lack of exercise

SMOKING:

Smoking is one of the most major modifiable risk factor for the cardiovascular diseases in both genders. In the United States 23.9% of women and 27.3% of men older than 18 years are current smokers [5]. An obvious relationship exists between the number of cigarettes smoked and the increased risks of Coronary heart disease[6,7]. According to the British Heart Foundation, smokers are said to be at a higher risk of dying of a heart attack , the mortality being 60% higher(80% higher in heavy smokers) than non-smokers.[8] Those under 40 years of age if smoked, would have been at five times a greater risk of heart attack [9,10]. After 2–3 years of abstinence the level of risk of ex-smokers is similar to that of never smokers regardless of the amount or duration of cigarettes smoked or the age at which they stopped smoking [11].

DIABETES:

One of the powerful risk factors for CHD is diabetes. Approximately 75-80% deaths of adult diabetic patients is due to CVDs , 75% of these deaths being caused by CHD[12].Diabetic women have a three-fold to seven-fold increased risk of CHD as compared to the two-fold to three-fold increased risk in diabetic men[13-16].

OBESITY:

One of the independent risk factors for both men and women is obesity[17,18].The distribution of body fat is used to determine the risk of cardiovascular diseases. Studies indicate that TRUNCAL obesity also called ANDROID HABITUS has a far higher risk of CVD than GYNECOID or PERIPHERAL body fat distribution[19-21].Also the waist circumference and waist-hip ratio play a major role in relation to the risk of CHD[21].

FAMILY HISTORY:

Cardiovascular disease has a very strong relation to family history.

HYPERLIPIDEMIA:

Increased lipids especially LDL cholesterol and triglycerides can increase the risk of cardiovascular disease. HDL cholesterol reduces the risk.

ETHNICITY:

Indian race is more prone to cardiovascular disease.

CONCLUSION:

Cardiovascular disease is currently the leading cause of mortality and morbidity in the world. Awareness and controlling the modifiable risk factors like smoking can reduce the incidence of cardiovascular disease in the society.

REFERENCE

[1] Lloyd-Jones DM, Larson MG, Beiser A, Levy D. Lifetime risk of developing coronary heart disease. *Lancet* 1999;353:89–92.

[2] Legato MJ, Patus E, Slaughter E. Women’s perceptions of their general health, with special reference to their risk of coronary artery disease: results of a national telephone survey. *J Womens Health* 1997;6:189–198.

[3] Pilote L, Hlatky MA. Attitudes of women toward hormone therapy and prevention of heart disease. *Am Heart J* 1995;129:1237–1238.

[4] J.E. Roeters van Lennep et al. / *Cardiovascular Research* 53 (2002) 538 –549

[5] 2000 Heart and Stroke Statistical Update. Dallas, TX, American Heart Association 2000.

[6] Nyboe J, Jensen G, Appleyard M, Schnohr P. Smoking and the risk of first acute myocardial infarction. *Am Heart J* 1991;122:438–447

[7] Willett WC, Green A, Stampfer MJ et al. Relative and absolute excess risks of coronary heart disease among women who smoke cigarettes. *New Engl J Med* 1987;317:1303–1309

[8] Scarborough P, Bhatnagar P, Wickramasinghe K, Smolina K, Mitchell C, Rayner M Coronary heart disease statistics 2010 edition. British Heart Foundation 2010.

[9] Mahonen, M et al. Current smoking and the risk of non-fatal myocardial infarction in the WHO MONICA+- Project populations. *Tobacco Control* 2004; 13: 244-250

[10] Cardio and Vascular Coalition. Modelling the UK burden of Cardiovascular Disease to 2020. British Heart Foundation. 2008

[11] Kawachi I, Colditz GA, Stampfer MJ et al. Smoking cessation in relation to total mortality rates in women. A prospective cohort study. *Ann Intern Med* 1993;119:992–1000.

[12] Bonow RO, Bohannon N, Hazzard W. Risk stratification in coronary artery disease and special populations. *Am J Med* 1996;101:4A17S–22S

[13] Goldschmid MG, Barrett-Connor E, Edelstein SL et al. Dyslipidemia and ischemic heart disease mortality among men and women with diabetes. *Circulation* 1994;89:991–997.

[14] Seeman T, Mendes de Leon C, Berkman L, Ostfeld A. Risk factors for coronary heart disease among older men and women: a prospective study of community-dwelling elderly. *Am J Epidemiol* 1993;138:1037–1049

[15] Barrett Connor EL, Cohn BA, Wingard DL, Edelstein SL. Why is diabetes mellitus a stronger risk factor for fatal ischemic heart disease in women than in men? The Rancho Bernardo Study. *J Am Med Assoc* 1991;265:627–631.

[16] Donahue RP, Goldberg RJ, Chen Z, Gore JM, Alpert JS. The influence of sex and diabetes mellitus on survival following acute myocardial infarction: a community-wide perspective. *J Clin Epidemiol* 1993;46:245–252.

[17] Willett WC, Manson JE, Stampfer MJ et al. Weight, weight change, and coronary heart disease in women. Risk within the ‘normal’ weight range. *J Am Med Assoc* 1995;273:461–465.

[18] Manson JE, Colditz GA, Stampfer MJ et al. A prospective study of obesity and risk of coronary heart disease in women. *New Engl J Med* 1990;322:882–889.

[19] Rexrode KM, Carey VJ, Hennekens CH et al. Abdominal adiposity and coronary heart disease in women. *J Am Med Assoc* 1998;280:1843–1848.

[20] Larsson B, Bengtsson C, Bjorntorp P et al. Is abdominal body fat distribution a major explanation for the sex difference in the incidence of myocardial infarction? The study of men born in 1913 and the study of women, Goteborg, Sweden. *Am J Epidemiol* 1992;135:266–273.

[21] Prineas RJ, Folsom AR, Kaye SA. Central adiposity and increased risk of coronary artery disease mortality in older women. *Ann Epidemiol* 1993;3:35–41.