Atherosclerosis is the disease of arteries. The term Atherosclerosis indicates the formation of fibrofatty lesions in the intimal lining of the arteries such as the coronary arteries, the aorta and the large arteries that supply the brain. Arteries are the blood vessels that carry oxygen-rich blood to your heart and other parts of your body. It is the basic cause of all deaths in the western world [1-7]. The risk factor is unchangeable in aged individuals, men and family history of premature coronary heart disease. Men are at greater risk than are premenopausal women, because of the protective effects of natural oestrogens. The presence of hyperlipidemia is the major risk factor for atherosclerosis [8-14]. In patients with hypertension, High blood pressure is a major risk factor for atherosclerosis which creates more mechanical stress on the vessel endothelium. Chronic kidney disease can increase your risk. The causes of atherosclerosis have not been determined with certainty. Atherosclerosis is the leading cause of illness and death in USA and many of the developing countries [15-18]. Open access journals provide more visibility and accessibility to the readers in gaining the required information. It provides free and unrestricted access of knowledge via internet, which accelerates the scientific discovery. Open access explores the scholarly publishing, spread knowledge and allow the knowledge to be built upon. Peer reviewed journals publish high quality articles after it has been subjected to multiple critiques by scientists or scholars in that particular field [19-22].

The societies are mainly meant for enhancement of Science and technology. We can approach many of the scientists and professionals through societies. The main aim is to expand its services and support to scientists and thereby making people to understand and gain knowledge of different emerging innovative technologies. In order to create awareness of atherosclerosis associated coronary heart disease among the people, group of professionals, scientist, physicians and consultants unite to form a society or an organization. The major societies like European Society of Cardiology is another international society which mainly focused in improving advancements in treatment, care and diagnosis and promoted education relating to prevention and treatment of cardiovascular disease [23-29]. National Heart Forum of UK is an organization which mainly aimed in conducting mission which mainly involved in reducing the risks of coronary heart disease. It also promotes researches in the field of cardiovascular diseases. United Heart Foundation of USA promotes the education and activities relating to the prevention and treatment of cardiovascular disease through the development of cardiovascular health knowledge and practice [29-34]. Nigerian Cardiac Society of South Africa is associated with Omics thereby endorsing the scientific events conducted in the field of Cardiology. Mongolian society for Pediatric cardiology has attained to
create a vision for the development of diagnosis and treatment methods for the treatment of children's heart disease [35-44]. It also trained many Pediatric cardiologists. The Cardiac Society of Australia and New Zealand is involved in promoting the recent advances in the diagnosis and treatment of cardiovascular diseases. These societies mainly worked together to reduce the risk of heart disorders. The society enabled in bringing awareness of heart disorders and helped in understanding the prevention and treatment of cardiovascular disorders [45-52].

Atherosclerosis: Open Access is the Journal which provides knowledge and information on different aspects of Atherosclerosis and Coronary Atherosclerosis severity. Renal atherosclerosis, Carotid Stenosis, Cerebral atherosclerosis, Thoracic Aortic Atherosclerosis and intracranial atherosclerosis [53-58], Journal of Clinical & Experimental Cardiology is an open access journal which explores the concepts related to Aortic Valve Replacement, Angiogenesis, Arrhythmia management, Angiography and Cardiac Catheterization. The annual conferences - Atherosclerosis and Clinical Cardiology which is held during July-2016 at USA explored the research work on Atherosclerosis which is one the major cause for heart failure. This conference mainly focused on Coronary artery atherosclerosis, atherosclerosis therapeutics, hypertension, atherosclerosis aneurysm and how the plaque hardens and narrows the arteries [58-65].

International Journal of Cardiovascular Research aims to publish the reliable source of information on current research and discoveries and mainly focuses on all topics of Cardiology and Cardiovascular medicine. Journal of Cardiovascular Diseases & Diagnosis is peer reviewed journal gives a emphasis to Ventricular Arrhythmia, Acute Myocardial Infarction, Congenital heart disease, valvular heart diseases. Atrial Fibrillation, Valve Replacement, heart failure, Stroke and all types of cardiovascular disorders etc. [65-74]. Cardiovascular Pathology: Open Access an international peer-reviewed scholarly journal, which published the papers across the world on coronary artery disease as a Special edition in its Volume 4 [74-79].

Cardiovascular Pharmacology: Open Access Journal studies improve the knowledge and provide cutting-edge research strategies for the development of new therapeutics. International Journal of Cardiovascular Research is a leading provider of information on cardiovascular diseases and novel methods of treatment followed [79-89]. The above mentioned Open access journals on cardiology are the peer-reviewed journals that maintain the quality and standard of the journal content, reviewer's agreement and respective editor's acceptance in order to publish an article [87-96]. These journals ensures the barrier-free distribution of its content through online open access and thus helps in improving the citations for authors and attaining good journal impact factors [97-99].

MECHANISMS OF THE PROCESS BY WHICH ATHEROSCLEROSIS OCCURS

Early assessment of atherosclerotic lesions is an important diagnostic goal in order to decrease the coronary artery siases burden. An article entitled Clinical Review of Current Techniques of Magnetic Resonance Imaging of Atherosclerosis described various vulnerable plaque features and current MRI techniques for detecting atherosclerosis and conclude that MRI is best suited for detecting early plaque lesions [100-106].

Endothelial cell injury: The injury to endothelial vessel layer is the initial factor development of plaque formation. The possible causes for injury of the endothelial vessel layer are 1) exposure of endothelium to any toxic substances, which results in the damage eg: use of tobacco [107-116], 2) Due to mechanical stress associated with hypertension 3) Immune mechanisms and 4) Hyperlipidemia also play an active role in the pathogenesis of the atherosclerotic lesion. Frequency dispersion on the vessel wall - Primary reason of atherosclerosis by Merab Beraia and Guram Beraia [117-129].

Lipoprotein deposition: When the endothelium is injured or disrupted, lipoprotein molecules can gain entry where they are then modified by oxidation (via free radicals or oxidizing enzymes) or glycation (diabetics) [130-136]. This modified lipoprotein (modified LDL) is inflammatory and able to be ingested by macrophages creating "foam cells" causing a "fatty streak" in the arterial wall. An article entitled "Atherosclerosis and Rheumatic Diseases" discussed the role of inflammation in the pathophysiology of atherosclerosis and has given better knowledge in understanding of atherosclerosis as an inflammatory disease [137-140], c lacus

Recent advancements in the treatment of Atherosclerosis

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A. Common approaches:

1. Usage of HDL: To boost the HDL cholesterol role which acts as ally against heart disease. One trial drug eg. Torcetrapib – this is HDI raising trail drug [147-150]. This raised concerns that may be it’s not the right kind of HDL. All forms of HDL are not good.

2. Anti inflammatory:
Inflammation plays a major role for the formation of plaque and subsequent plaque rupture, which finally leads to heart attack [151-160].
Statins have anti-inflammatory effects which help in preventing plaque rupture and also have property of lowering LDL cholesterol [161-173].

Still we need to find a good therapy or the drug which specifically prevent the inflammation or rupture of the artery wall, by attacking root causes. The lowering of low-density lipoprotein cholesterol by statin therapy has been discussed in the article- Lipid-lowering strategies and reduction of coronary heart disease risk in primary care written by Ersin Ekpinar.of USA [174-183].

B. Immunotherapeutics approaches:

1. Lipid based vaccines: This therapeutic approach mainly deals with inhibition of atherosclerotic lesion formation [183-192].

2. Based on Epitopes of oxidised LDL: The different epitopes of oxidised LDL is an effective tool for the modulation of the immune response to OxLDL. These epitopes of oxidised LDL induce atherogenic immune responses [193-196]. Most of studies concluded that this therapeutic approach reduces the atherosclerosis.

3. Heart Shock proteins: Autoimmunity to heat shock proteins is one element in atherosclerosis induced immune responses. Repeated mucosal administration of Mycobacterium HSP60/65, both orally and nasally, inhibited atherosclerotic lesion formation in LDL-receptor-deficient mice [197-200].

CONCLUSION

Atherosclerosis is considered as a heart disease, although it can affect any part of the body. We have discussed the mechanism of the process by which Atherosclerosis occurs, but still needs a progress in the discover of the exact and actual mechanism of action. The approaches like lowering LDL by blocking the effect of PCSK9, and a strategy of treating atherosclerosis showed promising effects in reducing the residual risk that even remains after current therapy. In recent days, the scientists and researchers traced new approaches by introducing therapeutic targets for the immunoregulation of atherosclerosis. To find right balance between efficacy and safety will probably require a more number of trials to assess a variety of drug mechanisms to treat Atherosclerosis.

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