

**A GLIMPSE ON THE CONCEPT OF ATHEROSCLEROSIS & CARDIOVASCULAR DISEASES IN GRECO ARAB MEDICINE****Dr. Aliya Parveen<sup>\*1</sup>, Dr Zanigar<sup>2</sup> and Dr. Mohd Saqlain<sup>3</sup>**<sup>1</sup>Lecturer, Department of Community Medicine, Rajputana Unani Medical College, Hospital & Research Centre-Jaipur.<sup>2</sup>Lecturer, Department of Community Medicine, National Institute of Unani Medicine-Bengaluru.<sup>3</sup>P.G. Scholar, Department of Kulliyat, AMU-Aligarh.**\*Corresponding Author: Dr. Aliya Parveen**

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**ABSTRACT**

The discoveries in finding out the pathology of atherosclerosis have been made thousands of years ago, when Hippocrates (460-370BC, Greek physician) for the first time advised hot water bath to release obstruction. Later on Galen ((131-201 AD), Roman physician) and other eminent Greco Arab physicians like Avicenna, Maseehi, Nafees etc. also contributed in determining the pathophysiology of atherosclerosis and CVDs experimentally as well as theoretically. Atherosclerosis in Greco Arab medicine has been defined as a disease of arteries. The diseases arising out of it (e.g. Coronary heart disease, stroke etc.), their sign and symptoms, successful prevention and treatment has also been cited by the Greco Arab physicians years ago. The article will highlight a brief literature on the concept laid by the Greco Arab physicians in regard to atherosclerosis and CVDs.

**KEYWORDS:** Atherosclerosis, CVDs, pathophysiology.**INTRODUCTION**

The history of atherosclerosis and Cardiovascular diseases dates back from the teachings of Galen to the hypothesis of Russel Ross. Galen (131-201 AD) a famous Roman physician for the first time described the heart and the movement of blood in the arteries. His teachings put forth the scope for further researches in CVDs (cardiovascular diseases).<sup>[1]</sup> Avicenna (980-1037) – a renowned Greco Arab physician postulated the concept of obstruction in vessels & CVDs arising from it.<sup>[2]</sup> Unani (Greco Arab) physicians described atherosclerosis as a disease of vessels (Amraze majari ← Amraze khilqat ← Amraze Mufrada) i.e. a condition in which sharain (vessels) get narrowed & obstructed by sudda (Obstruction). This obstruction occurs due to some defect or abnormality occurring in the II & III stages of digestive processes. According to Greco Arab concept, there are four basic types of digestive processes taking place inside the human body- Hazme maedi (I stage digestive process), Hazme kabidi (II stage digestive process), Hazme urooqi (III stage) and Hazme azwi (IV stage). Improper timings, quantity and quality of food and excessive use of cold and moist or cold and dry food items, after passing through hazme kabidi (II stage of digestive process) produces excessive phlegm & sauda (black bile). Coldness produces Ghaleez and Luzuj akhlat (thick & viscous humors), further increase in coldness congregate serous humor i.e. Shaham. These

raddi akhlat/humors when reach to blood vessels, affect their places of digestion i.e. Hazme saani (Hazme urooqi). As a result of which the vessels supplying the respective organs (like heart, brain, kidney etc.) also get affected.<sup>[3]</sup>

**Causes of Atheroma/Sudda formation**

Avicenna adverted that there are two types of factors affecting on heart. Those which directly affects heart (Su'e-Mizaj of Qalb) and those which produce raddi khoon and affect other organs.<sup>[4]</sup> The production of raddi khoon lended the path to form sudda (obstruction/atheroma). Majoosi in his book "Kamilussana" delineated that there are three factors responsible for the obstruction in blood flow. They are-

- Vasoconstriction
- Sudda formation
- Inflammation

Vasoconstriction could be possible either due to the weakness of Quwwate dafi'a (faculty of evacuation) & strong Quwwate masika (faculty of retention) or excess of baroodat (coldness) & yaboosat (dryness). Excess of yaboosat and baroodat let the content of vessels thick and viscous leading to the formation of sudda. Therefore, the sudda might be thick, viscous or a blood clot.<sup>[5]</sup>

## Sign & Symptoms

Physicians of Greco Arab mentioned some of the clinical manifestations to assess either atherosclerosis or the development of heart diseases.

### I. Palpitation/Khafqan<sup>[6,4]</sup>

Any factor which affects heart may be within the heart or some external stimuli like associated organ's diseases (lungs, brain etc.) could be the reason for palpitation. Avicenna explained the cause of Khafqan is khilti madda (black bile/phlegm), which occupies the space inside the blood vessel.

### II. Breathlessness/Usre tanaffus<sup>[6]</sup>

When the sudda obstructs the blood vessels of heart (coronary vessels) or the connecting vessels (pulmonary vessels), it causes Usre tanaffus.

### III. Faintness/Ghashi<sup>[7,4]</sup>

When the quwa-e- haiwani gradually weakens it leads to ghashi. Avicenna explicated that it is the sudda/khilti ghaleez (thick humor) which burdens the rooh (pneuma) as a result of which zofe qalb (weakness of heart) seems to occur which perturbs faintness.

### IV. Chest pain/Waja'al- sadr<sup>[5]</sup>

Majoosi in his book Kamilussana mentioned that chest pain is one of the symptoms of heart diseases which may be due to raddi akhlat (change in the temperament of humors).

V. Other symptoms mentioned by many of the Greco Arab physicians are Chest tightness, fear, anxiety or depression.<sup>[8]</sup>

VI. The most important diagnostic tool of Unani medicine for different diseases is 'pulse'. Avicenna described that the pulse of heart patients that may be due to obstruction will be Nabze mukhtalif or there will be zughta of nabz.<sup>[4]</sup>

## Preventive approaches of atherosclerosis in Greco Arab medicine

Avicenna in his book Al Qanoon fittib mentioned that beside pharmacological treatment there are certain tadabeer which if adopted can prevent as well as treat a number of diseases. These tadabeer he called as Husn Tadabeer (Life style modifications) .WHO also stated that Non-communicable diseases arise mainly due to changing pattern in lifestyle. These can be easily prevented to a great extent by life style modifications. These tadabeer mentioned in Greco Arab medicines as- Diet modifications, Riyazat, Dalak and Hammam.<sup>[9]</sup>

### a) Ghizai tadabeer/Dietary modifications<sup>[10]</sup>

Avicenna, Maseehi and other eminent physicians advised to take

- Ghiza lateef e.g. honey, fig, pistachio etc. which produces lateef and saleh khoon(thin and good

quality of blood) that itself prevents the formation of sudda.

- Ghiza Hareef and muqatta balgham e.g. mustard seeds, soya, cumin, garlic, etc. These types of food stuff usually make thick viscous phlegm thin and then help to excrete them out of the body by changing it into marrah safra(bile).
- Ghiza Maleh e.g. small fish, maul jubn, maul laham etc. These food items decreases blood viscosity and increases blood circulation thus, preventing heart and other organs from ischemia.
- Ghiza Haamiz e.g. vinegar, etc. These dietary stuffs break the viscid and thick humors into pieces so that obstruction will be released.
- Avoid constipation and flatulence producing food stuffs like Brinjal, potatoes, beef, cabbage etc. as they produce ghaleez khilt (thick humors)and bukharat (flatus) that affects heart.

### b) Dalak (massage) and Riyazat (Exercise)<sup>[5,11]</sup>

Massage with muhallil (resolvent) oils and daily exercises like morning or evening walk may tahleel the raddi akhlat (waste), open the pores of the skin and excrete the waste from body.

### c) Hammam<sup>[5]</sup>

Hippocrates in his book Kitabul fusool mentioned that hammam (water bath) with haar shireen water helps to release obstructions

### d) Advia.<sup>[4,12,13]</sup>

For the prevention and treatment of obstruction in vessels (atherosclerosis), the eminent physician-Avicenna advised to follow the principle of Istifragh-i- madda (excretion of matter) and Taqweeyat-i-azu (strengthening the vital organ).The matter causing obstruction can be evacuated by two means-one by making the ghaleez/thick akhlat (humor)thin and other by making lesdar and luzuj/viscous matter less viscous i.e. reducing its viscosity.

- When the madda is ghaleez/thick- Avicenna recommends the use of Mulattif (softens "salabat" or hardness of the vessels and produces "latafat" in the blood), Muhallil (resolves thick and viscous humors), Mufatteh (dilates the blood vessels), Murakhkhi & Mulayyan drugs (relaxant and laxity producing drugs) to make the matter lateef (thin).
- When the madda is lesdar and luzuj/viscous-Avicenna in his compilation mentioned the use of Mudirr-i-Bawl (evacuate undue amount of matter via urine), Jali (Liquifies the madda and clean the vessels) and Muqatteat (breaks the madda into small pieces so that it can be easily expel out of the vessels) to reduce the viscosity of matter.
- Baghdadi in his book adverted that if Mulattif (demulcent) drug with Mundij (concoctive),

followed by Istifragh, will prevent the formation of sudda.

For the purpose of Taqweeyat-i-azu, Avicenna recommends the use of *advia qalbia* (cardiotonics) after istifragh because the *advia istifraghia* weakens the *badani quwa*, so there is a need for *muqawwiyat* (tonics). He mentioned the use of *advia harra qalbia* (eg *Aabresham*, *Mushk*, *Daroonj aqrabi*, *Amber*, *Zaranbad*, *Qaranfal*, *Zafran* etc.) for *taqwiyate azu* as they not only strengthen the heart but also act as *muqawwiy-i-rooh*. *Rooh* is the source of *quwa* (faculty), and *quwa* performs functions so it should be strengthened.

## CONCLUSION

Nowadays a number of tools and techniques have been designed and used in the field of medicine. Although the concept was given thousands of years ago by the Greco arab scholars, but still it correlates the pathophysiology of atherosclerosis at mechanistic level of present studies. There is a need to look upon the precious literature again and again as it paves the path of search & research for the unknown facts regarding the pathology, the prevention and the management of atherosclerosis and CVDs arising out of it.

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