

HEART WISDOM: AYURVEDIC INSIGHT INTO CARDIAC BIOMARKER

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ABSTRACT

Cardiovascular disease, a worldwide leading health issue, claim the lives of many every year. Biomarkers are one of the critical factors that aid in early diagnosis of cardiovascular disease. Being noninvasive technique makes it beneficial over other methods for evaluating the pathophysiological status of cardiovascular disease. Ayurveda believe in multi-faceted approach that not only pays attention towards healing but also approaches for healthy continuity. In ayurveda concept of biomarkers are unexplored. Dosha, dhatu, mala, agni srotas potency has role in maintaining health status of person but when it gets imbalanced results in changes in pathophysiological changes leading to various disease in body. The present article view brief about the spectre of cardiac biomarkers in the ayurvedic perspective with their significance and it will be earliest and possibly way to reverse the myocardial damage.

KEYWORDS: Biomarker, Ayurveda.**INTRODUCTION**

Biomarker are an indicator of particular disease, state of progression of disease and effects of treatment in human body. While in ayurveda doshic imbalance, dhatu kshaya, agnidushti, mala sanchaya, srotodushti are of indicator of development of future disease condition. Its progression & treatment effects are depend on nidana, purvrupe, roopa, upshaya anupshaya, updrava, sadhyasadya, arishta lakshana. Hence we can call it as ayurvedic biomarkers. Heart being an organ of Mamsa and Rakta Dhatu, Vyana-vayu kshetra definitely pathology involving the same may have poshak Rakta and poshya Mamsa Dhatu portions and respective Dhatwagni Amsha in circulation. When Vyana vayu dysfunction happen vata vitiation within the Mamsa Dhatu results in a low pain threshold and high pain sensitivity. This Changes may be indicating reduced mamsa prana amsha (potention) of Rakta which is capable of mama's nourishment leads to cardiac biomarkers get released into blood stream due to heart muscle are damaged or stressed (mamsa & rakta dhatu dushti). Troponins are the key cardiac biomarkers in modern medicine for diagnosing acute myocardial ischemia/acute myocardial infarction. Raised Hridaya Mamsa Dhatwagni power and Vyana Vayu dosha important for function or dysfunction of hridaya. Hence the earliest and possibly way to diagnose & reverse the

myocardial damage we can go for cardiac biomarker test.

In this review, we will look at the spectre of cardiac biomarkers in the ayurvedic perspective and their significance.

AIM AND OBJECTIVE

To understand concept of cardiac biomarkers in ayurveda.

MATERIAL AND METHODS

The present review is mainly focused on cardiac troponins and their probable ayurveda view point from Ayurveda classical books and published works from indeed journals for elaborative understanding of the concept.

DISCUSSION

Ayurveda disease indication for cardiac biomarker

Vataja Hridroga	Hridaya Peeda in Vaman Hinayoga/atiyoge, Nirosha Basti Ayoga	Hridgada in Adhovata Vegavarodha
Pittaja Hridroga	Hridaya Ashuddi in Virechan Ayoga	Hridayasya - Uparodha in Shakrut Vegavarodha
Kaphaja Hridroga	Hridshoola in Sneha Basti Vyapada	Hridamaya in Kasa Vegavarodha
Sannipataja Hridroga	Hridrogha in Vaman Virechans Vyapada	Hrid Vibandha in Udgar&Trishna nigraha Vegavarodha
Krumija Hridroga	Hridgraha in Malavrutta Anuvasan	Hridroga in Sharma Shwasa& Ashru Vegavarodha
-	Hridaya Peeda in,Niroha Basti Ayoga	Hridvyatha in Shukra Vegavarodha

Cardiac biomarkers through ayurveda insight

The Troponins are regulatory proteins found in skeletal and cardiac muscle. These are Poshya mamas Dhatwamsha. There are 3 subunits of it: troponin I (TnI), troponin T (TnT) and troponin C (TnC). The genes that encode for the skeletal and cardiac isoforms of TnC are identical may be because they are responsible for Meda-Asthi-Mamsa Poshak (nourishing) helps for subsequent dhatu formation. Thus, so structural difference lies between them. However, TnI are skeletal mamas Poshak (nourishing) and Troponin TnT are cardiac Mamsa Poshak. Cardiac troponin T (cTnT) and troponin I (cTnI), cardiac forms of these regulatory proteins are coded by specific genes and have the likely of being unique to the myocardium. Cardiac troponins may not be detected in the serum for up to four hours after the onset of an acute coronary event because it

depends on Tar-Tam Vitiation of Tridosha & time taken by Tridosha for Mamsa Dhatu Paka & Kotha to occur and should be repeated after 12 hours if the troponin concentration on admission is not raised in an individual presenting with chest pain. This occurs after some time because Vitiated Tridosha brings about Paka-Kotha of Hridaya Mamsa. Serum cTnI values indicative of myocyte necrosis/myocardial damage range from 0.1 to 2ug/liter in cardiovascular disorder. Below this range by the law of “Shiryate That Sharira”, Mamsa dhatu paka-Kotha & Above this range indicates severity of Tridosha vitiation and extent of Mamsa damage.

Interpretation

- 1) Cardiac troponin T (cTnT) <0.1 ug/L
- 2) Cardiac troponin I (cTnI) 0.1 to 2ug

Increased troponins may indicate,

Vitiated Dosha	Tridosha -vata,pitta,kapha
Vitiated Dushya	Rakta,Mamsa (Indicate high elevation of Mamsa Poshya-Poshak Amsha in blood)
Dosha Gati seen	Vruddhi/Triyak gati in Hrudaya Shakha (Wall & Coronaries)
Srotas Dushti happen	Ati-pravrutti (Tikshana Dhatwagni & Sira Granthi-plaques & clots)
Upashaya	Reduced levels indicate of disease.
Upadrava/Udarka	Cardiomyopathy, Myocardial rupture, Heart failure
Sadhyasadyatwa:	Krichha sadyata

The absence of cTn in the blood 12 hours after the onset of chest pain is associated with a low risk of an adverse outcome, with respect to cardiovascular disorder.

CONCLUSION

The cardiac biomarkers may include cardiac proteins, enzymes or hormones and when we see them through Ayurveda perspective, we may have to express them in the Dhatwagni Amsha, Dhatu amsha, Dhatu Mala, Kitta form for their clinical use. However, by estimating underlying Ayurveda pathology we can simply correlate the involved Dosha and their Guna, Dosha Gati, Dushya involved and can try to formulate hypotheses.

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