POST MI CARE THROUGH AYURVEDA: A REVIEW

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ABSTRACT
Acute myocardial infarctions are one of the leading causes of death in the developing world, with prevalence approaching three million people worldwide. Sedentary lifestyle, stress, dietary changes etc have precipitated the incidence of MI. Though the modern science act as saviours in the emergency conditions of acute MI, the chance of recurrence and mortality is high. Moreover, prolonged use of abounding list of high dose medications make the patient weak mentally, physically and economically. This paper explores how Ayurveda the holistic science, have a huge scope in improving their health condition by making the patient adapted to a healthy lifestyle and administration of cardio tonic medicines like Hridaya Mahakashaya, Arjuna Ksheerapaka, PrabhaVara Vati, Paarthaarishta, Hridayarnava Rasa along with Yogaasanas and Pathya Aahara and Vihaar.

Index Terms - Myocardial Infarction, Hridaya Mahakashaya, Prabhakara Vati, Hridayarnava Rasa, Arjuna Ksheerapaka, Paarthaarishta, Hrdroga

INTRODUCTION
MI is arising as an area of serious cardiac health concern in the present era due to our sedentary lifestyle, erratic eating habits, stress etc. As per statistics given by WHO it has been estimated that 17.9 million people die from cardiovascular diseases representing 31% of all global death. (WHO, 2014) Myocardial infarction (MI), commonly known as “heart attack,” is caused by decreased or complete cessation of blood flow to a portion of the myocardium. Myocardial Infarction may be “silent” and go undetected, or it could be a catastrophic event leading to hemodynamic deterioration and sudden death. MI is defined by the demonstration of myocardial cell necrosis due to significant and prolonged ischemia. It is usually, but not always, an acute manifestation of atherosclerosis-related coronary heart disease. MI results from either coronary heart disease, which implies obstruction to blood flow due to plaques in the coronary arteries or, much less frequently, to other obstructing mechanisms (e.g. spasm of plaque-free arteries). Plaques are always a consequence of atherosclerosis. Coronary heart disease may relate to stable or unstable underlying plaques. Unstable plaques are characterized by activated inflammation of the vascular wall at the site of plaques. There may be erosion, fissuring or even rupture of the plaques. Platelets can accumulate at the site of an active plaque, further obstructing blood flow and leading to unstable angina. Rupture of atherosclerotic plaques usually leads to acute coronary syndromes or MI. Atherosclerotic plaques may expand slowly but more often enlarge in steps. After platelets accumulate on the surface, the healing process adds a further layer to the plaque, which eventually can become fibrous, lipid laden and calcified.

The clinical presentation of MI varies from a minor coronary event to life-threatening clinical situations or sudden death. Those who survive the initial event are vulnerable to repeat attacks of MI. So it is necessary to prevent a next chance of MI, as the survival rate of the patient reduces on further attacks. Although the efficient allopathic emergency cardiac treatment care is enlivening many lives, due to high prevalence of recurrence, the patients are advised abounding list of medications whose prolonged usage adversely affect the patient mentally, physically as well as economically.
Ayurveda, the holistic science which mainly focuses on maintaining the health of a healthy person and preventing from diseases have a huge scope in this particular scenario. Developing a systematic treatment protocol can not only aid in improving the health of the patient but also enhance the quality of life. Ayurveda, being the science of life focuses on moulding the person to stick on to a healthy life style along with minimum number of medications, that too by assessing the health condition of the patient because Ayurveda, is the divine science that treats the ‘Rogi’ rather than Roga (symptomatic treatment).

**AIM**
To explore the potential of Ayurveda in dealing with post MI care

**MATERIALS & METHODS**
Data collected after referring the review articles in various database, Ayurveda classics and textbooks.

**OBSERVATION**
As per Ayurveda, clinical features of heart diseases of modern era are mentioned in the context of Hridroga. Acharaya Charaka has also described one another type of Hridroga; i.e. Krimija Hridroga. (Tripathi, 2009) Similarly Acharya Sushrutha has described another specific Hridroga named as Hritshoola (Sharma, 2013) which can be correlated with Ischemic Heart Diseases (IHD) or Coronary Artery Diseases (CAD) as per modern science.

Nidana (Etiological factors) like Ativyayama (Excessive exercise or not exercising), improper administration of Panchakarma, Chintha (stress), Shoka (worry), Bhaya (fear), Vegadharana (suppression of natural urges) etc vitiates Doshas that further affects Rasa Dhathu, localise themselves in the heart and create obstruction resulting the impairment in the functions of heart and produces pain, this condition is known as Hridroga. As per Ayurveda, the term “Hridya” is generally used for the drug which is beneficial for the heart -“Hridya Hitam Hridyam”. (Tripathi, 2009). Thus Hridya means Cardiac tonic, the drugs which are helpful in maintaining the cardiac health.

In Ayurveda, there are many Aushadha Yogas that can produce wonderful results in Hridroga. **Hridya Mahakashaya**
Hridya Mahakashaya is a group of 10 drugs stated by Charaka in Sutrasthana which contain Amla Rasa and are rich in vitamin C. These drugs work by the virtue of their Amla Rasa. It is generally stated in Charaka Sutrasthana, that —‘Amlam Hridyanam’ Amla Rasa is also claimed to nourish the Hridya —Hridyam Tarpayati
### Table no-1: Details of Hridya Mahakashaya Dravya

<table>
<thead>
<tr>
<th>Dravya</th>
<th>Scientific Name</th>
<th>Rasa</th>
<th>Guna</th>
<th>Veerya</th>
<th>Vipaka</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amra</td>
<td>Mangifera indica Linn.</td>
<td>Kashaya, Amla</td>
<td>Laghu, Ruksha</td>
<td>Seeta</td>
<td>Katu</td>
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<td>Amrataka</td>
<td>Spondias mangifera Wild</td>
<td>Amla, Kashaya</td>
<td>Guru</td>
<td>Ushna</td>
<td>Madhura</td>
</tr>
<tr>
<td>Lakoocha</td>
<td>Atrocarpus lakoocha Roxb</td>
<td>Madhura, Amla</td>
<td>Guru, Ruksha</td>
<td>Ushna</td>
<td>Amla</td>
</tr>
<tr>
<td>Karamarda</td>
<td>Carrisa carandas Linn.</td>
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<td>Guru, Ushna</td>
<td>Ushna</td>
<td>Amla</td>
</tr>
<tr>
<td>Vrikshamla</td>
<td>Garcinia indica Chois</td>
<td>Madhura, Amla</td>
<td>Laghu, Ruksha</td>
<td>Ushna</td>
<td>Amla</td>
</tr>
<tr>
<td>Amlavetasan</td>
<td>Garcinia pedunculata Roxb</td>
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<td>Laghu, Ruksha, Tikshna</td>
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<td>Amla</td>
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<td>Guru</td>
<td>Sheeta</td>
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<td>Guru</td>
<td>Ushna</td>
<td>Madhura</td>
</tr>
<tr>
<td>Dadima</td>
<td>Punica granatum Linn.</td>
<td>Madhura, Kashaya, Amla</td>
<td>Laghu, Snigdha</td>
<td>Anushna</td>
<td>Madhura</td>
</tr>
<tr>
<td>Matulunga</td>
<td>Citrus medica Linn.</td>
<td>Madhura, Amla</td>
<td>Laghu, Snigdha</td>
<td>Ushna</td>
<td>Madhura, Amla</td>
</tr>
</tbody>
</table>

**Probable mode of action**

As all the drugs of Hridya Mahakashaya are Amla Rasa Pradhaana, are composed of Agni and Prithvi Mahabhutas, it is Agneya in origin (Murthy, 1999) allied with Snigdha (unctuous), Laghu (light) Gunas and Ushna Veerya (hot potency). By virtue of above mentioned properties Amla Rasa performs the function of Agni Deepana (stimulating Agni) and Anulomana and thus Amla Rasa makes the channels potent to carry on the nutrients to subsequent Dhathus as per the chronological order mentioned in Ayurveda. In this way it encourages the organic metabolism and improves structural & functional form of tissues. Amla Rasa and Raktha Dhathu (blood) comes under the similar category i.e., both have the domination of Agni Mahabhuta.
In Hridyaroga the predisposing factors causes generation of Aama, contamination of Rasa and vitiation in Doshas creating obstruction in Rasavaha Srotas and leading to provocation of Vata. This also results in diminished supply of Praana Vayu and nutrition to Hridaya. Amla Rasa, brings Vata in its normal state and proper channel due to its specific Karma (action) i.e. Vatanulomana as well as Amla Rasa helps in the opening of channels by its Ushna Veerya (hot potency). The clear channels facilitate Dhathu Poshana (Tissue nourishment) as well as production of Ojas (a factor which increase immunity). Amla Rasa works as oxidative as it helps to bring the vitiated Vayu in its healthy states and pacifies Aama and thus Drugs of Hridya Mahakashaya being Amla Rasa Pradhaana, play a major role in maintaining healthy heart.

- As per modern context
  All drugs of Hridya Mahakashaya are the cheapest and easily available dietary fruits which contain rich Vitamin C and flavonoids and have potent anti-oxidant properties that is beneficial to heart.

**Hridayarnava Rasa**
It is the best solution in treating angina, heaviness of chest, breathing difficulties. Being Vata-Kaphahara in nature, it is effective in Kaphaja Hridroga and is effective in treating atherosclerosis, coronary artery disease and hyperlipidemia.

**Arjuna Ksheera Paaka**
Arjuna (Terminalia arjuna) having Kashaya Rasa, Laghu, Ruksha Guna with Srothoshodhana and Kaphaprashamana Karma (PV. 2001). It is antioxidant, cardio protective and hypolipidemic in action and is effective for angina, atherosclerosis, ischemia.

**Paarthaarishta**
A classical formulation that has effective cardio protective, strong antioxidant with anti-ischemic, hypolipidemic, antiatherogenic, antianginal, antihyperglycemic, antihyperlipidemic action. As per Ayurveda, it is Tridoshahara and is effective for Hridaya (heart) and Phuphussa (lungs) Roga and is Balavardhaka and Ojovardhaka.

**Prabhakara Vati**
Strengthens the heart and improves cardiac functions. It has potent antianginal and cardioprotective actions. It is Tridoshahara in nature, so regardless of Dosha dominance it is effective in all types of Hridroga. It is also anti-anginal, antiarrhythmic, Positive Inotropic (Strengthens force of heart) and is indicated in heart palpitation, atrial fibrillation, congestive heart failure, myocarditis and coronary artery disease.

**Pathya Aahara**
1) Puraana Raktashali is Snigdha, Laghu, Madhura Rasa, Tridoshaghna.
2) Dughdha is Madhura Rasa, Madhura Vipaka, and Snigdha, Ojo vruddhikara, Dhatu vruddhikara.
3) JangalaMamsara is brihana, Preenana, Vrushya and Laghu.
4) Ghruta is Dhee-smruti-Medha useful, Shukrakara, Ayukara
5) Munga - Munga is Kashaya and Madhura Rasa, Katu Vipaka, Sheeta Virya, Alpa Vatakara, Laghu, Medohara, Pittahara.
6) Daadima (Pomegranate) - Pitta Shamana, Natiushna, Vata-Kaphahara. All types of Daadima are Hridya, Laghu, Snigdha, Graahi, Ruchikara and Agnideepaka.
7) Shunti - It is Agnideepaka, Vrushya, Graahi, Hridya, Vibandhnashaka, Ruchikara, Laghu, Madhura Vipaka, Snigdha, Ushna Virya and Kaphanashaka.
8) Saindhava Lavana - It is little Madhura rasatamaka. Vrushya, Hridya and Tridoshahara.
9) Saurvachala - It is Laghu, Hridya, Sugandhita, Udgaara shuddhipravartaka, Katu Vipaka, Vibandhanashaka, Agnideepaka and Ruchiprada.
10) Manda, Peya, Vilepi, Odana - They are Laghu, Soumya, Amadosha pachaka, Graahi, Trishnanashaka, Agnideepaka, Hridya and Pathya.
11) Mardvika - It is Draksharasodhbha Madya, which acts as Lekhana, Hridya. It is naati-ushna, Madhura Rasa, Sara, Alpa Pittakara and Alpa Vatakara.
Yogasanas for heart

One of yoga’s clearest benefits to the heart is its ability to relax the body and mind. Emotional stress can cause a cascade of physical effects, including the release of hormones like cortisol and adrenaline, which narrow your arteries and increase blood pressure. The deep breathing and mental focus of yoga can offset this stress.

Beyond off-loading stress, practicing yoga may help lower blood pressure, blood cholesterol and blood glucose levels, as well as heart rate, making it a useful lifestyle intervention. Yoga can also improve flexibility, muscle strength and tone because it’s not a form of aerobic exercise that raises the heart rate.

Some of the Yogasanas that are beneficial for heart are as follows:

- Uttthita Trikonasana or Extended triangle pose
- Paschimottanasana or Seated forward bend pose
- Ardha matsyendrasana or Half spinal twist pose
- Gomukhasana or Cow face pose
- Setu Bandhasana or Bridge pose

DISCUSSION

As Prakupita Vata causes formation of Aama thereby causing Rasavahasrotodushti, the treatment line should be focussed on Vataharanam, Aamapaachanam, Agnideepanam, Vatanulomanam thereby producing Dhathuposhanam. It can be observed that most of the ingredients of Hridya Aushadha Yogas are Amlarasapradhanaa thereby facilitating all the above stated Karmas.

In modern aspect, most of the medicines are rich in Vitamin C and flavnoids. They are also anti-oxidant in nature thereby acting as cardio tonics.

CONCLUSION

Developing a systematic holistic approach in Ayurveda by a combination of medicine, diet and Yoga thereby inducing a lifestyle modification have a huge scope in the present era as it can not only aid in post myocardial infarction care but can also ensure quality living.

REFERENCE