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The multifaceted action of homoeopathic medicines on different layers of heart

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Abstract

The different layers of heart work together to ensure the proper cardiac functions. Epicardium protects and reduces friction around heart, myocardium contracts to propel blood, and endocardium lines the cardiac's interior to facilitate smooth blood flow and prevent clot formation. These layers are essential for maintaining the circulation of blood, which provides oxygen and nourishing substance to tissues and eliminate waste products, supporting overall health and homeostasis. The cardiovascular diseases are now advancing at an alarming pace in many parts of the world especially in India it is the leading cause for increased morbidity and mortality. At present, India facing highest burden of coronary artery disease, acute coronary syndrome, myocardial infraction and hypertensive heart disease. Homoeopathic Materia medica encompasses a diverse range of remedies that can have an impact on heart related conditions which are carefully selected based on the unique symptoms and characteristics of the individual, aiming to address not only the physical aspects of heart conditions but also the emotional and mental components that can influence or worsen heart-related issues. In response to the insistence of conventional medical practitioners for evidence regarding the effectiveness of homoeopathic treatments, this article delves into the impact of Homoeopathic medicines on various facets of the heart, along with their specific indications.

Keywords: Homoeopathy, cardiac layers, epicardium, endocardium and myocardium

Introduction

A muscular organ that powers blood circulation throughout the body. The role of heart is vital as it ensures a continuous providing oxygen and essential compound to tissues for survival and facilitates the removal of metabolic waste products^[1]. The pumping of heart results from rhythmic myocardial contractions and relaxations, driven by electrical impulses originating from the body's natural pacemaker, the sinoatrial (S-A) node situated within the right atrial muscle. This S-A node impulse induces atrial contractions, propelling blood into the ventricles. Ventricular contraction is regulated by impulses originating from the atrioventricular (A-V) node, positioned at the juncture of the two atria. Subsequent to contraction, the ventricles undergo relaxation, leading to a drop in pressure within them. Blood once more returns to the atria, and the cycle recommences with an impulse from the S-A node. This sequence constitutes the cardiac cycle, with the relaxation phase termed diastole and the contraction phase referred to as systole. Normally, adult heart pumps 5 liters of blood per minute throughout life^[2]. Encased with protective pericardium, heart composed of three layers: epicardium, myocardium, and endocardium^[1].

Epicardium

The epicardium, or visceral pericardium an outermost layer consist mainly loose connective tissue with resilient fibers and fatty cells. It primarily guards inner layers and contributes to pericardial fluid production, reducing friction within the pericardial cavity^[3].

Myocardium

Situated as the heart's central layer, the myocardium is crafted from cardiac muscle fibers, enabling the heart's contractions. This layer boasts the greatest thickness within the heart wall, with variations in thickness across different regions. Notably, myocardium of left ventricle is thickest due to its pivotal role in generating the force required to propel oxygenized blood from heart to body. Control over cardiac muscle contractions lies in hands of peripheral nervous system, overseeing involuntary functions such as pulse rate^[3].

Endocardium

The innermost cardiac wall, lining heart cavities and valves. Structurally, it consists of loose connective and simple squamous epithelial tissue, akin to the endothelium in blood vessels. Beyond lining, it regulates contractions and contributes to cardiac embryological development^[3].

Clinical significance

Conditions that affect the different layers of the heart can have significant consequences for cardiovascular health. These ailments span a broad spectrum, ranging from those primarily affecting the heart's protective outer layer to those that target the inner lining and the muscular tissue responsible for blood pumping. Comprehensive knowledge of these diseases and their consequences is pivotal in the diagnosis, treatment, and prevention of cardiovascular problems.

- Constrictive pericarditis and cardiac tamponade are critical pericardial conditions.
- The myocardium occupies the bulk of heart. Cardiac arrest one of the most notable, leading to the death of cardiac muscle tissue due to insufficient blood supply. Other conditions include cardiomyopathies, which are diseases of the heart muscle, and myocarditis.
- Aging can lead to notable alterations in valves and conduction system. Increased collagen fibers and calcification contribute to valvular abnormalities such as mitral stenosis or aortic regurgitation. Infective endocarditis, a bacterial and fungal infection of endocardium and endocardial fibroelastosis a rare condition affecting infants^[4].

Conditions and Disorders

Numerous forms of heart disease exist, each with its distinct symptoms and treatment approaches. Lifestyle changes and medication can greatly improve the health of some individuals, while others may require surgery to restore proper heart function. These conditions often lead to fatality and are common health concerns among the population are^[5]:

- Atrial fibrillation
- Cardiomyopathy
- Congestive heart failure
- Coronary artery disease
- Myocardial infarction
- Pericarditis
- Arrhythmia

Epidemiology of cardio vascular disease

Despite the advancements in effective and safe deterrent methods available globally, cardiovascular disease (CVD) still stands as foremost cause of both mortality and premature death on a global scale. In 2019, out of the 18.6 million CVD-related fatalities across the world, 58% were concentrated in the Asian continent^[6]. Particularly, younger generations in developing nations will experience a more pronounced impact. For instance, in India, approximately 52% of cardiovascular disease-related deaths occur before individuals reach the age of 70, in contrast to the 23% observed in well-established market economies^[7]. When it comes to the Indian population, specific factors of worry in the context of cardiovascular disease include early onset of condition, its swift progression, and the elevated mortality rate associated with it and the standard risk factors fall short

in accounting for this heightened risk^[8]. Notably there is significant regional variation in cardiovascular disease (CVD) rates, with the highest rates observed in the states of Kerala, Punjab, and Tamil Nadu. Although South Asians don't exhibit significantly higher rates of traditional risk factors like smoking, hypertension, and high cholesterol compared to other ethnic groups, it's noteworthy that they commonly experience specific atherosclerosis-related risk factors include elevated triglyceride levels, an elevated total cholesterol to high-density lipoprotein cholesterol ratio, type 2 diabetes mellitus (T2DM), and central or visceral obesity^[8].

Homoeopathic approach

Homoeopathic remedies enhance cardiac health by strengthening muscles, improving coronary circulation, and fortifying blood vessel walls. They also enhance permeability, elasticity, and tone, promoting overall vascular function by relieving cardiac pain, normalize heart rate, reduce fatigue, and elevate capability. In approach to treating heart and vascular diseases, consider organic damage, extracardinal factors, and disease stages are taken into account. If detected early, constitutional medicine is given alongside short acting specific remedies to control acute symptoms if required. If detected later or with associated complications, specific remedies are more often repeated for longer durations to improve the quality of life.

In herbal medicine and homoeopathy literature, *Crataegus oxyacantha* (Smoothed Hawthorn) is recognized for its cardioprotective effect in comprehensive treatment of conditions such as chronic coronary heart disease, arterial hypertension, myocardial dystrophy, rhythm disturbances (like extrasystole), initial stages of heart failure, and cardioneurosis. Research's elucidated that potential Cardiac inotropy action of *Crataegus* special extract WS 1442. It enhances left ventricular papillary muscle contraction by increasing force through a cAMP-independent mechanism. By inhibiting sodium pump (Na⁺/K⁺-ATPase), as indicated by displacement of specifically bound 3 H-ouabain from its receptor, it boosts contraction force. Additionally, in human myocardium from congestive heart failure patients, it likely acts on Na⁺/K⁺-ATPase, enhancing calcium transport efficiency in cardiomyocytes and raising peak intracellular Ca²⁺ concentration.

Antiarrhythmic effect - extends action potential duration, delay the recovery of V_{max}. Conversely, concerns arise about blocking repolarizing potassium currents in ventricular myocytes, an effect akin to class III antiarrhythmic drugs^[9].

Digitalis, employed for treating congestive heart failure (CHF) and atrial arrhythmias, includes digitoxin, which exhibits antiarrhythmic effects by inhibiting sodium-potassium ATPase. This inhibition leads to elevated intracellular sodium and increased intracellular calcium by passively reducing action of sodium-calcium exchanger in sarcolemma. The heightened intracellular calcium results in positive inotropic effect. Additionally, it exerts a vagal effect on parasympathetic nervous system, making it useful in managing reentrant arrhythmias and slowing ventricular rate during atrial fibrillation^[10].

Cactus grandiflorus, rich in active constituents like betacyanins and flavonolglycosides, induces an increased arteriolar tension by boosting myocardial muscular energy, leading to arteriolar contraction. The herb's antihypertensive

and antiarrhythmic effects are attributed to flavonolglycosides, predominantly present in stem and flower extract. These flavones impact myocardial calcium metabolism, enhancing contractile power and maintaining a regular rhythm. Additionally, flavonoids demonstrate the ability to repair connective tissues in endothelial lining of myocardium, blood and lymph vessels. Yet, recent research indicates that hordenine produces a favorable inotropic effect in myocardium of rats and dogs, leading to increased systolic and diastolic pressure and peripheral blood flow volume. Thus cactus have primarily action on circular muscle fibers of the myocardium ^[11].

Repertorial analysis

Kent's repertory ^[12]

Chest, inflammation, heart, endocardium

Abrot., Acet-ac., ACON., Ars-i., ARS., Aur-m., AUR., Bism-ox., Bry., Cact., Calc., Coc-c., Cocc., Colch., Dig., Ferr., Hyos., Iod., Kali-ar., Kali-c., Kali-i., Kali-n., KALM., LACH., Led., Naja, Nat-m., Ox-ac., Phos., Phyt., Plat., Pib., Sep., SPIG., Spong., Sumb., Tar ent., Verat-v., Verat.

CHEST, INFLAMMATION, HEART, PERICARDIUM

ACON., Anac., Ant-t., Apis, Apoc., Ars-i., ARS., Asc-t., Bry., Cact., Chlor., Cimic., Colch., Dig., Iod., Kali-ar., Kali-c., Kali-chl., Kali-i., Kalm., Lach., Ox-ac., Plat., PSOR., SPIG., Spong., SULPH., Verat-v., Verat.

Oscar e. boericke – repertory ^[13]

Circulatory system – heart – inflammation

Endocarditis- Acute (See Pericarditis.) -- Acon., Ars., Bell., Cact., Colch., Conv., Dig., Lach., Magnol., Naja, Phos., Spig., Spong., Tab., Ver. v.

Malignant -- Acon., Ars., Chin. s., Crot., Lach., Vipera.

Rheumatic -- Acon., Adon. v., Bell., Bry., Colch., Kali c., Kal., Rhus t., Spig.

MYOCARDITIS - Acon., Adon. v., Ars. iod., Aur. mur., Cact., Chin. ars., Crat., Dig., Galanth., Iod., Lach., Phos., Stroph., Vipera.

Pericarditis- Acute -- Acon., Adon. v., Ant. ars., Apis, Ars., Asclep. t., Bell., Bry., Cact., Can. s., Canth., Colch., Dig., Iod., Kali c., Kali iod., Kal., Magnol., Merc. c., Merc., Naja, Nat. m., Phaseol., Scilla., Spig., Spong., Sul., Ver. a., Ver. v. Chronic -- Apis, Aur. iod., Calc. fl., Kali c., Scilla, Spig., Sul.

Rheumatic -- Acon., Anac., Bry., Colchicine, Colch., Crat., Kal., Rhus t., Spig.

BBCR ^[14]

Chest, heart and region of, location, pericardium

Acon., Ant-ar., Apis, Ars., Bry., Colch., Kali-c., Kalm., Naja, Spig., Spong., Squil.

Action of remedies on various layers of heart ^[13, 15-20]

Table 1: Pericardium

Remedies	Action	Pulse	Palpitation	Conditions
Spigelia anthelmia	Essential remedy for pericarditis and other heart diseases ^[13] . Acute pericarditis with sensation of anxiety and weight. Pericardial pain with great aggravation from movement ^[13] .	Weak and irregular; Rheumatic carditis, trembling pulse. Stitching pains in chest synchronized with pulse. Worse on motion, cold & wet weather ^[16] .	Violent, visible and audible worse on least motion / bending forward ^[16] . So violent, often be visible to eye through clothes, shaking the whole chest, sounds often audible several inches away ^[18] . Difficulty in breathing; Lie on the right side with the head elevated ^[13] . Craving for hot water which relieves ^[13] .	chronic valvular affections following acute attack Rheumatic affection of heart ^[16]
Amylenum nitrosum	Precordial anxiety ^[15] . On inhaling this drug, it rapidly dilates all arterioles and capillaries, producing flushings of face, heat and throbbing head ^[13] .	Full, soft pulse; quickened in very variable degree; irregular, jerking ^[15] .	Tumultuous palpitation. Violent beating of carotids and heart (felt up in ears); with sense of constriction. Fluttering of heart on least excitement ^[15] .	Superficial arterial hyperemia ^[13] . Cardiac oppression and tumultuous heart action. Angina pectoris, with great anxiety. Precordial pain extending to right arm.
Lobelia inflata	Precordial anxiety ^[13] . Sensation of weakness in precordium extending upwards and downwards. Sensation of congestion, pressure or weight in chest as if blood from extremities were filling it worse from fast walking. Sensation as if heart would stand still. Deep seated pain at bottom (at apex, Lil.).	Small; and weak and flowing ^[15, 19] .		

Table 2: Endocardium

Remedies	Action	Pulse	Palpitation	Conditions
Naja tripudians	Acute and chronic septic endocarditis ^[13] . Heart affection after infectious diseases ^[17] . Feeling weight on heart stitching pain in cardiac	Slow and irregular in force but regular in rhythm ^[16] ; weak and thready, scarcely perceptible. Sometime rapid; and full like 120. Some beats tolerably full and forceful, afterwards 32.	Visible palpitation Chronic Nervous palpitation worse after preaching.	Hypertrophy, and valvular lesions ^[16] . If the valvular trouble is congenital. Threatened paralysis of heart ^[16]

	region.	Abnormal in rhythm and force. Few beats full and bounding. Audible beating of heart ^[15] . Marked surging of blood upwards, shortness of breath, cannot lie on left side.		
Kalmia latifolia	Rheumatic endocarditis; Either arterial or venous system, valves or both may be affected ^[20] .	Weak, slow pulse; scarcely perceptible (35 to 40 per minute) ^[16] .	Fluttering of heart, with anxiety; < leaning forward. Heart's action tumultuous, rapid and visible ^[13] .	Rheumatic patients where syphilis is at bottom ^[20] . Tobacco heart ^[13] . Gouty and rheumatic metastasis of heart.
Convallaria majalis	Elevates energy of hearts' action, renders it more regular ^[13] . Endocarditis, with extreme orthopnea ^[13] .	Feels as if heart beat throughout chest; Pulse full, compressible, and intermittent ^[15] . Extremely rapid and irregular.	From least exertion. Feels like heart ceased beating, then starts abruptly ^[13] .	When ventricles are enlarged and dilatation begins, there is absence of compensatory hypertrophy, and venous stasis is marked. Tobacco heart, due to cigarettes. Angina pectoris. Dyspnoea, dropsy, aneuric tendency ^[13] .
Spongia tosta	Dr. Nash say's I have never done better work with any remedy in valvular disease than with spongia ^[18] .	Full, hard, and frequent; Violent palpitation, beats rapidly (each beat accompanied by loud blowing as of bellows), awakes after midnight.	Rapid & violent with dyspnoea; can't lay back; better in horizontal position; <before menstruation ^[16] . Awakened suddenly after midnight with pain and suffocation (Acon).	Valvular insufficiency. Angina pectoris; faintness with anxious sweat. Ebullition of blood, veins distended. Surging of heart into chest, as if it would force out upward. Hypertrophy of heart notably right with asthmatic symptoms ^[13, 15] .
Laurocerasus	Lack of reaction, especially in chest and heart affections ^[13] . Cyanosis and dyspnoea; worse sitting up. Cough with valvular disease ^[13] .	slow, irregular and Feeble ^[15]	Clutching at heart and palpitations ^[15] .	Mitral regurgitation. Cyanosis neonatorum ^[13] . Heart patients often suffer much from constriction of larynx are helped by this remedy. Laryngismus stridulus.
Aurum metallicum	Sensation as if heart stopped beating for two or three seconds, succeeded by tumultuous rebound, with sinking sensation at epigastrium.	Quick, weak & irregular. Observable pulsation of carotid and temporal arteries (Bell., Glon.) ^[16]	Violent at puberty Nervous palpitations due to congestion of chest. Palpitation compels him to stop ^[15] .	High Blood Pressure, Valvular lesions of arterio-sclerotic nature (Aurum 30) Endocarditis, rheumatic from secondary syphilis. (Burt) Floundering heart; Cardiac hypertrophy. Angina pectoris. While walking heart seems to shake as if were loose. Fatty degeneration ^[13, 16]
Lithium- carb	Scope of this remedy: Chronic rheumatism connected with heart lesions and asthenopia ^[13] .		Trembling and fluttering heart, radiating to back (after mental agitation of vexatious character) Heart pain before menstruation, accompanied by pains in bladder, before urinating improves after ^[15] .	Rheumatic soreness in cardiac region ^[13] .
Iberis amara	Significant efficacy in cardiac diseases. Regulate vascular excitement in hypertrophy with thickening of heart's walls. Cardiac weakness after influenza ^[13, 15] .	Full, irregular, intermittent. Aggravated by minimal motion & warm room. Intermits every third beat, easily compressible; double beats, full, soft, and easily compressed ^[13, 15] .	With flushed hot face and red eyes. Violent palpitation induced by slightest exertion, by laughing, or coughing ^[13] .	Dropsy, with enlarged heart. Cardiac asthma. Dilation of heart. Awakes with palpitation around 2 am ^[13] . Aware of heart's action. When turning on left side, stitching pain as of needles through ventricles felt at each systole.
Veratrum viride	Episodes of auricular fibrillation ^[13] . Causes decline in both systolic and diastolic blood pressure.	Weak, slow, soft, irregular, and intermittent. Rapid pulse, low tension. Beating of pulses throughout body notably in right thigh ^[15] .	Violent palpitation of heart and faint feeling. Dizziness and biliousness when getting up from lying & sudden motion.	Rheumatism of heart; Valvular diseases ^[13] .

Table 3: Myocardium

Remedies	Action	Pulse	Palpitation	Conditions
Digitalis purpurea	Weakness and dilatation of the myocardium. Failure of cardiac muscle; when asystole present stimulates heart's muscles, enhancing the force and increases length of systole. Weak heart without valvular complications. Feels as though heart would stop beating if she moved ^[13] .	Weak, irregular, intermittent every third, fifth or seventh beat, abnormally slow ^[16] . Pulse slow when lying down, but irregular & dicrotic on sitting up.	Palpitation easily triggered on going up slight ascent. Heart appears to dilate slowly; palpitation associated with each movement of body ^[15] .	Heart block; Auricular flutter and fibrillation uniquely when subsequent to rheumatic fever. Cardiac irritability and ocular troubles after tobacco; Cardiac dropsy. Most significant indication in failure of compensation particularly when <i>auricular fibrillation has set in</i> .
Gelsemium sempervirens	Muscular paralysis of different groups around chest. Muscular weakness. Stitches in region of heart ^[17]	Weak, slow pulse of old age. Pulse slowly when quiet, but greatly accelerated on motion. Sensation as if constant motion required or else heart's action would cease ^[17] .	Palpitation With weakness and irregularity of the pulse ^[20] .	
Cactus grandiflorus	Acts on circular muscular fibers, hence constrictions ^[13] . "Sensation of constriction of the heart, as if an iron band prevented its normal movement." heart feels clutched and releases ^[19] .	Feeble, irregular, quick, without strength. Intermittent pulse. valvular murmurs in organic heart diseases ^[13] .	Fluttering, violent increased when walking, lying on left side or at ^[18] approach of menses.	Endocarditis along mitral insufficiency together with violent and rapid action ^[13] . Aneurism; Atheromatous arteries.
Crataegus oxyacantha	Affects muscle of cardiac and heart tonic ^[13] . No impact on endocardium. Myocarditis; Heart muscles seem flabby, worn out. Very feeble and irregular heart action. Heart issue after rheumatism ^[13] .	Accelerated, irregular, feeble, intermittent. Valvular murmurs, angina pectoris; below left clavicle. Extreme dyspnoea on least exertion, without much increase of pulse ^[13, 18] .		Cardiac dropsy. Fatty degeneration. Aortic disease. Arteriosclerosis. Said to have solvent power upon crustaceous and calcareous deposits in arteries ^[13] .
Strophanthus hispidus	A muscle poison; enhance the contractile power of all striped muscles. Increasing systole and diminishes rapidity ^[13] .	Alternations; rapid, with slow pulse; rapid or irregular pulse.	Chronic, especially nervous.	Mitral regurgitation, where oedema have supervened (Digit) ^[17] . Irritable heart of tobacco-smokers ^[17] . Arterio-sclerosis; rigid arteries of aged. Restores tone of fragile tissue, notably in heart muscle and valves ^[13] . Useful for inadequate compensation dependent upon fatty heart. Cardiac dyspnoea. Atheroma.
Baryta muriatica	Voluntary muscular power gone but perfectly sensible ^[13] . Indurated and narrowing of cardiac orifice with pain, immediately after eating, and tenderness in epigastric region.	beats irregular, pulse scarcely perceptible ^[15]	Throbbing of heart accelerated ^[15] .	Where elevated systolic pressure with relatively low diastolic tension is attended by brain and cardiac symptoms. Aneurism; Arterio-sclerosis ^[13] .
Baryta carbonica	A cardio-vascular poison acting on muscular linings of heart and vessels ^[17] Old, cachetic people; scrofulous especially when fat ^[16] .	full and hard ^[13]	Palpitation and distress in region of heart. When lying on left side; when thinking of it particularly ^[13] .	Arterial fibrosis. Blood-vessels soften and degenerate, become distended, aneurism, ruptures, and apoplexies result. Affects glandular structures, beneficial in general degenerative changes, especially in layers of arteries and senility ^[17] .
Aconitum napellus	Aconite produces a very rapid inflammation of viscera of the chest. First remedy in inflammations, inflammatory fevers. Seros membranes and muscular tissues affected markedly. It induces only functional disturbance, no evidence that it can lead tissue change; action is brief and shows no periodic patterns ^[13] .	Full, hard; tense and pulsating. Sometimes intermits ^[13] . Temporal and carotid arteries felt when sitting ^[13] .	With anxiousness, fainting, and tingling in fingers. Sounds of heart only heard at apex.	Heart feels swelled. Carditis ^[20]
Adonis vernalis	Medicine after rheumatism, influenza, or Bright's disease. Muscles of heart undergoing fatty degeneration. Controlling the pulse and rising contractions of heart, with increased urinary secretions ^[13] .	Rapid and irregular ^[15] .		Valuable in cardiac dropsy. Mitral and aortic regurgitation. Chronic aortitis, Fatty degeneration. Pericarditis. Rheumatic Endocarditis; Marked venous engorgement; Cardiac dyspnoea. Myocarditis, Cardiac rhythm irregularities ^[13] .

Conclusion

Cardiac diseases remains a significant global health concern, responsible for a substantial portion of morbidity and mortality. Efforts in public health, lifestyle modifications, early detection, and advanced medical interventions have made remarkable strides in reducing the burden of cardiac diseases. Ultimately Homoeopathic remedies offers a unique approach to addressing cardiac-related issues in each layers of heart which can be considered as a complementary or alternative therapy in diseases like coronary heart disease, early heart insufficiency, transient hypertension cardiomyopathy, arrhythmia and cardio neurosis, the effects vary with disease stage. It is also advisable for the individuals to make informed decisions about their health by consulting with healthcare experts and lifestyle promoting cardiac-health such as consistent physical activity, well- balanced diet, and quitting smoking, remains crucial in preventing these conditions.

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References

1. SEER Training Modules, *Module Name*. U. S. National Institutes of Health, National Cancer Institute. Day Month Year (of access) <<https://training.seer.cancer.gov/>>.
2. Britannica, The Editors of Encyclopaedia. "heart". *Encyclopedia Britannica*, 25 Oct. 2023, <https://www.britannica.com/science/heart>. Accessed 26 October 2023.
3. Bailey, Regina. "The 3 Layers of the Heart Wall." Thought Co; c2023 Apr. 5. [thoughtco.com/the-heart-wall-4022792](https://www.thoughtco.com/the-heart-wall-4022792).
4. Arackal A, Alsayouri K. Histology, Heart. [Updated 2023 Jan 2]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; c2023 Jan. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK545143/>
5. <https://my.clevelandclinic.org/health/body/21704-heart>
6. Zhao D, *et al.* Epidemiological Features of Cardiovascular Disease in Asia. *JACC: Asia*. 2021 Jun;1 (1):1-13. <https://doi.org/10.1016/j.jacasi.2021.04.007>
7. Nag Tanmay, Ghosh Arnab. Cardiovascular disease risk factor in Asian Indian population: A systemic view. *Journal of cardiovascular disease research*; c2013, 4(4). <https://doi.org/10.1016/j.jcdr.2014.01.004>.
8. Sreeniwas Kumar A, Sinha N. Cardiovascular disease in India: A 360 degree overview. *Med J Armed Forces India*. 2020 Jan;76(1):1-3. DOI: 10.1016/j.mjafi.2019.12.005. Epub 2020 Jan 13. PMID: 32020960; PMCID: PMC6994761.
9. Wang J, Xiong X, Feng B. Effect of Crataegus Usage in Cardiovascular Disease Prevention: An Evidence-Based Approach. *Evidence-Based Complementary and Alternative Medicine*; c2013. p. 1-16. Doi:10.1155/2013/149363
10. Reddy BA. Digitalis therapy in patients with congestive heart failure. *International Journal of Pharmaceutical Sciences Review and Research*. 2010;3(2):90-5.
11. Haque SE, Verma RK, Khan V, Sharma S. Cactus grandiflorus: a homeopathic remedy for cardiac ailment. *Indian Journal of Pharmacy and Pharmacology*. 2015;2(1):74-80.
12. Kent JT. *Repertory of the homoeopathic materia medica and a word index*. 6th Edition. Delhi: B. Jain publisher's pvt.Limited.
13. Boericke, William, Oscar E Boericke. *Pocket Manuel of Homoeopathic Materia Medica*. 1st edition. New Delhi: Indian Books & Periodicals Publishers; c2004.
14. Boger CM. *Boger Boenninghausen's Characteristic & Repertory with Corrected & Revised Abbreviations & Word Index*. New Delhi. B. Jain publisher's Pvt. Limited; c2016.
15. *A Dictionary of Practical Materia Medica* by John Henry Clarke. Homeopathy. [Internet]. [Cited 2021 Nov 14]. Available from: <https://www.materiamedica.info/en/materia-medica/john-henry-clarke>.
16. Allen HC. *Allen's keynotes rearranged and classified with leading remedies of materia medica and bowel nosodes*, south asia book publisher; c2006.
17. Murphy Robin. *Lotus materria medica*. 2nd revised edition. New Delhi. B. Jain publisher's PVT. Limited; c2002.
18. Nash EB. *Leaders in homoeopathic therapeutics with grouping and classification*. Low price edition. New Delhi. B. Jain publisher's PVT. Limited; c2002.
19. Boger CM. *A synoptic key to the material medica*. Low price edition. New Delhi. B. Jain publisher's PVT. Limited; c2002.
20. Kent JT. *Lectures on Homoeopathic materia medica*. Low price edition. New Delhi. B. Jain publisher's PVT. Limited; c2002.

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