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## STUDY OF MANAGEMENT OF HRIDROGA (HEART DISEASE) FROM VANGASENA SAMHITA

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## **ABSTRACT**

Heart disease becomes a major problem of today's era. We can see the depth of this problem through death ratios which is increasing day by day. Hence, the current scenario demands better preventive as well as curative measures for *Hridroga*. In Ayurveda apart from *Brihattrayee* and *Laghutrayee* the use of and researches on other neglected *Samhita* like *Vangasena* is very less. *Vangasena* has been written in 1276 A.D. The timeperiod of *Vangasena* is in between *Brihatrayee* and *Laghutrayee*. Hence to know the views, treatment principles, drugs, different formulations and wholesome *Vangasena* must be studied. Keeping the same view in front of eye the study of *Hridroga* from *Vangasena Samhita* is conducted. To compile the information and study the management of *Hridroga* from *Vangasena Samhita* is the main objective of the study. It is observed that *Vangasena* has described maximum *Sutra* for *Hridroga* than *Brihatrayee* and *Laghutrayee* with some new treatment principles, 6 new formulations (*chikitsakalp*) like-*Tiktakchurna*, *Eladichurna* etc. with contribution of total 13 new formulations like *Vallabhghrita*, *Kshirvallabhghrita*, *Baladyaghrita* etc., new *pathya* (wholesome) and some similarities with *Brihatrayee* and *Laghutrayee*.

**KEYWORDS:** Hridroga, Vangasena, Brihattrayee, Laghutrayee.

## INTRODUCTION

The life of individual depends on Marmatraya (3 vital organs) includes Hriday i.e, Heart, Shir i.e, Head and Basti i.e, Urinary bladder (Charak Sutrasthan 29/1). Therefore disease or injury to these vital organs leads to danger. The oldest MS of Vangasena Samhita is written in 1276 AD and another in 1320. Brihattrayee - Charak Samhita, Sushrut Samhita, Ashtang Sangraha and Ashtang Hriday are written very before to Vangsena Samhita and from Laghutrayee - Bhavprakash, Sharangdhar Samhita are written after Vangsena Samhita except Madhav Nidan, which is written before Vangasena. So the diseases or other material in Vangasena Samhita may be similar or different from those of Brihattrayee and Laghutrayee. According to time period some changes in the diagnosis and treatmentof diseases in Vangasena Samhita will be expected and studied. The current scenario demands an immediateemphasis be laid on preventive health care. So for prevention and treatment point of view detailed study about heart diseases is necessary from Ayurvedic literature. But the information is scattered in Samhitas and thus it is necessary to compile them. Also every Samhita writer has its own view for diagnosis and treatment. Vangasena being a valuable script related to diagnosis and treatment of diseases, it is necessary to study its view with Brihattrayee and Laghutrayee. By this study we can find out the best preventive as well as curative measure for heart disease.

#### AIM

To study the management of *Hridroga* from *Vangasena* samhita.

#### **OBJECTIVES**

To compile and study the information about management of *Hridroga* from *Vangasena samhita*.

## MATERIAL AND METHODS

Vangasena samhita was the material used for this study. The management of heart disease was studied and compilation was done.

#### **OBSERVATION**

According to objectives of the study it was observed that.

## Comparison of Treatment of Vataj Hridroga.

Chikitsa (Treatment) explained in	Also explained in
VangasenaSamhita (V.S)	
1) Vaman (Emesis- a type of Panchakarma)	Sushruta samhita (Su.S).
2) Pippalyadi yoga (Formulation)	Su.S.
3) Pushkaradi kalka (Paste)	Charak samhita (C.S), Ashtang Sangraha (A.S),
4)Pushkaradi Kwath (Decoction)	C.S , A.S, Ashtang Hriday (A.H)
5) Haritakyadi Ghruta (Butter)	C.S, A.S, A.H
6) Punarnavadi tailam (Oil)	C.S, A.S, A.H

## **↓** Comparison of Treatment of Pittaj Hridroga.

Chikitsa explained in V.S	Also explained in
1) Vaman	Su.S
2) External application, Shodhan and Ahar	C.S, A.S,A.H
3) Yashthyadi yoga	C.S, A.S, A.H
4) Arjun Ksheerpaka (A kind of formulation)	Not explained in other samhita
5) Kakubhadi churna (Powder form)	BhavPrakash(B.Pr)
6) Kasherukadi Ghruta	C.S, A.S, A.H
7) Shreyasadi Ghruta	C.S, A.S, A.H
8)Sthiradi Ghruta	C.S

## Comparison of Treatment of Kaphaj Hridroga.

Chikitsa explained in V.S	Also explained in
1) Samanyachikitsa (General treatment)	C.S, A.S,A.H
2)Vaman with Vacha/Nimbakwath	Su. S
3) kumbhiShatyadiChurna	C.S
4) Eladi churna	Not explained
5) Tiktak churna	Not explained

## **↓** Comparison of Treatment of Tri-doshaj Hridroga: Samanyachikitsa- explained in V.S and C.S

## Comparison of Treatment of Krumij Hridroga

Chikitsa explained in V.S	Also explained in
1) Samanyachikitsa	A.S, A.H
2) For Hrudisthitkrumi (worms situated in the heart)	Not explained
3) Virechan (Purgation- A panchakarma)	Su. S
4) Aromatic Formulation	Su. S
5) Diet (Yava mixed Vidanga)	Su. S

## Other Formulation

Chikitsa explained in V.S	Also explained in
1. Formulation-1 (Pushkarmool with Honey)	Not explained
2. Formulation-2 (Hingupanchakam)	C.S, A.S,A.H, S.S
3. Formulation-3 ( <i>Hinguvachadi</i> )	Not explained
4. Formulation-4	S.S
5. Formulation-5	B.Pr
6. Formulation-6 (Mrigshrungputpak-For KashtasadhyaHridroga)	S.S, B.Pr
7. Formulation-7	B.Pr
8. Formulation-8	B.Pr
9. Formulation-9 (VallabhGhruta)	A.S,A.H
10. Formulation-10 (Ksheervallabh)	Not explained
11. Formulation-11(ArjunaGhruta)	B.Pr
12. Formulation-12 (BaladyaGhruta)	B.Pr

## 👃 Pathya in Hridroga

Doshawise Pathya explained in V.S	Also explained in
Vataj Hridroga (Milk, Shali rice, Vataghnadravya	
siddha Basti (A kind of Panchakarma), Balya dravya,	Su.S, A.H
Mans rasa- meat soup, Ghruta)	
Pittaj Hridroga (Basti with Honey, oil, Yashtimadhu)	Su.S
Kaphaj Hridroga (Basti with Phaland oil, Sugar	
Kulattha swaras-Horse gram juice, Yava-Barley,	C.S, Su.S
Dhanyaka swaras- coriander juice, Tikshna dravya)	

## DISCUSSION

- **1. Treatment of Vataj Hridroga-** *Vaman* is mentiond as *Shodhan Chikitsa* (cleansing treatment) in *Vangasena* with decoction of *Dashmool* which acts on Tridosha's and *Hrudya*(Cardio-protective) also, *Sneha*(aunctous substances) and *lavan*(salt) which helps for Vaman procedure (*Vamanopaga*). Same *Vaman Chikitsa* is also mentioned in Sushruta Samhita. In other granthas *Shodhan* is not explained for *Vataj Hrudroga*.
- a) Pippalyadi churna: The drugs used are of Pachan property like Pippali(piper longum), Ela (Elettria Cardamomum), Hingu(Ferula asafoetida), Vacha (Acorus calamus), Saindhav (Himalyan rock salt),, Ajmoda (Carum roxburghianum) etc. Hence it may be for the Pachan of doshas which are remains after Vaman also. The drugs used are of Hrudya property also. This churna should be given with sour gruel or sour fruit juice or kulattha (Horse gram) soup, curd, wine or Sneha or one of the ghruta as explained in Vangasena Samhita. Again this may be for Pachan purpose and as Anupan or Sahapan(follower drug).
- b) Pushkaradi kalka: The contents are arranged to reduce Vata and to do the Pachan of doshas e.g. Pushkarmool (Inularacemosa) -Ushna(hot), reduces kaphaandVata, Bijapura-Ushna, overcomes Vata. Shunthi(Zingiber officinalis) -Ushna, Snigdha, MadhurVipaki(end result is sweet), Abhaya (chebulicmyrobalan)-Vatanulomani (downward moving energy of Vata), Madhur(sweet) and Amla(sour), Yavkshar-Sushma(penetrating), Katu(spicy), Dipan etc. (ref.-Nighantu Ratnakar). Madhur, Amla and Lavan drayvas are used which are best to reduce Vata (ref.-C.Su.1/59). Most of the drugs used are 'Hrudya' also.
- c) Pushkaradi kwath: In Charak Samhita 'Bhutik' which is used instead of 'Putik'. The meaning of both drugs is different. In Ayurvediyshabdakosh, 'Bhutik= Ajmoda/Yavani' and 'Putik= Chirbilva/ PutiKaranj (Caesalpinia bonducella)' but the properties of both the drugs are not so different which is used for the purpose of this yoga i.e. both are of Katu, Ushna, Pachan, Krumihar(worm removal) property and pacifies Vata (Nighantu Ratnakar). Vagbhata is not mentioned 'Putika and Matulunga' as contents of this yoga.

- d) Haritakyadi ghruta:In this yoga *Vatanulomak* and *Pachan*, *Madhurvipaki*, *Tiktarasdravya* as well as which pacifies doshas and which overcomes *Hridroga*like *Hrudyadravya-Haritaki(Terminalia chebula)* and *Shunthi* has been used which are very useful to overcome the pain in *Hridroga* as well as pain in the *Parshva*(Flanks) region.
- e) Punarnavadi tailam: Kapittha(Limonia acidissima) is Madhur, Amla, Grahi, reduces PittaandVata and Kulattha is Madhur, Amlavipaki, reduces KaphaandVata (NighantuRatnakar). Oil is processed with Punarnava (Boerhaviadiffusa) and other drugs. Punarnava is Hrudya also. The drug which reduces Vata as well as Kapha has chosen for this yoga. Therefore, this yoga may be used when there is a Vata dosha with kapha dosha anubandha.
- 2) Pittaj Hridroga-The drugs used for Vaman purpose are Madhur, Shita, Snigdha, Amla, Kashaya(astringent) (NighantuRatnakar) and helps to induce Vaman easily as well as both the drugs having Hrudya property and reduces Pitta. For Virechan purpose he advised to apply shitapradeha as external application, it may be to reduce heat produced due to Pitta and take bath before Virechan then advised to give Draksha(Vitis vinifera), Sugar, Parushak(Grewia asiatica) which reduces Pitta by Madhur and Shita guna and honey for proper Virechan then after Virechan he advised to give food which overcomes pitta.
- a) Yashthyadi yoga: In this yoga, *Vangasena* advised to take *Yashtimadhu*(*Glycyrrhiza glabra*) *churna* and *Katuka*(*Picrorrhiza kurrooa*)*churna* with water added with sugar. Both drugs are of *Pittaghna* property and *Katuka* is *Rechak*, *Bhedak* and cures heart disease also (Nighantu Ratnakar). This combination is helpful to alleviate *Pitta*dosha.
- b) Arjun kshirpaka: Kshirpaka of Arjuntvak (Terminalia arjuna) churna-Hrudya, Balya (which gives strength), Hridroganashak used with Laghupanchamoola-pacifies Vata and Pitta or Bala-Balya and Vatpittahar or Madhuka (Yashtimadhu)-Pittahar (NighantuRatnakar) added with sugar has prepared and given to the patient of Hridroga.
- **c) Kakubhadi churna:** *Arjuna* having *kashay rasa* which is helpful to minimize *Pitta* and it is *Hrudya* also.

It provides strength to the Heart. *Ghruta*, Milk and *Gudaambha*(water of Jaggary) which used as *Anupan* and helps to reduce *pitta* dosha also.

- d) Kasherukadi ghruta:In this yoga *Vangasena* has explained the meaning of 'Bis and granthi' separately i.e. 'Bis= Lotus root' and 'Granthi=Pippalimul(root of Piper longum)' and Charaka and Vagbhata has explained Bisgranthi is a single word i.e. 'Bisgranthi=Lotus root'. All drugs used in this yoga is of Shita property and Pachan property which is opposite of Pitta properties and Ghruta itself as a Pittaghna (reduces pitta).
- e) Shreyasadi ghruta: In Chakrapani commentary on Charaka, 'Shreyasi=Rasna' (and in Sarvangsundar and Ayurvedrasayan commentary of Arundatta and Hemadri respectively, Shreyasi=Gajapippali while in Vangasena 'Shreyasi=Haritaki'. The actual meaning of Shreyasi is Rasna as well as Haritaki. Both drugs reduce Vata as well as Pitta and Gajapippali is also of Snigdha, Laghu, Tikta (bitter) which is helpful for Vata and Pitta also. Here we can see the different view of both Acharya's. Most of the drugs used in this yoga are from the Jivaniya Group (life promoting). All the drugs of Jivaniya group have Madhur rasa, snigdha and shitalguna. Haritaki contents five rasa except lavana, therefore it is tridoshahar also. Other drugs used are of Pittaghna and Shita property.
- f) Sthiradi ghruta: Shaliparni (Desmodium gangeticum) itself is of Madhur, Tiktarasa and Rasayana and Vrushya also (NighantuRatnakar). Ikshurasa(Sugarcane juice), Draksharasa and Milk all are pitta alleviators through Rechan property and ghruta itself is a good pittaghna and Dipan also.
- 3) Kaphaj Hridroga-For Vaman he explained Vacha and decoction of Nimba (Azadiracta indica) which is of Ushan, Tikshna, Ruksha, Tikta, Katu property (NighantuRatnakar), all are opposite to Kapha and then advised to take churna which is mentioned in Vataj Hridroga after Vaman i.e. Pippalyadichurna. It may be for the Pachan of remaining doshas.
- a) **Kumbhishatyadi churna:** Most of the drugs reduce *Kapha* due to the *rasa* and qualities of that particular drug. Few drugs are which reduces *Vata*, *Balya* and *Hrudya* also.
- **b)** Eladi churna: Contents are *Sukshma-ela* and *Pippalimul* and *Anupan* is *ghruta*. Both the drugs have *Kaphaghna-Ruksha*, *Tikta*, *laghu* and *pachan* property.
- c) Tiktaka churna: The speciality of this yoga is; it has all the drugs which have the property useful in all types of *Hridroga* viz. *Dipan, Pachan, Jivaniya, Vataghna, pittaghna, kaphaghna, Tridoshaghna, krumihar* etc.
- **4) Tri-doshaj Hridroga** For the *Agnidipan* and *Pachan* of the dosha the *Langhan* is necessary. Acharya advised

- to take *PathyakarAahar* (wholesome food) and *Vihar*(behavior) because after *Langhan* and *Pachan* if wholesome food is not taken then it would helps dosha to increase further. After completing these two steps only the increased dosha became start to reduce or comes to *Swasthana* (real position of dosha in the body) then he advised to give the *Chikitsa* as per each dosha.
- **5) Krumij Hridroga** *Krumij Hridroga* is the next step of *Tridoshaj Hridroga* hence for the *Pachan* of the increased dosha; *Langhan* and *Pachan* is advised here.

Vidanga and kushthachurna with Gomutra (cow urine)-Vidanga (Embelia ribes) has Krumihar and Pachan property while Kushta (Saussurea lappa) is also having Pachan and Lekhan (like scrubbing) property which is helpful to remove krumi. Vidanga is Hrudya also.

Virechan- helps to remove Krumi.

**Aromatic formulation** (*Sugandhidravya*)-The drugs which are used in this combination are of *Pachan*, *Dipan* and *krumihar* property. Due to *Sugandhidravya krumi* may be attracted towards them and hence it will help to remove *krumi* easily. Acharya *Sushrut* explained this yoga to remove the *krumi* from downward path i.e from anal region.

After the removal of *krumi Vangasena* and *Sushruta* has advised to take *Yava* (Barley) with *Vidanga* as a diet. Both are of *katu*, *Ushna*, *sushma*, *Dipan*, *Laghu* and overcome *Hridroga* (NighantuRatnakar). It may be to remove or alleviate the small *krumi* and also to stop the production of *krumi*.

- **Pathya:** 1) **Vataj Hridroga-***Ahardravya* or dravya which are used as *Pathya* has *Vataghna*, *dipan* and *Balya* property. The oil for *Basti* purpose is processed with *Vataghna* dravya. Hence it is beneficial to reduce *Vata* dosha.
- 2) Pittaj Hridroga-In Vangasena Samhita, Basti is prescribed as a Pathya with honey, it may be because honey is having Madhur and Kashayrasa which reduces Pitta dosha but increases Vata dosha also hence to overcome this drawback Basti will be prescribed. Oil and honey is also prescribed as Pathya, here same rule will be followed by Vangasena and Acharya Susruta because properties of oil are opposite to Vata dosha and it helps to minimize the some properties which increases pitta and properties of honey are helpful to increase Vata but oil is there to alleviate the increased vata and honey is helpful to stabilize the pitta dosha. Yashtimadhu is also used in the Basti, it may be because it reduce vata as well as pitta.
- c) **Kaphaj Hridroga-***Kulattha* and *Yava* help to alleviates *Kapha* dosha with their *Ruksha* property. *Dhanyamla* and *Tiksha* dravya reduces *kapha* dosha with

the help of *Sushma* and *tiksha* quality which removes the *Kapha* from the very minute channels (*strotasa*).

#### Other formulations

- a) **formulation-1:** Pushkarmul reduces Kapha and vata, Parshvashoolhar (reduces pain in the flank region) and Ushna drug and honey is used as a mediator to help the Pushkarmul to reach upto the target organ with the help of its Sushma quality.
- **b) formulation 2:** *Hingupanchakam*: The drugs reduce *Vata* as well as *kapha* and cardio-protective also.
- c) formulation- 3: Hinguvachadi: The drugs used are of multiple properties like Dipan, Pachan, Tridoshahar, Krumihar etc (NighantuRatnakar). Therefore this yoga is helpful in all types of Hridroga. We can say that this is also a unique and exclusive contribution for all Hridroga explained by Vangasena.
- **d) formulation- 4:** *Dashmoolkwath*: As *Dashmool* pacifies all the doshas and additions; salt and *Yavkshar*(Alkali prepared from Barley plant) shows *Pachan* action, combination works as Cardio-protective.
- **e) formulation- 5:** All drugs used are cardio-protective in nature and pacifies all the doshas with *dipan*, *Pachan* properties.
- f) formulation- 6: Mrugshrungputpaka: This yoga is explained for 'Kashtsadhya Hridroga' (very difficult to treat) and prepared with the help of 'Puta method (close method)'. Therefore after the 'Agni sanskar' (contact fire) this yoga becomes more 'Harinshrung' (black buck horn) is used in this yoga. Karya-karan bhav(principle) behind the use of Mrug shrunga in the formulation of Hridroga -Mruga is running very fastly still their heart is not going in fatigue it proves that the heart of the Mruga is very strong and purpose of using only shrung of this animal because Shrung is Asthi sthan(Bone) and Head region remains in the air ie. Asthi- Dharankarma- Prakrut Aakash. According to Pindi-Bramhandi Nyaya production of new Sira (collaterals) due to Prakrut Aakashiy karma of Shrungasthi occurs. The speed of this animal is very fast hence demand of blood is more towards heart and due to this cardiac output, cardiac supply and ultimately cardiac indurance increases. This shrunga before giving puta, mixed with Cow ghee because ghruta minimizes Ruksha (dry) guna of the shrunga. Hence this yoga is also useful in the kashtasadhya Hridroga.
- **g) formulation- 7:** In this yoga drug used is *Arjuna* which overcomes *Hridroga* and gives strengthto the heart and *Godhuma(wheat)* is *Balya* for Hruday by alleviating *Vata* dosha. Oil and *ghruta* reduces *Vata* and *pitta* respectively. So this yoga is also *Tridoshahar*.
- **h) formulation- 8:** Here Sugar reduces *vata,pitta* and *Krumi*, honey reduces *kapha* and *pitta* and sometimes increases *Vata*also.
- i) formulation- 9: Vallabhaghruta: Both the drugs used in this yoga are of 'Hrudya' quality and hence both are Hridroganashaka also but both the drugs having common property is Vatahar hence this yoga is mostly useful in VatajHridroga as well as Vatajanyavyadhi (diseses occurred due to vatadosha).

- **j) formulation- 10:** Kshirvallabhaghruta: Due to *Kshir*(Milk) the *Vatahar* property of both the drugs becomes strong and hence this yoga is more useful in *Apatantraka*vyadhi as said by Vangasena in the *falshruti*(usage) of this yoga.
- **k) formulation- 11:** Arjunaghruta: *Arjun* is having *Hrudya* quality and it is *Tridoshahar* also.
- **l) formulation- 12: Baladyaghruta:** This yoga is the combination of all *Balya* drugs which strengthens the heart and keeps heart healthy.

Acharya Vangasena and other Samhitakar have chosen the drugs in Hridroga are most of *Hrudya* quality, *Pachak* and reduces *Vata*. So the importance is given to Vata mainly. We can say that every Hridroga will not be occured without contribution of *Vata*dosha. Therefore when any *Chikitsak* (practitioner) is going to treat *Hridroga* patient he should keep in mind *Vata*doshaand treat accordingly by choosing appropriate drugs for it.

## **CONCLUSION**

After studying the management of *Hridroga* from Vangasena we can conclude that,

- 1. He has mentioned *Shodhan Chikitsa* for each type of *Hridroga*; specially advised *Vaman* for all types of *Hridroga*.
- 2. Total 6 new formulations are found.
- a) Eladi churna
- b) Tiktak churna
- c) Vidanga-kushtakrumihar yoga
- d) Pushkarmool yoga (formulation-1)
- e) Hinguvachadi yoga (formulation-3)
- f) Kshirvallabha ghruta
- 3. Sharangdhar and Bhavprakash followed Vangasena in management. They have used 7 Yoga mentioned by Vangasena only viz.
- a) Dashmool kwath
- b) Haritakivachadi yog(formulation- 5)
- c) Mrigshrung putpaka
- d) GodhumArjun churna(formulation-7)
- e) GodhumArjun yog(formulation-8)
- f) Arjuna ghruta
- g) Baladya ghruta

Therefore, we can say that Vangasena has explained total 13 new formulations in his Samhita for *Hridroga*.

- 4. Use of *Arjuna* drug is found more in the formulations of Vangasena.
- 6. Prophylaxis for Hridroga-
- a) Pathya: Aharaj- Mansrasa, Balyadravya, Milk, Ghruta, Dhanyak (Coriander), Yava, Kulittha etc. Viharaj- Basti is a ViharajPathya in all types of Hridroga.

## **Further Scope of the study**

One can take trial on *Hridroga* patient of any formulation mentioned in *Vangasena Samhita* and observe the results. Also we can use the *Basti* for the *Hridroga* patient as a prophylaxis point of view.

#### **BIBLIOGRAPHY**

- 1. Acharya, S. (1893). *Chikitsa-sarsangraha*. Kolkata: Siddheshwar.
- 2. Chakrapani. (2008). *Charak Samhita, Ayurved Deepika Commentary*. (V. Y. Acharya, Ed.) Varanasi: Chaukhmbha Surbharati.
- 3. Dalhan. (2002). *Sushrut Samhita, Nibandhsangrha commentary*. (P. Sharma, Ed.) Varanasi: Chaukhambha Orientalia.
- Joshi, V. J. (Ed.). (1968). Ayurvediy Shabdakosh. Mumbai: Maharashtra State Sahitya and Sanskriti Mandal.
- Misra, P. S. (2013). Bhavprakash Samhita. Varanasi: Chaukhambha sanskrit Bhawan.
- 6. Mitra, J. (2012). *Ashtang sangraha with Shashilekha Commentary*. Varanasi: Chaukhmbha sanskrit series.
- 7. Murthy, P. K. (2009). *Sharandhar Samhita*. Varanasi: Chaukhambha Orientalia.
- 8. Oak, J. (Ed.). (2002). *Girvana Laghukosh*. Pune: Anand Latkar.
- 9. Paradkar, H. S. (2010). Ashtang hruday with Sarvangsundar of Arundatta and Ayurved rasayana of Hemadri. Varanasi: Chaukhambha Surbharati.
- 10. Roy, R. (1983). *Vangasena Samhita*. Varanasi: Prachya prakashan.
- 11. Saxena, N. (2004). *Vangasena Samhita*. Varanasi: Chaukhmbha sanskrit series.
- 12. Sharma, P. (2002). *Dravyaguna Vidyan*. Varanasi: Chaukhambha Bharati Academy.
- 13. Soman, L. S. (2011). *Nighantu Ratnakar*. Delhi: Chaukhambha sanksrit Pratishthan.
- 14. Upadhyay, A. S. (Ed.). (2006). *Madhav Nidan with Madhukosh commentory*. Varanasi: Sanskrit Granthmala Chaukhambha.
- HYPERLINK "http://neocardiabcare.com/alarmingstatist" http://neocardiabcare.com/alarming-statist ...
- 16. archive.indianexpress.com//1009607