

Medohara And Lekhaniya dravyas (Anti-Obesity drugs)
in Ayurvedic Classics:-A Critical Literary Review

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Abstract

Santarpanotha Vikaras (diseases due to excessive nutrition) are increasing during current times. *Medodushti* (disorders of fat metabolism) serves as one of the important etiological factor in most of these disorders including Ischemic Heart Disease (IHD). Retention and deposition of serum lipids resulting in decreased flow of blood in coronary arteries being the underlying cause. Conventional and herbal drugs are being used to lower levels of serum cholesterol to prevent this menace. In this regard, an attempt has been made to critically review the *Medohara* and *Lekhaniya* (Anti-obesity and Hypolipidemic) drugs mentioned in *Ganas* (group of drugs) of Ayurvedic

classical texts which may abet our understanding of prevention and management of conditions like Dyslipidemia and its complications. Administration of drugs possessing *Tikta Rasa* , *Ushna Veerya* , *Laghu* and *Ruksha Guna* , *Katu Vipaka* and *Vata Kaphahara* actions were noted during the analysis.

Keywords: Dyslipidemia, *Lekhana*, *Medohara*, *sthoulya* , herbs

Introduction

Growing prevalence of obesity worldwide is an increasing concern surrounding the rising rates of Diabetes, Coronary and Cerebrovascular disease with the consequent health and financial implications for the population. Obesity (*sthoulya*) promotes a cascade of

secondary pathologies including Diabetes, Insulin resistance, Dyslipidemia, Inflammation, Thrombosis, Hypertension, Metabolic syndrome, and Obstructive Sleep Apnea. Increasing Body Mass Index (BMI) levels mediate a common pattern of Dyslipidemia characterized by higher triglycerides, lower High Density Lipoproteins (HDL), and increased small, dense Low Density Lipoproteins (LDL) particles, which are independent risk factors for coronary disease. Atherosclerosis or hardening of the arteries results from buildup of cholesterol on the interior blood vessel walls. Dyslipidemia associated with obesity predicts majority of the increased cardiovascular risks seen in obese patients.

Atisthaulya (obesity) is considered as one of the eight despicable conditions as described by *Acharya Charaka*. A person in whom there is excessive accumulation of *Meda* and *Mamsa* leading to flabbiness of hips, abdomen, and breast has been categorized as *Atisthula*. *Medas* is body tissue predominant in *Prithvi* and *Ap* *Mahabhutas* similar to *Kapha Dosh*. It is characterized by *Snigdha* , *Guru* , *Sthula* , *Picchila* , *Mridu* and *Sandra Guna* .*Sneha* , *Sweda* , *Dridhatva*

(compactness), and *Asthipushti* (nourishment of bones) are the main function of *Medodhatu*. Consumption of *Guru* , *Sheeta*, *Snigdha* , *Madhuradi* *Kaphavardhaka* drugs along with lack of exercise and sedentary life style result in excessive nourishment of *Medas* while other bodily elements (*Dhatus*) are deprived of nourishment. Disproportionately increased *Medas* is accountable for several serious consequences reported in *Charaka Samhita* like *Ayuhrasa* (decrease of life span), *Javoparodha* (decrease in enthusiasm and activity), *Krichavyavayata* (difficulty in sexual act), *Dourbalya* , *Dourgandhya* , *Swedabadha* (excess perspiration) and *Kshut Pipasadhikya* . *Mandotsaham* (less activity referring to sedentary lifestyle), *Atisnigdhama* , *Atisthauilyam* (gross obesity), and *Mahashanam* (excessive eating) constitute for causation of *Prameha* and these etiological factors may also initiate Dyslipidemia.

Obesity and Hyperlipidemia being the most common problems in adolescents as well as older age groups, there is a necessity to combat them with drugs mentioned in classics which may be useful to address the associated conditions of *Medodushti*. In this regard,

an attempt has been made to critically review the *Medohara* drugs mentioned in the classical texts which may abet our understanding of prevention and management of the conditions like Obesity and Dyslipidemia.

Materials and Methods

Compilation and tabulation of *Lekhaneeya* and *Medohara* herbs were done from *Ganas* of *Charaka Samhita*, *Sushruta Samhita*, *Astanga sangraha*, and *Ashtanga Hridaya*. *Rasa*, *Guna*, *Veerya* (potency), *Vipaka* (drug metabolism), Action on *Doshas* and useful part of the herbs were compiled from *Dhanvantari Nighantu*, *Bhavaprakasha Nighantu*, *Nighantu*, *Adarsha*, and Textbook of *Dravyaguna* which was tabulated. The tabulated data were then analyzed.

Results

Charaka has given single *Gana* of 10 drugs (*Lekhaniya Gana*), while *Sushruta* and *Vagbhata* have mentioned 8 and 10 *Ganas* respectively. A total of 160 different herbs have been enlisted from these various groups [Table 1]. Analysis of 100 drugs has been made, which are taken from different *Ganas* of classical

texts after excluding the controversial drugs [Table 2]. Based on relevant references from classical texts and modern texts of *Dravyaguna*, useful part was recorded. The part used appears to be root, root bark, stem bark, and fruit in large number of drugs [Table 3]. *Rasa* and *Anurasa* of drugs have been enlisted. *Tikta Rasa* is seen in 59 herbs, *Katu* in 48, *Kashaya* in 41, *Madhura* in 33, and *Amla* in eight herbs [Table 4]. Herbs with proven lipid-lowering activity reported through different research models are tabulated [Table 5].

Table 1
List of *Medohara Ganas* mentioned in classical literature

Name of Gana	C.S	S.S	A.S	A.H
Lekhaniya Gana	+	—	—	—
Varunadi Gana	—	+	+	—
Shalasaradi Gana	—	+	—	—
Lodhradi Gana	—	+	+	+
Akadi Gana	—	+	+	+
Mushkakadi Gana	—	+	+	+
Nyagrodhadi Gana	—	+	+	—
Tryushana	—	+	—	—
Ushakadi Gana	—	+	+	+
<i>Shalasaradi Gana</i>	—	—	+	+

Table 1

List of *Medohara Ganas* mentioned in classical literature

Table 2
List of *Medohara drugs*

Sanskrit name	Latin name
1. Musta	Cyperus rotundus Linn.
2. Kushta	Sausurea lappa Decne.
3. Haridra	Curcuma longa Linn.
4. Daruharidra	Berberis aristata DC.
5. Vacha	Acorus calamus Linn.
6. Ativisha	Aconitum heterophyllum Wall. ex Floyde.
7. Katuki	Picrorhiza kurroa Floyde. ex Benth.
8. Chitraka	Plumbago zeylanica Linn.
9. Chirabilla	Holoptelea integrifolia
10. Bhavani	Bhavani (Bhavani) Linn.

Table 2

List of *Medohara drugs*

Table 3
Categorization of herbs on the basis of part used

Part used	No. of herbs
Root, root bark	36
Stem bark	34
Fruit	23
Leaf, tender leaf	15
Heartwood	12
Seed	7
Gum	5
Flower	5
Latic	5

Table 3

Categorization of herbs on the basis of part used

Table 4
Number of drugs based on analysis of Rasa, Vipaka, Veerya, Guna and Doshaharatwa

Rasa	No.	Vipaka	No.	Veerya	No.	Guna	No.
Tikta	59	Katu	52	Ushna	59	Laghu	5
Katu	48	Madhura	17	Shrita	40	Ruksha	1
Kashaya	41	Amla	1	Anushna	1	Tikta	1
Madhura	33					Shrita	1
Amla	8					Guru	4
Lavana	1					Sara	1

Table 4

Number of drugs based on analysis of Rasa, Vipaka, Veerya, Guna and Doshaharatwa

Table 5
List of herbs proven by researches for hypolipidemic

1. Musta	16. Agnimantha	31. Khadira	46. Alaria
2. Jambhu	17. Salacia	32. Dhava	47. Karanja
3. Haritaki	18. Sida	33. Passara	48. Pulkangli
4. Dashamula	19. Shatavari	34. Ananasa	49. Madana
5. Vacha	20. Bilva	35. Brahmi	50. Mayasaka
6. Kasmiraka	21. Shwetha	36. Ashoka	51. Aparajita
7. Kutaki	22. Asana	37. Triphala	52. Siddhanta
8. Chitraka	23. Jambhaka	38. Chandana	53. Alavana
9. Chitrakuta	24. Shaka	39. Kuchandana	54. Tapasvulaka
10. Pippali	25. Karakari	40. Manisa	55. Madhuka
11. Shudha	26. Balarama	41. Cuscuta	56. Kulamada
12. Shuni	27. Vidanga	42. Anasala	57. Tinduka
13. Varuna	28. Kusum	43. Vihantala	58. Rukmanadi
14. Shigru	29. Shandana	44. Narekati	59. Roshma Lakshna
15. Taitari	30. Surasanga	45. Asha	60. Papatraya

Table 5

List of herbs proven by researches for hypolipidemic

Discussion

Kayagni or *Pachakagni* (digestive fire) contributes its moieties to the *Dhatu* or *Dhatwagni* dealing with tissue metabolism. *Ama* (undigested toxic substance) which results from hypofunctioning of *Jatharagni* may clog

to the *Srotas* leading to *Srotorodha* which in turn increases *Medodushti* and decreases the nutrient supply to subsequent *Dhatus* namely *Asthi*, *Majja*, and *Shukra*.

Acharya Charaka has furnished six therapeutic measures (*Shadupakrama*), i.e., *Langhana*, *Brumhana*, *Rukshana*, *Snehana*, *Swedana*, and *Stambhana*. *Langhaneeya Dravya* can achieve the therapeutic effect by the dominance of *Gunas* like *Laghu*, *Ushna*, *Teekshna*, *Vishada*, *Ruksha*, *Sukshma*, *Khara*, *Sara* and *Kathina*. *Rukshaniya* drugs should possess *Gunas* like *Ruksha*, *Laghu*, *Khara*, *Teekshna*, *Ushna*, *Sthira*, *Vishada*, and *Kathina*. The comparison of *Gunas* of both the *Upakramas* clearly indicate that a drug possessing the *Gunas* namely *Laghu*, *Ruksha*, *Ushna*, *Teekshna*, *Vishada*, *Khara*, and *Kathina* may significantly subdue *Kapha* and *Medodhatu Dushti* in the conditions like Obesity, Hyperlipidemia, and Diabetes mellitus.

Analysis of the herbs clearly indicate that *Tikta Rasa Dravyas* dominates the list (59) followed by *Katu* (48), *Kashaya* (41), *Madhura* (33), and *Amla* (8) *Rasa* drugs [Table 4]. *Tikta* being *Laghu* and *Ruksha* reduces vitiation of *Kapha* and

Medodushti along with neutralization of *Amavisha* through its *Deepaniya*, *Pachaniya*, and *Vishaghna* activities. *Katu rasa* exerts similar effect on *Ama*, *Kapha*, and *Medodushti* by its *Laghu*, *Ushna*, and *Ruksha Gunas*. It can provide significant *Rukshaneeya* effect in comparison to *Tikta*, *Kashaya Dravyas* due to association with *Ushna Guna*. *Kashaya Rasa* being most *Ruksha* may facilitate for *Shoshana* (absorption) of liquefied or detoxified *Kapha* and *Medodhatu*. The *Dravya* possessing *Tikta Rasa* and *Katu Rasa* are to be prescribed in the initial stages (Border line of hyperlipidemia) of treatment of Dyslipidemia and *Kashaya* dominant drugs can be incorporated in the subsequent phases (High and very high hyperlipidemia) which facilitates for *Shoshana* (absorption) of liquefied or detoxified *Kapha* and *Medodhatu*, a state produced by *Tikta Rasa* and *Katu Rasa*.

The application of *Amla Rasa* which is attributed with *Deepana*, *Vatanulomana*, and *Hridya* properties may be preferred in the last phase which subdues *Vataprakopa* induced by *Tikta*, *Katu*, and *Kashaya Rasa* drugs. *Agni Mahabhuta* dominant *Rasa* like *Katu* and *Amla* should be judiciously applied by taking

into consideration the involvement of *Agni*, *Ama*, and *Srotorodha* to establish normal lipidemic state in the body. Drugs like *Priyala* (*Buchanania lanzan* Spreng.), *Shatavari* (*Asparagus racemosus* Willd.), *Yashtimadhu* (*Glycyrrhiza glabra* Linn.), etc., possessing *Madhura Rasa* and *Snigdha Guna* may help to soften and uncton the vessels hardened overtime by the deposited fat as in the case in Atherosclerosis.

Enumeration of *Gunas* of *Medohara* drugs [Table 4] clearly indicate the presence of *Laghu* and *Ruksha* (67 herbs and 59 herbs respectively) followed by *Teekshna* and *Snigdha Guna* (25 herbs and 23 herbs respectively) in majority of the drugs. It is also noted that some of the drugs possess *Guru* (20 herbs) and *Sara* (10 herbs) *Guna*. Among the analyzed drugs, *Ushna Veerya* drugs are more in number (59 herbs) in comparison to *Sheeta Veerya* (40 herbs) and only one drug is categorized under *Anushna Veerya* (*Shireesha*). Among *Ashta Veerya*, *Laghu*, *Ruksha*, *Ushna*, and *Teekshna* contribute for *Langhana* and *Rukshaniya* effect. It is very explicit that *Laghu* and *Ruksha Guna* associated with *Teekshna Guna* and *Ushna Veerya* plays predominant role for eschewing

vitiation of *Kapha Dosha* and *Medodhatu*.

Sushruta's classification of *Vipaka* reflects two dominant *Gunas*, i.e., *Guru* and *Laghu* further quoted as *Katu* and *Madhura Vipaka*. Drugs with *Katu Vipaka* (82 herbs) are relatively more in number followed by *Madhura* (17 herbs) and *Amla Vipakas* (1 herbs) [Table 4]. The *Vipaka* of *Langhana* and *Rukshaniya* drug should be *Laghu* which is also interpreted as *Katu Vipaka*.

Majority of herbs possessing *Kaphahara* (89 herbs) and *Vatahara* (67 herbs) activity [Table 4] are also found to be *Medohara* in action. Antagonistic measures are usually employed to treat *Doshavridhi*. But in case of *Medodushti*, *Sheeta Veerya* dominant herbs are also suggested. *Shalasaradi Gana*, *Lodhradi*, and *Nyagrodhadi* *Ganas* containing *Kashaya*, *Tikta*, and *Sheeta Veerya* drugs increases *Ruksha Guna* (dry) resulting in *Medo Shoshana* (absorption of vitiated fat).

The information with regards to part used has been compiled from *Dravyaguna* works of 20th century. Heartwood and bark forms the potent parts in majority of drugs in *Shalasaradi*

Gana and *Lodhradi Gana* respectively. It is seen that the drug with root as useful part has been referred frequently (36 herbs) [Table 3]. Stem bark, fruit, leaf, and heartwood are also used along with less utilization of seed, flower, gum, rhizome etc.

Acharya Sushruta has given 8 *Ganas*, whereas *Vagbhata* included 10 *Ganas* to be *Medohara* [Table 1]. *Surasadi Gana* is not indicated for *Medoroga* by *Sushruta*, while *Vagbhata* has included it. The non-herbal drugs in *Ushakadi Gana* have also been excluded from the analysis. The drug groups *Triphala*, *Trikatu*, *Brihatpanchamula* and drugs like *Vidanga*, *Nagara*, *Chitraka*, *Erandamula*, and *Haridra* are useful in the management of *Sthaulya*. They may have profound influence on reduction of bodyweight and dyslipidemia.

It is observed that drugs like *Guggulu* (*Commiphora wightii* (Arn.) Bhandari.), *Vrukshamla* (*Garcinia indica* Choisy., *Garcinia cambogia* Desr.), *Atasi* (*Linum usitassimum* Linn.), *Lashuna* (*Allium sativum* Linn.) etc., promoted for controlling Obesity and Dyslipidemia in market are not found in classical *Ganas* analyzed in the paper.

The relationship of *Medodushti* is well established in the pathogenesis of *Santarpanottha Vikaras* like *Sthaulya* and *Prameha*. Many of the herbs mentioned in *Medohara Ganas* possess hypolipidemic as well as hypoglycemic activities.

Conclusion

Drugs mentioned in each *Gana* of Ayurvedic classics have multifarious pharmacological properties. Some of the research studies carried out on these herbs confirmed both hypolipidemic and hypoglycemic activities. This observation is useful for designing new formulations to treat *Medodushti* and its complications. Drugs that are *Katu*, *Tikta*, *Kashaya* in *Rasa*, possessing *Ushna Virya*, and *Laghu Ruksha Guna* are largely responsible for *Medohara* and *Lekhaneeya* activities.

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