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Significance of Tikta Skanda dravyas of Charaka Samhita in Asthivaha Sroto vikaras – A review

Review Article

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Abstract

Ayurveda, which literally means the science of life, is the natural healing system of India. Its originality and holistic approach whose principles of therapeutics are applicable universally remain time tested even to this day. In the course of life span, plants make an immense impact as either food or medicine. *Charaka Samhita*, one among the *Bruhatrayi*, contains information about evidence as well as experienced based medicine with many single drug or poly-herbal formulations along with mineral and animal origin. While explaining *Chikitsasutra* for *Asthivaha sroto vikaras*, *Charaka* says that *Tikta dravyas* should be used for *Basti* along with *ksheera* and *ghrita.* So *Tikta dravyas* play an important role in the treatment of *Asthivaha Srotovikaras*. An attempt is made in this study to identify the *dravyas* of *tikta skanda* of *Charaka Samhita* and its significance in the treatment of *Asthivaha sroto vikaras*, for further herbal research on single or multiple drugs with different mode of administration to be carried out globally with a greater enthusiasm for finding out active natural drug molecules acting on *Asthivaha srotas.*

Key Words: *Ayurveda*, *Tikta skanda dravyas*, *Asthivaha srotas.*

Introduction

Ayurveda, being science of life, it is one of the oldest medical systems, which comprises thousands of medical concepts and hypothesis. Unfortunately, this precious gift from our ancestors is trailing due to lack of scientific validation in various concepts (1). One among them is *Chikitsa* (treatment) of *Asthivaha sroto vikaras(Diseases related to channels transporting the bone tissue)*.

Acharya Sushruta has not mentioned *Asthivaha srotas (channels transporting the bone tissue)* in his eleven pairs of srotas; *Charaka* has included *Asthivaha srotas* as one among thirteen *srotas*. Excessive exercise, excessive stretching, trauma or excessive *vata dosha pradhana ahara* and *vihara* can cause *Asthivahasroto dushti*. *Asthivaha sroto dusthi lakshanas* include *Adyasthi*, *abhidanta, asthibheda, dantabheda, dantashoola, asthishoola, danta vivarnata, asthivivarnata*, diseases of nails, hair and beard(2). While explaining *Chikitsa sutra* for *Asthivaha sroto vikaras*, *Charaka* says that *Tikta dravyas* should be used for *Basti* along with *ksheera* and *Ghrita* (3). So *Tikta dravyas* play an important role in the treatment of *Asthivaha Sroto vikaras*. An attempt is made in this study to identify the *dravyas* of *tikta skanda* of *Charaka Samhita* and its significance in the treatment of *Asthivaha sroto vikaras*.

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Materials and Methods

The commentaries on *Charaka Samhita* like *Ayurveda dipika* and *Jalpakalpataru* were consulted to interpret the meaning of drugs of *tikta skanda*. For the identification of appropriate botanical source of the drugs, 'Fruits and Vegetables in Ancient India' by P V Sharma and also *Bhavaprakasha Nighantu*, *Raja Nighantu*, *Dhanvantari Nighantu* referred. To interpret the action of drugs, *Dravyaguna Vignyana* by P V Sharma and Indian Medicinal Plants, Volume I-V, by Arya Vaidya Sala, Kottakkal referred.

Observations and Results

Total of 46 drugs were mentioned in *Tikta skanda* of *Charaka Samhita* out of which 41 are identified and 5 are controversial drugs. The list of identified and controversial drugs is given below with its properties.

Table 1: List of Identified drugs of *Tikta skanda*

Sl. No.	*Name of the Drug*	*Tika by Ck And Gr*	*Botanical source*	*Rasa*	*Guna*	*Vipaka*	*Veerya*	*Karma*	Reference
1	*Chandana*	*Rakta Chandana (Gr)*	*Pterocarpus-Santalinus Linn.*	*Tikta, Madhura,*	*Guru, Rooksha*	*Katu*	*Sheeta*	*Jantughna,* ***Balyam, Raktashuddhikrut,***	IMP, Vol-4, 384-386; DGV-2, 718-719
2	*Nalada*	*Jatamamsi(Gr)*	*Nardostachys jatamanasi Linn.*	*Tikta Kasaya, Madhura*	*Snigdha Laghu*	*Katu*	*Sheeta*	***Twachya, Balya, Kantibalaprada,*** *Medakantikrut*	IMP, Vol-4, 104-107; DGV-2, 31-34
3	*Aragwadha*		*Cassia fistula Linn*	*Tikta, Madhura*	*Mrudu, Guru, Snigdha*	*Madhura*	*Sheeta*	***Medovishoshana, Agnivardhini, shulahara,*** *Sramsana,*	IMP, Vol-2, 11-16; DGV-2, 170-173
4	*Karanja*		*Pongamia glabra Vent.*	*Tikta Katu Kashaya*	*Laghu, teekshna*	*Katu*	*Ushna*	***Dantadadyakrut,Sthiradipti dah****, Rakta prasadaka,*	IMP, Vol-4, 339-344; DGV-2, 144-146
5	*Nimba*		*Azadirachta indica Jusss.*	*Tikta Kashaya*	*Laghu*	*Katu*	*Sheeta*	***Agnikrut****, Kushtagna Krimigna, best rasayana in* ***medoroga***	IMP, Vol-1, 227-232; DGV-2, 149-152
6	*Kutaja*		*Holarrhena anti dysenterica Wall.*	*Tikta, Kashaya*	*Laghu, rooksha*	*Katu*	*Sheeta*	***Deepana, Pachana, Shulaghna(beeja)*** *Raktashodhaka, Vatashamana, Raktastambhaka, Vrana ropana*	IMP, Vol-3, 156-161: DGV-2, 463-466
7	*Haridra*		*Curcuma Longa Linn.*	*Tikta Katu*	*Rooksha, Laghu*	*Katu*	*Ushna*	***Varnya, Dehavarna vidaayini****, Shothahara,* ***vedanasthapana,*** *vranashodhana, vrana ropana Vatahara,*	IMP, Vol-2, 259-261; DGV-2, 162-165
8	*Daru Haridra*		*Berberis aristata Dc.*	*Tikta, Kashaya*	*Laghu, Rooksha*	*Katu*	*Ushna*	***Asthiroganut****,* ***Abhishyanda nashini,Varnya, Mukharogahara,*** *vedanasthapana*	IMP, Vol-2, 191-196; DGV-2, 537-539
9	*Musta*		*Cyperus Rotundus Linn.*	*Tikta Kashaya Katu*	*Laghu rooksha*	*Katu*	*Sheeta*	***Deepana, Pachana, Kantiprada****, Twakdoshahara, Jantuhrut, rakta prasadaka.*	IMP, Vol-2, 296-299; 370-372
10	*Kiratatikta*		*Swertia Chirata Bush-Ham.*	*Tikta*	*Laghu rooksha*	*Katu*	*Ushna*	***Pathya, Vatala, Maladhwamsi, Shulahara****, Vrana shodhana, Raktashodhana, shothahara*	IMP, Vol-1, 149-152; DGV-2, 691-693
11	*Katukarohini*		*Picrorrhiza Kurroa Royle ex Benth.*	*Tikta*	*Ruksha Laghu*	*Katu*	*Sheeta*	***Bhedani, Deepani, Agnipradeepani,*** *Kushtaghna, Krimihara*	IMP, Vol-4, 269-272; DGV-2, 441-443
12	*Karavellaka*		*Momordica charantia Linn.*	*Tikta, Katu*	*Laghu, rooksha*	*Katu*	*Ushna*	***Bhedi, Deepani, Agnideeptikara, Pathya, Vatala***	IMP, Vol-4, 48-51; DGV-2, 684-685
13	*Karavira*		*Nerium odorum Soland*	*Katu Tikta*	*Laghu roosha teekshna*	*Katu*	*Ushna*	***Raktashodhana, Krimighna****,* ***Tvakdoshahara****, Vishapaha, shothahara*	IMP, Vol-4, 126-130; DGV-2, 211-214

14	*Kebuka*		*Costus speciosus (Koen) Sn.*	*Tikta Kashaya*	*Laghu Rooksha*	*Katu*	*Sheeta*	***Deepana, Pachana, Vatala, Raktashodhaka**, shothahara*	IMP, Vol-1, 306-308; DGV-2, 605-606
15	*Vasa*		*Adhatoda vasica Nees.*	*Tikta Kashaya*	*Rooksha, Laghu*	*Katu*	*Sheeta*	***Svarya, Vatakrut, Ayushya, Shothahara, vedanasthapana**, kushtagna, Raktashodhana, raktasthambhana*	IMP, Vol-3, 268-271; DGV-2, 241-244
16	*Mandukaparni*		*Centella asiatica Linn.*	*Tikta Kashaya Mahura*	*Laghu*	*Madhura*	*Sheeta*	***Vatala, Vanhikrut, Bala Varna Swara Vardhani,** twakrogahara, vayasthapana*	IMP, Vol-2, 52-55; DGV-2,3-6
17	*Vartaka*		*Solanum melongena Linn.*	*Tikta Katu*	*Laghu, Ruksha*	*Katu*	*Ushna*	***Medohara, Deepani, Krimighna,** Kushtaghna, Kaphavatahara,*	IMP, Vol-5, 157-159
18	*Kakamachi*		*Solanum Nigrum Linn.*	*Tikta*	*Laghu Snigdha*	*Katu*	*Anushna*	***Dhatuvivardhani, Pathya, Shoolahara, Rasayani, vedanasthaapana,** raktashodhana*	IMP, Vol-5, 160-163; DGV-2, 540-542
19	*Kakodumbarika*		*Ficus hispida Linn.*	*Tikta Kashaya*	*Rooksha Laghu*	*Katu*	*Sheeta*	*Kushtagna, Vranashodha, shothahara, raktaprasadaka*	IMP, Vol-3, 27-30; DGV-2, 182-184
20	*Ativisha*		*Aconitum heterophyllum Wall.*	*Tikta katu*	*Laghu Rooksha*	*Katu*	*Ushna*	***Agnideeptikara, Krimighna,** Raktashodhana*	IMP, Vol-1, 42-46; DGV-2, 355-357
21	*Patola*		*Trichosanthes dioica Roxb.*	*Tikta*	*Laghu rooksha*	*Katu*	*Ushna*	***Vedanasthapana,** Raktashodhana,*	DGV-2, 697-699
22	*Patha*		*Cissampelos pareira Linn.*	*Tikta*	*Laghu Teekshna*	*Katu*	*Ushna*	***Sarvashoolaghni, Vishagna, raktashodhana.***	IMP, Vol-2, 277-280; DGV-2, 626-629
23	*Guduchi*		*Tinospora cordifolia Willd.*	*Tikta Kashaya*	*Guru, Snighdha*	*Madhura*	*Ushna*	***Agnideepani, Medovinashini, Pathya, Rasayana,** Vedanasthapana, Raktashodhaka*	IMP, Vol-5, 283-290; DGV-2, 761-763
24	*Bakula*		*Mimusops elengi Linn.*	*Kashaya katu*	*Guru*	*Katu*	*Sheeta*	***Krimidantagadapaha, Sthirikaram ca dantanam, Dantadardyakaram, Vatakrut, Dantashoolahar, Dantachaalaghn.***	IMP, Vol-4, 40-44; DGV-2, 329-331
25	*Khadira*		*Acacia catechu Willd.*	*Tikta Kashaya*	*Laghu, Rooksha*	*Katu*	*Sheeta*	***Dantadhavanah, Medoghna, Dantyah, Mukharogahara.***	IMP, Vol-1, 19-22; DGV-2, 159-162
26	*Saptaparna*		*Alstonia scholaris R.Br.*	*Tikta Kashaya*	*Laghu, Snigdha*	*Katu*	*Ushna*	***Diptikarah, Shulaharah, Krimishulanut, Anulomana***	IMP, Vol-1, 111-114; DGV-2, 702-704
27	*Arka*		*Calotropis procera R.Br. Calotropis Gigantea Linn.*	*Katu Tikta*	*Laghu Rooksha teekshna*	*Katu*	*Ushna*	***Medohara,** Vedanasthapana, , Kushtagna*	IMP, Vol-1, 341-345; DGV-2, 433-436
28	*Avalguja*		*Psoralea corylifolia Linn.*	*Tikta Madhura (Katu Tikta)*	*Laghu Ruksha*	*Katu*	*Ushna*	***Agnideepani, Kesya, Balya, Rasayana**, Krumipranuta*	IMP, Vol-4, 374-378; DGV-2, 175-178

29	*Tagara*		*Valeriana wallichii DC.*	*Tikta Katu Kashaya*	*Laghu Snigdha*	*Katu*	*Ushna*	***Vatarogahara, Vedanasthapana, shoolaprashamana***	IMP, Vol-5, 345-348; DGV-2, 64-66
30	*Agaru*		*Aquillaria agallocha Linn.*	*Katu Tikta*	*Laghu Rooksha teekshna*	*Katu*	*Ushna*	***Keshya, Vatahara,*** *Twakdoshara*	IMP, Vol-1, 171-175; DGV-2, 726-728
31	*Ushira*		*Vetiveria zizanoides Linn.*	*Tikta Madhura*	*Rooksha Laghu*	*Katu*	*Sheeta*	***Pachana, Vataghna,*** *Twakdoshahara, Raktaprasadaka, kushtagna,*	IMP, Vol-5, 361-364; DGV-2, 114-116
32	*Tumburu*	*Tejovaha(Gr)*	*Zanthoxylum alatum Roxb.*	*Katu Tikta*	*Laghu rooksha teekshna*	*Katu*	*Ushna*	***Vanhi Deepana, Krimighna, Marutashulajit,*** *Pootihara,*	IMP, Vol-5, 423-426; DGV-2, 327-329
33	*Vetasa*		*Homonoia riparia Hour.*	*Kashaya Tikta*	*Laghu Ruksha*	*Katu*	*Sheeta*	***Vedanasthapana, Odontalgia,*** *Sandhaaneeya*	IMP, Vol-3, 172-174
34	*Karira*		*Capparis deciduas Edgew.*	*Katu Tikta*	*Laghu Rooksha*	*Katu*	*Ushna*	***Sarvashulhara, Agnikrut, Pathya, Vedanasthapana,*** *Bhedana,*	IMP, Vol-1, 368-372; DGV-2, 530-532
35	*Karkotaka*		*Momordica dioica Roxb.*	*Tikta Katu*	*Kashaya, Tikta*	*Katu*	*Ushna*	***Vatahara, Deepan,*** *Ruchikara, Kushtaghna*	**(4)**
36	*Sushavi*		*Nigella sativa Linn.*	*Katu, Tikta*	*Laghu, Ruksha, Tikshna*	*Katu*	*Ushna*	***Agnideepani, Shulaghna,*** *Vatashamaka*	IMP, Vol-4, 139-141; DGV-2, 596-598
37	*Vikankata*		*Flacourtia jangomas L'Herit*	*Tikta*	*Laghu, Ruksha*	*Katu*	*Sheeta*	***Deepana, Pachana,Vatala,*** *Kaphapitta shamaka, Raktashodhana*	IMP, Vol-3, 46-49; DGV-2, 679-680
38	*Sumana*	*Malati(Gr), Jaati(Gr)*	*Jasminum grandi florum Linn.*	*Tikta Kashaya*	*Laghu Snigdha Madhu*	*Katu*	*Ushna*	***Dantarjit, Vatashamaka,*** *Tridoshahara, anulomana,*	IMP, Vol-3, 249-253; DGV-2, 178-180
39	*Somavalka*		*Acacia polyantha wild.*	*Tikta Kashaya*	*Laghu Rooksha*	*Katu*	*Sheeta*	***Varnya, Medodoshaghna,*** *Shonitasthapana, Kushtagna,*	IMP, Vol-1, 30-32
40	*Karkasha*	*Patolabheda (Cr)*	*Trichosanthes cucumerina*	*Madhura*	*Snigdha*	***Katu?***	*Sheeta*	***Deepana, Pachana, Pathya,*** *Kushtgna, Raktashodhana, krimigna*	*IMP, Vol-5, 320-322*
		Kampilla(Gr)	*Mallotus philippensis Muell. Arg.*	*Katu*	*Laghu Rooksha teekshna*	*Katu*	*Ushna*	***Deepana, Pachana, Agnideepana***	*IMP, Vol-3, 375-379; DGV-2, 521-523*
41	*Katillakaha*	*Karavella(Gr)*	*Momordica charantia Linn.*	*Tikta kashaya*	*Laghu, Rooksha*	*Katu*	*Ushna*	***Agnidiptikaram, Pathya, Bhedanam,*** *Vishagna*	*IMP, Vol-4, 48-51; DGV-2, 684-685*
		Punarnava	*Boerhavia diffusa Linn.*	*Madhura Tikta Kashaya*	*Laghu, Rooksha*	*Madhura*	*Ushna*	***Raktashodhana, Deepana, Pachana***	*IMP, Vol-1, 281-283; DGV-2, 630-632*

Table 2: List of controversial drug of *Tikta skanda*

Sl. No.	Name of the Drug	Tika by Ck And Gr	Botanical source	Rasa	Guna	Vipaka	Virya	Action	Reference
1	Murva		Chonemorpha macrophylla Roxb.	Madhura, Tikta, Kashaya	Guru, Ruksha,	Madhura	Ushna	***Medohara, Vishaghna***, Rakta shodhana, Shulaprashamana, Krimighna	IMP, Vol-2, 67-69
2	Valaka (Elavaluka)		Prunus cerasus Linn.	Kashaya	Laghu	Katu	Sheeta	Kaphavata shamaka	(5)
3	Trayamana		Gentiana Kurroo Royle	Tikta	Laghu, Ruksha,	Katu	Ushna	***Shulahara,*** Kaphavata shamaka, Raktashodhaka, Shothahara, Kushtaghna	IMP, Vol-3,72-75; DGV-2, 695-697
4	Kulaka	Patola(Gr)	Trichosanthes dioica Roxb.	Tikta	Laghu, Ruksha	Katu	Ushna	Tridosha shamaka, Vedanasthapana,	DG-2, 697-699
5	Vetragra		Calamus tenuis Roxb.	Tikta	Laghu, Ruksha	Katu	Sheeta	Kaphapittahara, Grahi, Ruchya	(6)

(CK-Chakrapani, Gr- Gangadhara, IMP-Indian Medicinal Plants, DGV-Dravyaguna Vigyana by P V Sharma)

Highest number of drugs of *Tikta skanda* have *Tikta Kashaya rasa* i.e.13, 10 drugs have *Tikta rasa*, 6 drugs have *Katu Tikta rasa*, 5 drugs have *Tikta Katu rasa*, 3 drugs have *Tikta Katu Kashaya rasa*, 3 drugs have *Tikta Madhura rasa*, 3 drugs have *Tikta Kashaya Madhura rasa* (*Nalada and Mandukaparni*), 1 drug have *Tikta Kashaya Katu rasa* (*Musta*), 1 drug have *Kashaya Katu rasa* (*Bakula*), 1 drug have *Kashaya Tikta rasa* (*Vetasa*), 1 drug have *Kashaya rasa (Valaka*), 1 drug have Katu rasa (Kampilla).

Table 3: Table showing *Tikta rasa* dominant drugs of Tikta skanda

Sl no	Rasa	Number of drugs
1	Tikta Kashaya	13
2	Tikta	10
3	Katu Tikta	6
4	Tikta Katu	5
5	Tikta Katu Kashaya	3
6	Tikta Madhura	3
7	Tikta Kashaya Madhura	3
8	Tikta Kashaya Katu	1
9	Kashaya Katu	1
10	Kashaya Tikta	1
11	Kashaya	1
12	Katu	1

Table 4: Table showing *Vipaka* of drugs of *Tikta skanda*

Vipaka	Number of Drugs
Madhura	5
Katu	43

Table 5: Table showing *Veerya* of drugs of *Tikta skanda*

Veerya	Number of Drugs
Ushna	27
Sheeta	20
Anushna (Kakamachi)	1

Discussion

Tikta skanda possess other *rasas* as well as different *vipakas*. Certain drugs included in this group though not pocessing either *Tikta rasa* or *Katu vipaka* produces the effects similar to *Tikta rasa* or *Katu vipaka* which can be interpreted under *prabhava or* different parts of same drug might have Tikta rasa which has to be identified for its utility. More number of drugs of *Tikta skanda* has *ushna veerya* and hence reduces *Vata dosha* in *Ashtivahasroto vikaras*.

Drugs like *Karkotaka (Momordica dioica Roxb.), Karkasha (Patola bheda* as per *Chakrapani-Trichosanthes cucumerina), Kulaka (Patola* as per *Gangadhara tika - Trichosanthes dioica Roxb.)* have been mentioned in the group which is suggestive of different species of *patola* can be taken into consideration. *Katillakaha* is *Karavellaka* as per *Gangadhar tika* and it is *Punarnava* as per *P V Sharmaji. karavellaka* is already mentioned in the

group, *Punarnava* can be considered as *Katillaka* instead of *Karavellaka* in this context *(7)*.

Asthi (bone) being the seat of *Vata dosha* acts as *Ashraya* and *Vata* acts as *Ashrayee*. Even though the basic rule is that the material which can increase of *Ashraya* should also affect the increase of *Ashrayee* and *vice versa*. The reverse is applicable in case of *Vata* and *Asthi*. The material which causes increase in *Asthi* will produce decrease of *Vata* and vice versa (8). Most of the drugs of *Tikta skanda dravya* mentioned in *Charaka Samhita* have *Balya*, *Vatahara* and *Vatashamana* property, causing increase in the *Asthi dhatu* and in turn nourishes.

In case of *Asthivaha sroto dushti vikaras*, *basthi (enema)* using *Tikta dravya* were recommended. *Tikta rasa* has *Vayu* and *Akash mahabhuta* predominance which gives *kharatva* and *shoshana guna* to *Asthi dhatu*, because of which it can easily penetrate through and capable of reading deeper *dhatus* i.e *asthidhatu*. *Kharata* and *shoshana* are the properties of *Asthi Dhatu*, so *Tikta Rasa dravya* nourishes *Asthi dhatu*. *Tikta rasa* which is similar to *asthi dhatu* when used with *kshira* is *asthi vriddhikara*. *Ksheera* and *Ghrita* due to *snigdha guna* cause *Vata shamana* in *Asthivaha sroto vikara*. *Dravyas* like *Aragwadha, Kutaja beeja, Kiratatikta, Kakamachi, Patha, Bakula, Saptaparna, Tagara, Tumburu, Karira, Trayamana, Sushavi* are having *Shoolahara* property. *Haridra, Daruharidra, Vasa, Kakamachi, Patola, Tagara, Vetasa, Karira* are having *Vedanasthapana* property. *Patha* as *Sarvashoolaghni* and *Karira* as *Sarvashulahara*, *Saptaparna* as *Krumishoolanut* are specifically mentioned in *nighantus.*

Daruharidra as *Asthiroganut, Karanja* as *Dantadadyakrut*, *Bakula* specifically mentioned for all sorts of diseases related to *danta* (teeth). *Kakamachi* as *dhatuvivardhini*, so definitely it will increase the *Asthi dhatu*.

Kesha, loma and *smashru* are *malas* of the *Asthi dhatu*, this is the reason to consider *keshadi doshas* as one among the *Asthi pradoshaja vikaras*, as per Yogendranath Sen in the commentary of *Charaka Samhita* and hence the line of treatment for diseases related to *kesha* can also be followed with *Tikta ksheera basthi*(9) or *Tikta dravyas* in other mode of administration. Avalguja and Agaru are having Keshya property. Musta, Jatamamsi are Kantiprada and Chandana, Haridra, Daruharidra, Mandukaparni, Somavalka are having Varnya property.

Tikta rasa has a unique property to maintain the *Kharatwa* of *Asthi Dhatu*. *Ksheera* & *Ghrita* has predominantly *Pruthvi, Jala Mahabhuta & Madhura rasa*. These properties will nourish the *Asthi Dhatu* as well as does *Vata Shamana*. (10)

As per the *krama parinama paksha* or theory of transformation, the *uttarottara dhatu* is nourished by previous *dhatu*(11). So it is also necessary to correct the *srotas* of previous *dhatus* like *rasa, rakta, mamsa* and *meda dhatu*. Most of the drugs are raktashodhaka and Medoghna like Nimba, Aragwadha, Vartaka, Guduchi, Khadira, Arka, Somavalka, Murva. *Tikta rasa* plays an important role in correcting the previous *dhatus* by its *vishodhana guna* and pacifying *pitta* by its *sheeta guna* and *kapha dosha* by *ruksha* and *laghu guna(12)*. *Tikta rasa* by increasing *Samaana vayu* ignites *Agni* and accomplishes the *pachana* activity, thus being *pachaka* and *deepaka* it encourages the proper formation of *rasadi dhatus*. Drugs like *Katukarohini, Karavellaka, Khadira, Tumburu, Avalguja, Saptaparna, Mandukaparni, Ativisha, Guduchi, Nimba* are *Agnideepaka. Kutaja, Musta, Kebuka, Vikankata* are *Pachaka dravyas*. *Tikta dravyas* play a very important role in the treatment of *Asthivaha sroto vikaras*.

Drugs like *Karavellaka, Kiratatikta, Kakamachi, Guduchi, Karira, Karkasha* are told as *Pathya*. Hence these can be used clinically while treating the *Asthipradoshaja vikaras.*

Recent study shows, Non-gustatory, extra-oral bitter taste receptors (T2Rs) are G-Protein coupled receptors, when stimulated by bitter agonists that are expressed through the body and presently T2Rs have been found to be expressed in osteoclasts and osteoblasts, as they have various functional responses. Osteoclasts were capable of detecting bacterial quorum-sensing Molecules through the T2R38 isoform. Stimulating T2Rs induces anti-inflammatory and anti-pathogenic effects in innate immunity system through the phospholipase C/inositol triphosphate pathway, which leads to release of intracellular calcium from endoplasmic reticulum. T2R activation through increasing intracellular calcium level in bone cells potentially influence bone formation and resorption. With recent studies finding T2R expression in bone cells, we examine the potential of targeting this receptor to treat bone inflammation and to promote bone anabolism (13).

Conclusion

Asthivaha sroto vikaras are due to vitiation of Vata dosha. The treatment includes Vata shamana and most of the drugs of Tikta skanda are having Vatahara property. With recent studies finding T2R expression in bone inflammation and promotion of bone anabolism. This shows that Tiktarasatmaka dravyas (Bitter taste ligands) have role in treating *Asthivaha sroto vikaras* and also promotes Asthi dhatu. Hence, Tikta dravyas have important role in treatment of *Asthivaha sroto vikaras*.

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