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Review Article

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AYURVEDIC VIEW OF VRICHIKA DAMSHA AND ITS AYURVEDIC MANAGEMENT

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ABSTRACT

Scorpion envenomation is an common global public health problem including India. Despite various species of scorpions, only few of these can be potentially lethal to humans. In India, the annual number of scorpion stings cases exceeds 1.23 million, of which over 32,250 may be fatal. This can be attributed to various hurdles in the scorpion bite treatment like poor health services, difficult and untimely transportation facilities, wrong traditional beliefs, delay in antiscorpion venom administration which ultimately leads to substantial

amount of mortality and morbidity. Scorpion bite can result in a wide range of clinical effects such as neurotoxicity, cardiotoxicity and respiratory dysfunction including pulmonary edema. Administration of anti-scorpion venom is the only specific treatment available in India but has many limitations like species specificity, difficulty in availability, affordability and ideal storage conditions. *Ayurveda* has explained Yuktivyapashrya chikitsa (Aushad) and Daiv vyapashrya chikitsa (Mantra) in the management of *Vrishchika Damsha* (Scorpion bite). Shodhana Chikitsa – In Bahula Dosh'a condition – which may included vamana, Virechana, Nasya and Raktamokshana according to the predominance of the Dosh'a. and in shamana chikitsa – In Alpa Dosh'a condition – which may include internal medicine, external application, dhoopana, Anjana etc. This review is an attempt to present an Ayurvedic view of Scorpion bite, types of scorpion, symptoms of scorpion bite and detailed description of Ayurvedic medicine used in scorpion bite.

KEYWORDS: Ayurveda, Samhita, Scorpion Type, Scorpion Sting, Pain, Etc.

1). INTRODUCTION

Scorpion sting is one of the common life threatening acute medical emergencies and also can be considered as a neglected public health problem in tropical and sub-tropical countries including India. From the ancient times poisonous animal bites is a serious issue in world. Millions of people die every year because of poisonous animals' bites. Scorpion bite is also a common and global public health problem associated with substantial morbidity and mortality. It constitutes an occupational hazard especially in field of agriculture for farmers, farm labors, villagers, migrating population and hunters. The factors mainly responsible for high mortality associated with scorpion bite are poor health services, difficul and untimely transportation facilities, wrong traditional beliefs, delay in anti-scorpion venom administration. It is estimated that in India, the annual number of scorpion stings cases exceeds 1.23 million, of which over 32,250 may be fatal. In Asia, epidemiological data on scorpion stings is scarce. India is the most affected, with a reported incidence of 0.6 %.^[1] The estimates are arbitrary as the majority of cases go unreported. In rural areas, the victims are mostly taken to traditional healers, who neither documents the case nor report them to the authorities, hence paucity of reliable epidemiological data. Numerous envenomation cases remain unreported making it difficult for calculating true incidence. Case fatality rates of 3-22% were reported among the children hospitalized for scorpion stings in India.^[2-6] Globally, 1988 species of scorpions are known to occur of which, 113 valid species of 25 genera under 6 families exist in India.^[7] Among the 86 species of scorpion in India, *Mesobuthus tamulus* and Palamneus swammer-dami are of medical importance.^[8] There are different opinions regarding the treatment of scorpion sting. In the past years, various regimens have been tried including lytic cocktail, insulin, atropine, nifedipine, beta blockers and captopril, but all these have failed to reduce mortality and morbidity substantially. Even Serotherapy has been a matter of debate and controversy in this matter.^[9] In Scorpion bite cases, it is necessary to give immediate treatment but the patient cannot receive treatment immediately due to lack of transport facility and the Scorpion Anti-venom used for Scorpion bite is not available easily on village. The administration of anti-scorpion venom (ASV) is the only specific treatment available for scorpion bite, but has been a matter of debate and controversy during last five years.^[10] In this context, the only available option for scorpion bite treatment is herbal treatment as these herbs are common, easily available. Herbal medicine also referred to as alternate medicine/traditional medicine, has been in use in India since time immemorial. Nearly 80% of the human population is reported to be dependent on plant-based medicines in India.^[11] The use of different parts of several medicinal plants to cure specific ailments has

been practiced since ancient times. Various cultural traditions are associated with use of wild plants as medicinal herbs. In *Ayurveda* numerous medicinal plants are mentioned in the management of *Vrishchika Damsha* (Scorpion bite). Chemically, scorpion venom is a cocktail of several neurotoxins, cardipotoxins, nephrotoxins, hemolytic toxins, nucleotides, amino acids, oligopeptides, phospholipase-A, hyaluroinidase, acetylcholine esterase, histamine, serotonin, 5-hydroxyptamine and proteins that inhibit protease, angiotensinase and succinate dehydrogenase. Neurotoxins of scorpion venom content is highly lethal than neurotoxin of snake venom. A clinical effect of the envenomation depends upon the scorpion species, lethality and dose of venom injected at the time of sting and also on the victim's physiological reactions to venom. Clinical features of the patients stung with scorpion are generally abnormalities indicative of major body systems like cardiac, respiratory, autonomic and metabolic changes. Most patients die of multisystem failure.

2). AIM AND OBJECTIVES

• To evaluate, elaborate and discuss the types of vrichika (scorpion) and vrichika dansh scorpion bite Symptom according to Ayurveda.

• To evaluate, elaborate and discuss the management of vrichika dansh(scorpion bite) according to Ayurveda.

3). MATERIAL AND METHODS

Material related to vrichika (scorpion) is collected from Ayurvedic text and text book of modern medicine respectively. The available commentaries of Ayurvedic *sa*mhitas have also referred to collect relevant matter. The index, non-index medical journals has also referred to collect information of relevant topic.

4). CONCEPTUAL STUDY

4.1 Scorpions (Vrishchika) According to Ayurveda

Types of Vrishchika- (Scorpion)

Though these Vrishchika, by our Aachaaryas are being mentioned in Kit'a prakaranas, but it can produce more fatal symptoms as compared to other Kit'as. So it is no wonder that our Aachaaryas tried to classify these Vrishchika according to its potency to produce signs and symptoms. Sushrutachrya has also divided Vrishchika according to their potency to create symptoms. He has classified them as.^[12]

- 1. Manda Vish'a. (Mild).
- 2. Madhya Vish'a. (Moderate).
- 3. Mahaa Vish'a. (Virulent).

Aachaarya Vagbhat'a has also mentioned the same three types of Vrishchika.^[2] Aachaarya have also mentioned the origin of these three types of Vrishchika. Regarding this, Vagbhat'achaarya in his Ashtang Hridaya 37th chapter states that these Vrishchika (Scorpions) are born from the petrified dung of the cow etc. cadaver of the animals killed by the poisoned arrow and the cadaver of the snakes. According to this, Vrishchika are classified as Manda Vish'a (of mild poison), Madhya Vish'a (of moderate poison) and Mahaa Vish'a (of severe poison).^[13]

More or less, same explanation is given by Sushrutachaarya, except for the Madhya Vish'a (mild poisonous) Vrishchika; he says that these are originated from wood and bricks.^[14]

Again these Mild moderate and virulent Vrishchika are of twelve, three and fifteen in number. Total being thirty.^[15]

In Charaka Samhita, Acharya Charaka has classified all Kit'a into two groups, as Doosh'i Vish'aja & Pran'ahara or Asaadya. Detail description regarding the types of the Vrishchika is not available.^[16]

S. N.	MandaVish'a	MadhyaVish'a	MahaaVish'a		
1	Krish'ņ'a	Rakta	Shwetaschitra		
2	Shyaava	Peeta	Shyaamala		
3	Karbura	Kapila	Dwiparva		
4	Gomootra		Lohitaa		
5	Karkasha		Rakta		
6	Mechaka		Shweta		
7	Paaņd'u varņa		Rakta neelodhar		
8	Peeta		Peeta		
9	Dhoomra		Neela		
10	Romasha		Rakta Neela		
11	Satvala		Neela shukla		
12	Rakta		Ratobabhru		
13			Eka parva		
14			Parvaņi dvayi		
15			Aparva		

Table. No	. 1: Division	of Vrishchika	[17]
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4.2 Upadrava of Vrishchika Damsha

Texts like Prayoga Samuchchaya and Kriya Kaumudi has mentioned the Upadravas (complications) of Vrishchika Damsha, which may appear in case of Ugravish'a Vrishchika. Those complications are – Asahyavedana (severe pain), Shotha (oedema), Shwaasa (breathlessness), Trish'n'a (thirst) and Moha and Pralapa (Delirium.

Sl No.	Sign & Symptom	Ch.	Su.	Va.	Modern	K.K/P.S./V.V.J
1	Daaha (Burning)	+	+	+	+	+
2	Vedana (Pain)	+	+	+	+	+
3	Drish't'inaasha (Impaired vision)	+				+
4	Mamsashaatana (Necrosis)	+				+
5	Hrish't'aroma (Horripilation)	+		+	+	+
6	Stabdha linga (Stiff phallus)	+		+	+	+
7	Sira (Dilatation of Veina)	+				
8	Shotha (Swelling)	+	+	+	+	+
9	GaatrashyaVaata (Cyanosis)	+	+			
10	Sadnyanaasha (Loss of sensation)	+		+		
11	Hridaaha (Burning at Heart)	+				
12	Shaitya (Rigors)	+			+	+
13	Jihwashopha (Glossitis)		+	+		+
14	Stabdhagaatra			+		
15	Jwara (Pyrexia)		+	+	+	+
16	Swidya (Sweating)		+	+	+	+
17	Murchchhaa (Unconciousness)		+	+	+	+
18	Vishush'ka aasya (Dry mouth)			+		
19	Raktapitta			+		+
20	Praseka (Salivation)			+	+	+
21	Hrillaasa (Nausea)			+	+	+
22	Chhardi (Vomiting)			+	+	
23	Arochaka (Tastelessness)			+		
24	Mukhamaadhurya (Sweetness in mouth)			+		+
25	Kat'uaasyata			+		
26	Peenasa (Running nose)			+		
27	Nishwaasa (Breathlessness)			+	+	
28	Vepathu (Tremors)		+		+	
29	Sphot'otpatti (Blisters)		+			
30	Red wheal				+	
31	Tachycardia				+	
32	Bradycardia				+	
33	Hypertension				+	
34	Hypotension				+	
35	Haemorrhage		+		+	
36	Itching				+	+
37	Fasciculation of muscles				+	+
38	Abdominal Pain				+	

Table. No. 2 Signs and Symptoms of Vrishchika Damsha.

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39	Abdominal distension				+	
40	Convulsions				+	+
41	Pulmonary oedema				+	
42	Heart failure				+	
43	Mrityu (Death)	+	+	+	+	+

4.3 Management

According to Ayurveda management of Vrishchika damsha can be divided in to two parts as

- 1. Yukti vyapaashraya Chikitsa: Aush'adhi Prayoga.
- 2. Daiva vyapaashraya Chikitsa: Mantra Prayoga.

Yukti vyapaashraya chikitsa can again be divided in two major parts as follows

1. Shodhana Chikitsa – In Bahula Dosh'a condition – which may include Vamana, Virechana, Nasya and Raktamokshana according to the predominance of the Dosh'a.

2. Shamana chikitsa – In Alpa Dosh'a condition – which may include internal medicine, external application, dhoopana, Anjana etc.

Details of regarding various treatment modalities of Vrishchika Damsha, which are mentioned in several Ayurvedic Samhita granthas will be described here onwards.

4.3.1 A). Yukti vyapaashraya Chikitsa

Vagbhat'a has clearly mentioned that these Vrishchika and Ush't'radhoomaka are having the predominance of the Vaata. So general treatment for the Vrishchika Damsha should be Vaatahara.^[18]

Though the predominant Dosh'a involvement in Vrishchika vish'a is Vaata, Vagbhat'a also says that there is a chance that other Dosh'a may also produce its Lakshan'as. So the treatment should be according to the signs and symptoms, which are seen at that time. He says that Dosh'a, which so ever presents more number of symptoms, should be treated first with the drugs having opposite qualities.^[19]

Some of the single drugs as well as compound preparations, mentioned in various texts, which are generally used for the management of the Vrishchika damsha will be explained here on words. In the poison, which is predominant in Vaata, the wound should be smeared with Pin'yaka (oil cake of Tila) anointing with medicated oil, fomentation by the steam coming out from a tube or by application of boiled rice etc. and therapies which are Brimhan'a (nourishing) should be used.^[20]

Vacha, Hingu, Vidanga, Saindhava, Gajapippalee, Path'a, Prativish'a and Vyosh'a i.e. Shunth'i, Maricha and Pippali. Pills made from these drugs is called as Dashanga Agada which was formulated by Kashyapa. It can cure the poisons of all kinds of insects.^[21]

Roots of Bilva, flowers of Surasa, fruits of Karanja, Nata, Surahvam, Phalatrika i.e. Haritaki, Bibhitaki and Aamalaki, Vyosh'a i.e. Shunth'i, Maricha and pippalee, Nishadwaya i.e. Haridra and Daruharidra, all these are triturated in goats urine and made into nice paste. This can be used as a Collyrium, internal consumption and for nasal medication in the cases of Snake, Spider, Mice, and Scorpion etc. It is also used in the case of Visuchika, indigestion, artificial poison, and fever. It makes person healthy who is suffering from possession of evil spirits.^[22]

Chakra taila should be poured continuously on the site of Scorpion sting. Chakra taila is nothing but the oil from the oil mill (Chakra), which is slight warm in nature. Oil, which is prepared from Vidarigandhagana, mentioned, in the 15th chapter of Sootrasthana of Ash't'ang Hridaya, or any other oil which is warm, may be used for the same purpose.^[23]

Warm ghee, which is added with Lavan'ottama i.e. Saindhava or rice gruel added with milk and salt may be repeatedly used for pouring at the site of the Scorpion sting.^[24]

Application of warm poultice of Ajaji fried in Ghee and added with Saindhava is effective medicine for the management of the Vrishchika damsha. After incising the site of sting, when a powder of Rajani, Saindhava, Vyosh'a i.e. Shunth'i, Maricha and Pippalee and fruits and flowers of Shireesh'a is one more effective remedy for treating Vrishchika damsha.^[25]

The flowers of Surasa, made into paste with Matulunga and cows urine, or Pin'yaka (oil cake of Tila) or fresh cow dung may be applied warm over the site. Ghee mixed with honey or milk added with more sugar is best for drinking.^[26]

Paaravata shakrita i.e. excreta of the pigeon, Pathya, Tagara, and Vishwabhesh'aja mixed with the juice of Bijapoora is considered as the best antidote for the Scorpion sting.^[27]

Paste of Ush't'ra damshtra i.e. tooth of camel, mixed with shaivala destroys the poison of the Vrishchika. Pills prepared from Hingu and Haritaala along with the juice of Matulunga is used for the application at the site of the sting. Anjana i.e. collyrium of the same pill is also best to remove the poison of the Scorpion.^[28]

Karanja, Arjuana, Selu, Kat'abhi, Kut'aja and flowers of Shireesh'a triturated with Mastu i.e. water of curds is also used for the application over the site of the sting.^[29]

In a patient who is unconscious, breath heavily, talks irrelevantly and has a severe pain should be anointed with the paste of Pathya, Nisha, Krish'an'a, Manjish'th'a, Ushna and Alaabuvrinta triturated with juice of Vartaka.^[30]

In severe cases of Scorpion stings, the patient should be advised to drink Dadhi i.e. Curd and Sarpi i.e. Ghee. Bloodletting should be done by cutting the vein. Vamana (Emesis), Anjana (Collyrium) and Nasya (nasal medication), therapies should be administered. The patient should consume the food, which is warm, unctuous, sour, sweet, and mitigating Vaata.^[31]

Naagara, Excreta of pigeon, Haritaala and Saindhava triturated in the juice of Bijapoora can also be used in this condition. This Agada immediately destroys the poison of all kinds of Vrishchika.^[32]

Pills made from the mushroom growing on elephant's dung and root of Rohish'a are made into a paste with decoction of Shelu. This is best to remove the poison of Scorpion and other insects by external application.^[33]

Seeds of Shireesh'a soaked and triturated for three times in the milky sap of Arka and then mixed with the powder of Pippali. This Agada destroys the poison of insects, snakes, spiders, mice and Scorpion.^[34]

Pills prepared from the powder of the flowers of Shireesh'a seeds of Karanja, Kashmiraja, Kush'th'a and Manashila, destroys the poison of Scorpion.^[35]

When other treatments fail to give relief to the patient and the poison is found to be increasing in its effect, Vagbhat'aachrya has explained that the site of the sting should be applied with a paste of Vish'a i.e. Sthavara Vish'a. This treatment is also useful in case of Uchchit'inga bite.^[36]

One stung by that with virulent and moderate poisons should be treated as bitten by the snake. The site of the bite should be fomented, scarified and then rubbed with the powders of Haridra, Saindhava, Trikat'u i.e. Shunth'i, Maricha and Pippali, and fruits and flowers of Shireesh'a.^[37]

Kalka prepared from Jeeraka and Saindhava, mixed with Ghrita and Honey should be applied after making it warm at the site of the sting. This helps to destroy the poison of the Scorpion.^[38]

When leaves of Suryavarta are crushed and its smell is inhaled, the poison of the Vrishchika is destroyed in no time.^[39]

Kaasamarda patra, after chewing, air should be blown in the ears of the person suffering from Vrishchika Damsha.^[40]

Navasaagara and Harataala should be triturated in water and lepa is applied at the site of the sting.^[41]

In Vish' a vaidya Jyotsnika, following measures are explained for the management of the Vrishchika Damsha.

Rakta mokshana- with the help of Shringa or Jalauka.

Nasya- with swarasa of Ashwagandhaa and Karanja.

Anjana- with Karanja, Tintidika, Karaskara patra and Saindhava.

Dhaara- Nimbatwak and Maricha grinded in butter milk which is sour in taste.

Dhaara should be done when it is Luke warm.

Dhoopana-

1. Small chicken's feathers with Saindhava and tila kalka should be used for the dhoopana.

2. Mixture of Ramath'a and Darvi is also used as a Dhoopana dravya in Vrishchika Damsha Prayoga Samuchchaya also mentions these above said two dhoopana yogas.

3. Nimbapatra, Haridra, Nrikesha, Tush'a, Snuhipatra, Palm leaves and Chakralata can be used for Dhoopana.

Karanjapatra swarasa, which is obtained by crushing the leaves in hand, is also a useful remedy. It can be administered as a Pana, Anjana, Nasya and Lepa.

Prachchhaana

Should be done at the site of the sting and after that churn'a prepared with Haridra, Saindhava, Trikat'u, and flowers of Shireesh'a beeja should be applied over it.

Lepana

1. Dad'ima twak and Tulasi push'pa grinded in Gomootra can be used.

2. Flowers of Arjuna, Gunja, Shlesh'mantaka, Shireesh'a and Kut'aja grinded in Karanja swarasa and Mastu is also helpful to reduce Vrishchika Vish'a.

Dhaara with Taila prepared from shaliparn'i kwatha and its root, as kalka is another remedy.

Gut'ika - prepared from Bibhitaki, Nata, Shunth'i, Kapota Vit' and Dad'ima swarasa is very useful in the management of the Vrishchika damsha.

In the cases of Uchchit'inga damsha, varti prepared from the swarasa of the Shelu can be used. Gut'ika prepared from the Shireesh'a beeja and Pippali in Arka ksheera can be used for Anjana, Paana and Nasya and Lepa.

In Raatrika type of Vrishchika damsha Varti prepared from Shireesh'a beeja, Karanja beeja, Kumkum and Kush'th'a is useful. Dhoopana with the help of Narakesha, Peeta Sarsh'apa and Jeern'a Gud'a is also recommended.

For treating Ugra Vish'a, Prayoga Samuchchaya advises to implement Vamana Chikitsa with the help of Trivritta, Tand'uliyaka and Ghrita, and after that, Lepa of Ksheerivriksha twak is used. Mukta lepana is recommended in the case of Pain, high fever and oedema. Dashanga Gut'ika is also mentioned for the same.

4.3.2 B} Daiva vyapaashraya Chikitsa

Mantra Chikitsa

Ayurveda has also given the importance to the Daiva vyapaashraya chikitsa. Under this context, some of the books have mentioned Mantra chikitsa for the management of Vrishchika damsha.

A very well known book, Haarita Samhita has given the due importance for the Mantra Chikitsa.^[42] (H.S.3/55).^[55-56]

A very renowned book from Kerala, Tantra Saara Samgraha, popularly known as Vish'a Naarayan'iya, which is based on Mantra chikitsa and still followed by various traditional vaidya, have mentioned Mantra chikitsa for the same.^[43]

This kind of treatment is found very popular among the tribal communities of India.

4.3 Use of counter poison: When the effect of the poison does not subside by curative drugs as well as hymns, after the lapse of 5th stage and before the lapse of 7th stage, Acharya Vagbhat'a has advised the administration of counter poison.^[44]

Jangama Vish'a (animal poisons) generally possess properties of Pitta and spreads upward, while Sthawara Vish'a (inanimate poisons) possess properties similar to Kapha and spread downward. Thus two kinds of poisons possessing opposite qualities when put together destroy each other. Hence he who is bitten by Animate poisons should be treated with Inanimate poisons in later stage.^[45]

Regarding this Vagbhat'acharya state that for the person bitten by Kit'a (insects), the quantity of inanimate poison will be two Yava and in case of Scorpion sting it will be of the size of a Tila (sesame seed).^[46]

4.4 Pathyaapathya

Path'ya – Old Shash't'ika rice, Koradush'a, Priyangu, Mudga, Harenu, Tuvari, Patola, Vetrapallava, Tand'uliyala, Jivantee, Vaartaka, Sunnishanaka, Meat of the animals of the deserts, Daad'ima, Dhaatri, Kapittha, Saindhava, Sita and such others which do not cause vidaaha or Pittaprakopa and whose properties are best known should be given to the patients of the poison. Food should be made with the drugs, which are of Kash'aya rasa and anti poisonous in nature, and with medicated Ghrita such as Kalyaan'aka etc. Rain water, water of lakes and wells, or any, other which is boiled, and cooled, which is added with Honey and Aamalaki should be drunk by the patient of the poison.^[47]

Apaththya – Tila, Madya, Kulattha, Hunger, anger, fear, exertion, copulation and especially sleeping in the day should be avoided by the patient who is suffering from the poison, or even after getting relief from the poison.^[48]

Water of rivers and tanks should be avoided especially in rainy season for drinking purpose.

5. DISCUSSION AND CONCLUSION

Scorpions have long been of interest to humans primarily because of their ability to give painful and sometimes life threatening stings. They are also an important and beneficial component of many ecosystems and they are one of the oldest known terrestrial arthropods. Insect poisoning is described under the heading *Keetavisha* in Ayurvedic science. Poisoning by them is of more clinical importance as they cause severe manifestations in Human being.

Vrischika ; Scorpion are explained in almost all the Ayurvedic literature. The classical texts Susrutha samhita and Ashtanga hridaya explains about the details regarding the *Vrischika damsa*.

The manifestation of Vrischika damsa varies widely from mild pain to cardiovascular disturbances and even upto death. Common manifestations of Vrischika damsa include Severe cutting pain and burning sensation, oedema, erythema and pruritis. Nausea, vomiting, fever, local rise in temperature, breathlessness, muscular fasciculation, abdominal pain, tingling sensation of the tongue may be associated. According to these symptoms Acharayas classified Vrischika into three categories; Manda, Madhya and Maha visha. Tingling sensation of the tongue is seen in madhya and maha visha Vrischika damsa. Ayurveda plays an important role in the management of vrichikt damsh. Acharya mentioned Yukti vyapaashraya Chikitsa which include Aush'adhi Prayoga(Medicine) and Daiva vyapaashraya Chikitsa which include Mantra Prayoga(Chanting). Yukti vyapaashraya chikitsa can again be divided in two major parts as, shodhana Chikitsa and Shamana chikitsa. As Acharya Charak says that shodhan chikitsa is the half treatment of Ayurveda. In Vrischika damsa shodhana Chikitsa (in bahula dosh'a condition) which may include Vamana, Virechana, Nasya and Raktamokshana according to the predominance of the Dosh'a and Shamana chikitsa (in alpa dosh'a condition) which may include internal medicine and external application, dhoopana, Anjana etc. The etiological factors/diagnosis and Ayurvedic protocol of management of Vrischika damsa has evaluate, elaborate and discussed as per Ayurvedic aspect. Thus Ayurveda may play a fruitful role to manage the Vrischika damsa.

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