

## CRITICAL REVIEW ON KWATHA KALPANA W.S.R TO PANCHBHADRA KWATHA

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## ABSTRACT

Ayurveda, an ancient science of life, emphasizes the balance between body, mind, and spirit for achieving optimal health. Rasa Shastra and Bhaishajya Kalpana, a specialised branch of Ayurveda that mainly focus on the preparation, purification, and therapeutic application of herbo-mineral and metallic formulation. Bhaishajya Kalpana gives us various dosage forms (*Panchvidha Kashaya Kalpana*), which provide us a free hand for the better selection of the formulation according to the conditions of the patient. Kwatha kalpana is one of the five basic Kalpana of the Ayurvedic pharmaceuticals, which is widely used nowadays. Panchbhadrha Kwatha, a polyherbal formulation mentioned in different Ayurvedic literatures, used in Jwara chikitsa. Here is an attempt made to review this Kwatha Kalpana and a very effective polyherbal formulation.

**KEYWORDS:** Ayurveda, Rasa-Shastra & Bhaishajya Kalpana, Panchvidha Kashaya Kalpana, Panchbhadrha Kwatha.

## INTRODUCTION

Every substance in the universe functions as a medication if it undergoes proper processing and dosage. However, it is not practical to employ these in their natural state. Thus, the creative mind mastered the skill of altering them into the appropriate, advantageous form. The fully developed branch known as *Bhaishajya Kalpana* is the result of this devious evolution. *Bhaishajya Kalpana*<sup>[1]</sup> is the art and science of preparing and administering medicine. An old Ayurvedic concept called *Panchvidha Kashaya Kalpana*<sup>[2]</sup> (*Swaras, Kalka, Kwatha, Hima, Phanta*) describes five ways to make therapeutic concoctions. The purpose of these techniques is to efficiently extract the medicinal qualities of plants for easy administration. *Bhaishajya Kalpana* is mainly specialises in creating and producing medicines. The primary subjects of this field are the art and science of preparing, mixing and standardising various pharmaceutical materials to create powerful medicinal formulations. *Bhaishajya Kalpana* upholds the holistic ideals of Ayurveda by balancing the body, mind, and spirit. It ensures that herbal treatments are suitable, safe, and effective for treating a range of ailments.

*Kwatha Kalpana* is an ancient Ayurvedic technique for making herbal decoctions, which gets its name from the

Sanskrit term "*Kwatha*," which means decoction, involving boiling herbs in specific amount of water to extract their medicinal properties. Afterwards, the condensed liquid serves as a potent medicinal treatment.

*Kwatha Kalpana* is widely used by Ayurvedic practitioners to effectively deliver herbal water-soluble active ingredients and treat a wide range of diseases. It is important because it can increase the bioavailability of herbal ingredients, resulting in more effective healing.

## NEED OF REVIEW

As, Kwatha is the source of the majority of the secondary dosage forms in *Bhaishajya Kalpana* including *Avaleha, Ghanasara, Snehapaka, and Asavarishta*. Not only in *Bhaishajya Kalpana* but also in *Rasa Shastra*, Kwatha is the primary source for the numerous procedures like *Shodhana, Marana, Bhavana* etc. It can also be used as an *anupana, or sahapana*. Various panchkarma processes are incomplete without the use of this Kalpana, such as *Shirodhara, Basti* etc. It is also widely used in surgical practice as *Dhavana, lekhana karma*, etc.

## Review of the Kwatha Kalpana

The different *Kalpanas* like *Swaras, Kalka, Kwatha, Sheeta, Fanta*, etc. are mentioned in different *Samhitas*.

*Kwatha* is extensively described in all Samhitas.

The term *Kwatha* is derived from the root word '*Kwathana*' which literally means the 'process of boiling'.

***Kwātha*-definition<sup>[3]</sup>**

पानीयं षोडशगुणं क्षुण्णे द्रव्यपलेक्षिपेत्।

मृत्पात्रे क्वाथयेद्ग्राह्यमष्टमांशावशेषितम्॥

तज्जलं पाययेद्दीमान्कोष्णं मृद्वग्निसाधितम्। (Sā. Ma Kha. 2/1-2)

The terms

तज्जलक्वथितजल - indicates boiled or reduced water, i.e.; decoction;

कोष्णं = ईषदुष्ण - indicates the instant use of the decoction; and

मृद्वग्निसाधितं = मन्दपाकपाचित - boiled over mild heat.

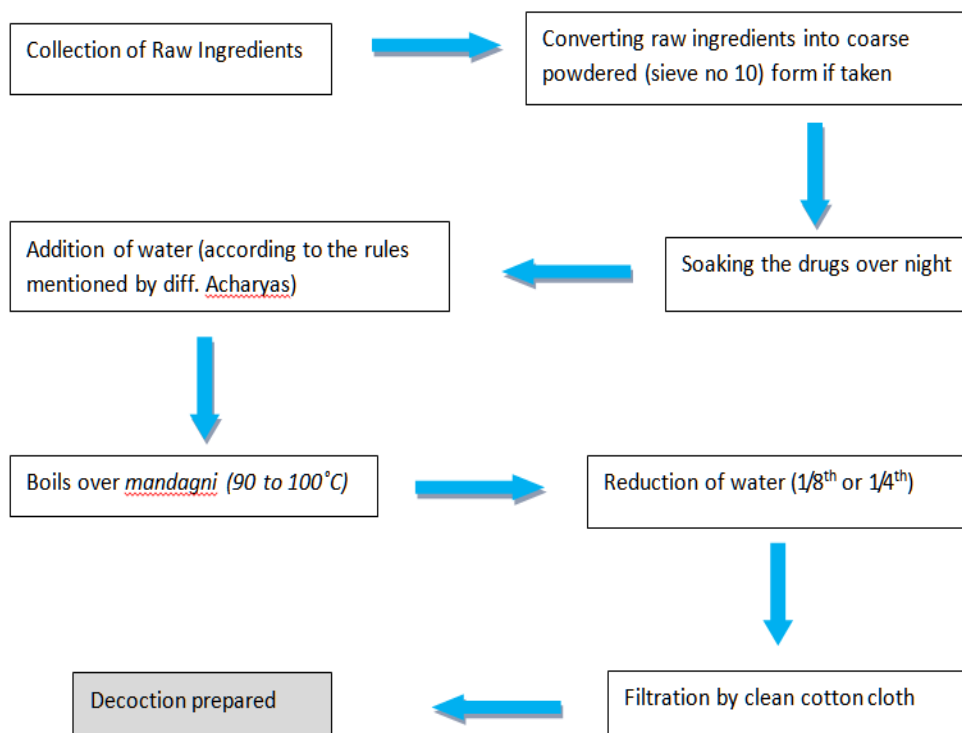
#### SYNONYMS OF KWATHA

शृतः क्वाथः कषायश्चनिर्यूहः सनिगद्यते ॥ (Śā. Ma. Kha. 2/2)

*Shrita, Sheeta, Kashāya, Niryūha, Kādāha* etc.

## MATERIAL AND METHODS

### Method of preparation



### Review of the classics regarding its pharmaceutics

Different ancient Ayurvedic scholars, or acharyas, have provided detailed guidelines on how to prepare and use Kwatha. Here's an overview of Kwatha Kalpana as described by various *Acharyas*

#### 1. *Acharya Charaka*<sup>[4]</sup>

• **Preparation:** According to Charaka, herbs are to be soaked in water overnight, usually in a ratio of 1 part herb to 16 parts of water. The next morning, the mixture is boiled until the water is reduced to one-fourth of its original volume.

#### 2. *Acharya Sushruta*<sup>[5]</sup>

**Preparation:** *Sushruta* mentions that the standard ratio of herb to water should be 1:8. The herbs are boiled until the water is reduced to one-fourth.

#### 3. *Acharya Vagbhata*<sup>[6]</sup>

• **Preparation:** *Vagbhata's* method involves using a ratio of 1 part herb to 4 or 8 parts of water, depending on the potency of the herb. The mixture is boiled until it reduces to one-fourth of its original volume.

#### 4. *Kashyap Samhita*<sup>[7]</sup>

*Kwatha Dravyas* are taken in one part, and four or eight parts of water are added and reduced until 1/4<sup>th</sup> of its initial quantity.

#### 5. *Harita Samhita*<sup>[8]</sup>

According to the *Acharya Harita*, *Kwatha* is classified into seven types on the basis of reduction of water and its pharmaceutical activity. *Acharya Harita* gives guidelines regarding the safeguarding of Kwatha. He also mentioned the features of *Grahya* & *Agrahya Kwatha*.

S.no	Type of Kwatha	Reduction of water	Pharmacological activity
1	<i>Pachana</i>	$\frac{1}{2}$	<i>Dosha pachana</i>
2	<i>Shodhana</i>	$\frac{1}{12}$	<i>Mala shodhana</i>
3	<i>Kledana</i>	$\frac{1}{4}$	<i>Dhatu kledana</i>
4	<i>Shaman</i>	$\frac{1}{8}$	<i>Roga shamana</i>
5	<i>Deepana</i>	$\frac{1}{10}$	<i>Dosha agnideepana</i>
6	<i>Soshana</i>	$\frac{1}{16}$	<i>Dosha shoshana</i>

#### 6. Bhav Prakash<sup>[9]</sup>

Acharya Bhav Prakash follows Acharya Sharangdhara by stating the 1:16 ratio of *Kwatha Dravyas* & water and reduction up to 1/8th. He has mentioned the proportion of water according to the quantity of *Kwath Dravyas*. The dose of Kwatha is stated as *Uttam, Madhyam and Adhama matra*.

#### 7. Chakrapani Datta<sup>[10]</sup>

Chakrapani Datta opines that Kashaya is prepared according to the quantity of Kwatha Dravya, i.e., for 1 *Karsha* (10 gm) to 1 *Pala* (40 gm), 16 parts of water, for 1 *Pala* to 1 *Kudav* (250 gm) 8 parts, for 1 *Pala* to  $\frac{1}{2}$  *Ser* (500 gm) 4 parts of water are added and reduced to one-fourth of its initial quantity.

#### 8. Yog Ratnakara<sup>[11]</sup>

Coarse powder of the *Kwatha drugs* (4 Tola) is boiled with (64 Tola) water in earthen pot over *Mandagni* till it remains  $\frac{1}{8}$ <sup>th</sup> of its initial quantity. He has mentioned the synonym, *Prakshepa*, doses of *Kwatha*, and the time of its administration.

#### 9. Brihatnighantu Ratnakar<sup>[12]</sup>

According to *Brihatnighantu Ratnakar*, one part of the drug should be boiled with sixteen parts of water and reduced up to one fourth of its initial quantity.

#### 10. Ayurved Sar Samgraha<sup>[13]</sup>

Coarse powder of *Kwatha drugs* taken in earthen or mud-insulated coated copper vessel with sixteen times the water and heated on mild temperature to reduce up to  $\frac{1}{8}$ <sup>th</sup>. The author also recommends the use of a new earthen pot for *Kwatha* preparation and instructs not to cover the *Kwatha* vessel while boiling.

#### 11. Ras Tantra Sar Evam Siddha Prayoga Sangraha<sup>[14]</sup>

*Kwatha Dravyas* are boiled at a low temperature after being soaked in an earthen or glass pot. Drugs are soaked and boiled with sixteen parts of water, then reduced to one fourth of its volume. While boiling *Kwatha*, the author suggests using a lid, to prevent the release of several volatile medicinal ingredients.

#### Ratio Of Water According to Consistency of Drugs<sup>[15]</sup>

चतुर्गुणमृदुद्रव्येकठिनेष्टगुणंजलम्।

तथा च मध्यमे द्रव्येदद्यादष्टगुणं पयः॥

अत्यन्त कठिने द्रव्येनीरं षोडशिकं मतम्। (Sā. Ma Kha. 9/3-4)

Mentioned by	Consistency of Kwatha drugs	Quantity of water for Kwathana
Sharangdhara	<i>Mrudu</i>	Four times
	<i>Madhyama</i>	Eight Times
	<i>Kathina</i>	Eight Times
	<i>Atikathina</i>	Sixteen times
Ksharapani <sup>[16]</sup>	<i>Mrudu</i>	Four times
	<i>Kathina</i>	Eight times
	<i>Atikathin</i>	Sixteen times

When there is a mixture of all types of Drugs (*Mridu, madhyam, kathin*), 8 times water should be taken.

#### Ratio of water according to the different Pharmaceutical purpose<sup>[17]</sup>

Therapeutic purpose	Quantity of water	Reduction of water
<i>Sneha Kalpana</i>	4 times	$\frac{1}{4}$ <sup>th</sup>
<i>Sandhan Kalpana</i>	8 times	$\frac{1}{4}$ <sup>th</sup>
<i>Bhavna process</i>	8 times	$\frac{1}{8}$ <sup>th</sup>
<i>Vaman purpose</i>	3 times	$\frac{1}{2}$ <sup>nd</sup>
<i>Paan / Paneeya</i>	24 times	$\frac{1}{8}$ <sup>th</sup>
	30 times	$\frac{1}{4}$ <sup>th</sup>
<i>Ushnodaka</i>	1 time	$\frac{1}{3}$ <sup>rd</sup>
<i>Seka purpose</i>	4 times	$\frac{1}{2}$ <sup>nd</sup>

Aschotana	6 times	1/6 <sup>th</sup>
Asthapana / Niruha Basti	6 times	1/7 <sup>th</sup>
Gandusha	4 times	1/5 <sup>th</sup>
Mukhaprakshalana	8 times	1/9 <sup>th</sup>
Vranaprakshalana	3 times	1/3 <sup>rd</sup>

### Ratio of water according to quantity of Drugs<sup>[18]</sup>

कर्षादितः पलं यावत्क्षिपेत्षोडशिकं जलम् ॥

तदूर्ध्वं कुडवं यावद्भवेदष्टगुणं पयः।

प्रस्थादितः क्षिपेन्नीरं खारी यावत्चतुर्गुणम् ॥ (Sä. Ma. Kha. 9/4-5)

Mentioned by	Quantity of Drug	Quantity of water
Acharya Sharangdhara	1 Karsha to 1 Pala	16 parts of water
	1 Pala to 1 Kudava	8 parts of water
	1 Prashta to 1 Khari	4 parts of water
Bhaishjya Ratnavali <sup>[19]</sup>	1 Tola to 4 Tola	16 parts of water
	1 Pala to 4 Pala	8 parts of water
	1 Pala and above	8 parts of water
Bhavaprakasha <sup>[20]</sup>	1 Karsha to 1 Pala	16 parts of water
	1 Pala to 1 Kudava	8 parts of water
	1 Kudava to 1 Prashta and above	4 parts of water

1 Karsha – 12 gm

1 Pala – 48 gm

1 Tola- 12 gm

1 Kudava- 192 gm

1 Khari- 196 kg

1 Prastha – 768 gm.

### UTTAMA KWATHA LAKSHANA<sup>[21]</sup>

Acharya Harita mentioned, *Kashaya* (decoction) which has the *varna* (colour) and *gandha* (odour) similar to that of the *dravyas* used for its preparation and which is clear without any *ghanatva* or *picchilata* is considered to be *uttama* (best in quality).

### Precautions during Kwatha preparation

- ✓ For the preparation of Kwatha, only coarse powder (*Yavakūta Chūrna*) of the drugs was used.
- ✓ Raw drugs should be soaked overnight for better extraction of active constituents.
- ✓ A chemically inert vessel was used for the preparation of Kwatha.
- ✓ Mild to moderate heat was maintained throughout the boiling process.
- ✓ The vessel was kept open during the boiling process, if this was done, the prepared Kwatha turned into "Guru" for digestion.<sup>[22]</sup>

अपिधान मुखेपात्रे जलं दुर्जरतां व्रजेत्।

तस्माद् आवरणं त्यक्त्वा क्वाथादींश्च विपाचयेत्॥ (Sä. Ma. Kha. 2/7)

### DOSE OF KWATHA

आहारसपाके च सञ्जाते द्विपलोन्मितम्।

वृद्धवैद्योपदेशेन पिबेत्क्वाथं सुपाचितम्॥ (Sä. Ma. Kha. 2/3)

Its dose is 2 pala (approx. 80 ml) after proper digestion of food

- Dose is 1 pala (40 ml) as per Acharya Yadavji Trikamji and Vrindhmadahav<sup>[23]</sup>
- Dose is 4 pala (40 ml) / 1 anjali as per Acharya Vangsen & Acharya Sushruta<sup>[24]</sup>
- Nowadays 20ml dose is given due to *Kshinabala* (Weaker strength) of patients.

According to Bhavaprakash Nighantu<sup>[25]</sup>

- Uttam - 4 karsha
- Madhyam - 3 Karsha
- Adham - 2 Karsha

क्वाथस्य मध्यमामात्रापलानां प्रकीर्तिता। (Sä. Ma. Kha. 2)

The *Madhyama Mātrā* of Kwatha is one Pala (40 gm). However, the strength of the patient and the disease are to be taken into consideration before finalizing the dose.

### Shelf life of Kwatha

According to the classic literature, Kwatha is to be used by one *prahara* (3 hours) or within 24 hours. Kwatha should not be used after 24 hours.

### Prakshepa Dravyas and their quantity<sup>[26]</sup>

1. To 2 Pala (80 ml) of any decoction, the sugar (*Sitā*) and honey (*Madhu*) are added in the below-given ratio considering the diseases and their *Dosha* predominance;

क्वाथे क्षिपेत्सितामंशैश्चतुर्थ्यष्टमषोडशैः।

वातपित्तकफातङ्के विपरीतं मधुस्मृतम्॥ (Sä. Ma. Kha. 2/4)

Prakshepa	Vatajaroga	Pittajaroga	Kaphajaroga
Sugar	1/4 <sup>th</sup> part	1/8 <sup>th</sup> part	1/16 <sup>th</sup> part
Honey	1/16 <sup>th</sup> part	1/8 <sup>th</sup> part	1/4 <sup>th</sup> part

2. *Jiraka, Guggulu, Kshāra, Lavaṇa, Silājatu, Hingu, Trikatu*; any of these adjuvants are added in one *Shāna* (3 gm) quantity to the *Kwātha* during administration.

जीरकंगुग्गुलंक्षारंलवणंचशिलाजतु।

हिङ्गुत्रिकटुकंचैवक्वाथेशाणोन्मितंक्षिपेत्॥ (Sā. Ma. Kha. 2/5)

3. Liquids like milk, ghee, jaggery, oil, cow's urine and any other liquids, different *Kalka* and *Chūrma*; any of these adjuvants are added in 1 *Karṣa* (10 gm) quantity to the *Kwatha* (2 *pala*; 80 ml) during administration.

क्षीरंघृतंगुडंतैलंमूत्रंचान्यद्वद्वतथा।

कल्कंचूर्णादिकंक्वाथेनिक्षिपेत्कर्षसम्मितम्॥ (Sā. Ma. Kha. 2/6)

Mentioned by	Prakshepa Dravya	Dose recommended	Indications
Charaka <sup>[27]</sup>	<i>Ghrīta, Guda, Taila, Churna Guggulu, Drava, Kalka etc</i>	1 Karsha (10 g)	As per disease condition
Sharangdhara	Madhu	1/16 of Kwatha	Vataj Roga
		1/8 of Kwatha	Pittaj Roga
		1/4 of Kwatha	Kaphaj Roga
	Sarkara	1/4 of Kwatha	Vataj Roga
		1/8 of Kwatha	Pittaj Roga
		1/16 of Kwatha	Kapha Roga
	<i>Jiraka, Guggulu, Kshara, Lavana, Shilajatu, Hingu, Trikatu</i>	1 Shana	As per disease condition
	<i>Kshira, Ghruta, Guda, taila, Mutra, Churna</i>	1 Karsha	As per disease condition

#### Review on Panchbhadra Kwatha

*Panchbhadra Kwath* is a polyherbal formulation, which is mentioned by Acharya Sharngadhar (शा.सं.म.2/20)<sup>[28]</sup> & Acharya Chakradatta (चक्र.1/115).<sup>[29]</sup>

*Panchbhadra Kwath* is made up of five basic dravyas namely *Pittapada, Nagar motha, Giloy, Shunthi* & *Kiratikta* and has a miraculous effect on *Jwara* specially *Vatt Paitik* (द्वंद्वज) *Jwara* as mentioned by Acharyas.

पर्पटाब्दामृताविश्वकैरातैः साधितं जलम् ।

पञ्चभद्रमिदं ज्ञेयं वातपित्तज्वरापहम् ॥  
(शा.म.2/20)

गुडुची पर्पटं मुस्तं किरातं विश्ववेषजम् ।

वातपित्तज्वरे देयं पञ्चभद्रमिदं शुभम् ॥  
(चक्र.1/115)

#### Ingredients of Panchbhadra Kwatha

SR. NO	NAME	BOTANICAL NAME	FAMILY	PART USED	RATIO
1	<i>Parpat (Pittapapda)</i>	<i>Fumaria indica</i>	<i>Fumariaceae</i>	Whole plant	1 Part
2	<i>Musta (Nagar Motha)</i>	<i>Cyperus rotundas</i>	<i>Cyperaceae</i>	Tubers	1Part
3	<i>Amrita (Giloy)</i>	<i>Tinospora cordifolia</i>	<i>Menispermaceae</i>	Stem	1Part
4	<i>Vishwabhaishaja (Shunthi)</i>	<i>Zingiber officinale</i>	<i>Zingiberaceae</i>	Rhizome	1 Part
5	<i>Kirattikta (Chirayta)</i>	<i>Swertia chirayita</i>	<i>Gentianaceae</i>	Whole plant	1 Part
6	Water	-	-	-	1:8 (8 times of total weight of drugs)

#### Pharmacokinetics of Panchbhadra Kwatha<sup>[30]</sup>

Name of Raw drug	Rasa	Guna	Virya	Vipaka	Doshakarma
1.Guduchi	Katu, Tikta, Kashaya	Laghu	Ushna	Madhura	Tridosha-shamak
2.Parpata	Katu, Tikta, Kashaya	Laghu	Sheeta	Katu	Kapha-pitta shamak
3.Musta	Katu, Tikta, Kashaya	Laghu, Ruksha	Sheeta	Katu	Kapha-pitta shamak
4.Kiratikta	Tikta	Laghu, Ruksha	Ushna	Katu	Tridoshashamak
5.Shunthi	Katu	Laghu, Snigdha	Ushna	Madhura	Vaat-kaphahara



As, we can clearly see from above table that mostly drugs are of Tikta rasa which have a potent anti-pyretic activity, some drugs are ushna virya but some have sheeta virya with Tridosha and Pitta shamak property so that it can easily shaman the Vaat-Paitik jwara as also mentioned by different acharyas above.

#### Advantages of Kwatha

- ❖ Kwatha is an important 'dosage form' that is recommended exclusively for numerous medical disorders.
- ❖ It is required for almost every ophthalmic procedure.
- ❖ Numerous "secondary preparations" are made with its help such as *Avaleha*.
- ❖ It is a widely used '*Bhāvanā Dravya*' in many of drug purifications.
- ❖ *Kwātha* preparations are widely used as *Anupāna*.
- ❖ It is a widely used '*Bhāvanā Dravya*' in many drugs purifications
- ❖ *Kwatha* preparations are deemed suitable for '*Vrana Praksālana*'.

#### Disadvantages of Kwatha

- ❖ Kwatha have a shorter shelf life, easily gets contaminated when kept for a longer duration because of a moisture content.
- ❖ Requires more care for handling.
- ❖ Less palatability due to its bitter taste.
- ❖ Not useful for volatile containing and heat sensitive drugs.
- ❖ It is required to be administered in large quantity to produce a desired therapeutic effect.

#### CONCLUSION

*Kwatha* (decoction) is a powerful therapeutic formulation mainly forms when we want a water-soluble contents of the raw drugs. Even though it has a great therapeutic efficacy, its usage is made remarkable by its difficult procedure, poor palatability, and decreased stability. Modern methods like spray drying and the creation of conveniently used dose forms without sacrificing efficacy are being used in an attempt to address these problems. It would be ideal to conduct thorough pharmaceutical research in this field.

#### DISCUSSION

So, we can say on the basis of vivid description of *Kwatha Kalpana* is one of the widely used *Kalpana* among all five basic *Kalpana* and all the five herbal drugs, which is the constituents of decoction/*Kwatha* namely *Panchbhadra Kwatha* is a most common and famous preparation for the treatment of *Jwara*. Since it is a purely poly herbal preparation hence very much safe and more effective than any other herbomineral preparation. In short these Drugs have following properties i.e. *Jvaraghna*, *Balya*, *Deepana*, *Rasayana*, *Sangrahi*, *Tridosh-shamaka*, *Raktashodhaka*, *Anuloman*, *Swedjanan*, *Pitta-sarak* etc.

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