



REVIEW ARTICLE

CANVASSING THE EXTERNAL APPLICATIONS OF ARKA: A CLASSICAL MEMOIR

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ABSTRACT

Classical texts of Ayurveda describe two varieties of *Arka* i.e *Arka* and *Alarka* (i.e *Calotropis procera* Ait. & *Calotropis gigantea* Linn.R.Br) and endowed them with enormous therapeutic values. Various parts of the drug have been utilized in multi dosage forms to combat disease conditions. A single handed data is unavailable on the usage of *Arka* externally in various anomalies. This review portrays the wide usage of *Arka* in the form of external administration from 46 different classical texts consisting of treatise and compendia. A total of 375 formulations have been obtained in the analysis that are used in almost 57 varied diseases.

Keywords: *Arka*, *Alarka*, *Calotropis*, external applications, skin diseases, *Visha*.

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INTRODUCTION:-

Arka is one of the plants classified under the semi-poisonous medicinal plants by seers of Ayurveda termed as *Upavisha*. *Arka* has been quoted to have 2 types in general in treatise i.e. *Alarka/ Shwetarka* and *Arka* (based on floral colours); which are botanically white variety of *Calotropis gigantea* Linn.R.Br. and *Calotropis procera* Ait. respectively.^{[1], [2]} Both have been attributed with numerous pharmaceutical and therapeutic claims in various treatise and compendia as given below. In spite of its inclusion in semi-poisonous group, both of them have been advocated with external and internal applications in various formulations for different ailments. Single handed information on the external application of usage of *Arka* and *Shwetarka* is not available. Hence, a meticulous review was done for the same through various classical treatise and compendia and texts related to *Rasashastra*.

MATERIAL AND METHODS:

In this review, information from various texts in chronological order like Charaksamhita^[3]; Sushrutasamhita^[4]; Ashtanga samgraha^[5]; Kashyapa samhita^[6]; Ashtanga Hridaya^[7]; Bhela samhita^[8]; Vrindamadhava^[9]; Chikitsakalika^[10]; Rajamartanda^[11]; Chakradutta^[12]; Harita samhita^[13]; Gadanigraha^[14]; Vangasena^[15]; Sharangadhara samhita^[16]; Rasaratnasammuchaya^[17]; Ananda

kanda^[18]; Rasachintamani^[19]; Vaidyak chamatkara chintamani^[20]; Bhavaprakasha samhita^[21]; Vaidya jivana^[22]; Vaidya manorama^[23]; Yogachintamani^[24]; Vaidya Chintamani^[25]; Rasendra chintamani^[26]; Rasendra sara samgraha^[27]; Rasakamadhenu^[28]; Basavarajiyam^[29]; Yogatarangini^[30]; Vaidya rahasya^[31]; Yogaratnakar^[32]; Arka prakasha^[33]; Bhaishyajaratnavali^[34]; Nighanta ratnakara^[35]; Brihat rasaraja sundara^[36]; Rasaraja mahodadhi^[37]; Rasayanasara^[38]; Rasayogasagara^[39]; Rasa jala nidhi^[40]; Siddhabheshaja manimala^[41]; Rasamitra^[42]; Sahastrayogam^[43]; Rasatarangini^[44]; Rasendrasambhava^[45]; Anupana manjiri^[46]; Abhinava navajeevaniyam^[47]; Bharat bhasishyajya ratnakara^[48] has been compiled and noted down.

Arka as a single drug or as content in formulations in the above mentioned 46 classical texts were critically analysed with respect to formulations, variety of *Arka*, parts used, their dosage form and indications. Due to the vast data, adhikara-wise formulations were categorised and accordingly tables have been prepared to present the information. (Table 1-17)

RESULTS:

On keen observation, it is noted that *Arka* has been used in a total of 375 formulations.

Varieties:

Direct references of varieties of *Arka* like *Raktarka* (root has been advocated in snake bite)[table 4], *Shwetarka* (5)[Table 3,4,6 &10] and *Alarka* (5) [Table 1,2,3,4] are found.

Parts: Almost all parts of *Arka* (i.e latex, leaves, stem, fruit, flower, etc.) have been included as ingredients in these formulations. In many of them i.e 79, the exact part has not been specified. But *Kshira* (latex) accounts for maximum (147) in external applications followed by *patra* (leaf) in (69) and *moola* (root) in 60 formulations, *Pushpa* (flower) 6, *Tula* (cotton) 4, *Tvak* (bark) 3, two each in *beej* a(seed) & *panchang* (whole plant); one each in *pallav*(tender leaves) and *phala* (fruit). (table 1-17)

Dosage forms: The maximum of formulations for external applications include *lepa* (119) and oil (118) followed by decoctions (33), *Churna* (30), *Swarasa* (21), *Varti* (12), *Ghrita* (5), four each of *Bhasma*, *Gutika* & *Kalka*; two each of *patra achhadana*, *Dhupa*, *Rasakriya*, *Anjana*, *Arka kalpana*, and one each of *Mashi* ,*Guda*, *Utkarika*,*Udvartana*,*loha*. The rest include sole application of *Arka kshira* and/or *patra*.

Indications:

***Kustha* (Skin disorders)** - *Ayurveda* considers various skin disorders under a single disease condition namely *Kushtha*. *Arka* has been mainly indicated in *Kushtha* (72), among the parts used, *Arka kshira* (37) has been used

maximum in skin disorders in form of oil (26) and *lepa* (40) extensively.

***Arsha* (haemorrhoids)**-Total 27 formulations have *Arka* as ingredient. Among the parts used, *Kshira* (latex) has been reported maximum and in dosage forms, oil and *lepa* are maximum in management of *Arsha*.(table 2)

***Karna vyadhi* (disorders of ear)**

Arka is an ingredient in 25 formulations where in juice expressed from leaves has been predominantly quoted in management of otalgia and other infections of ear. (Table 3) Also, *Arka* formulations i.e. expressed juice of leaves and oil have been advocated in ear anomalies like infections, otalgia, etc

***Visha* (Poison)**

Arka is an ingredient in 25 formulations where in *Kshira* has more usage in form of *lepa*. (Table 4)

***Vatavyadhi* (Neuro-muscular anomalies)**

These include 22 references of *Arka* usage in which 14 belong to oils and the parts used have maximum of *Arka* root and *Kshira*. *Arka* has been used mainly in external oleation and fomentation therapies. (Table 5)

***Vrana* (wound)**

A total of 13 formulations possess *Arka* in treatment of wounds. The main dosage forms used are oil, *lepa* and decoction. The use of root of *Shwetarka* is distinctly mentioned in wound healing. (Table 6)

Bhagandara (Fistula-in-ano):

It is one of ano-rectal disorders which consists of formation of a fistular tract which makes the condition highly painful. The treatment consists of twelve formulations with inclusion of *Arka* in oils and *lepa*. The parts used include root and latex in particular. (Table 7)

Shotha (Inflammation)-The regimen of *Shotha* includes 12 formulations consisting of *Arka* in form of decoction and medicated water of root in particular. (Table 8)

Nadivrana (Sinus)-The 12 formulations containing *Arka* mainly contain *varti* (medicated suppository) as a major dosage form with latex as triturating agent. (Table 9)

Jvara (fever)-The eleven formulations in treatment of *Jvara* mainly include powder form and *lepa* as dosage forms. The root of white variety is stated for usage and the *nasya* therapy of *Arka* has been mentioned. (Table 10)

Granthi (cyst)-Among the ten formulations, the seers have strongly advocated the use of root in the form of *lepa* in cysts. (Table 11)

Netra roga (Ocular disorders)-The management of ocular disorders has been mentioned mainly with expressed juice and decoction and *anjana* that include leaves, root, seed of *Arka*. (Table 12)

Shwitra (Vtiligo)-*Arka* is an ingredient in eight external applications in oil and *lepa* form.

Indications:

Parts used include leaves, latex and root. (Table 13)

Gandamala (Lymphadenopathy)-The treatment of *Gandamala* peculiarly has external *lepa* as dosage form and latex has been used maximum in six formulations. (Table 14)

Other indications include *Upadansha* (Gonorrhoea) (9), *Shiroroga* (10), *Kasa* (cough) (6), *Gandamala* (6), *Graha dosha* (5), *Danta roga* (6), *Khalitya* (4), *Shwasa* (4), *Yonivyapad*(3), *Urustambha* (3), *Udara* (ascitis) (3), *Visarpa* (Herpes infection) (3), *Vatarakta* (gout) (3), *Rajyakshma* (tuberculosis) (2), *Anamaka* (2), *Apasmara* (epilepsy) (2), *Galaganda* (thyroid) (2), *Vipadika* (2), *Lomashatana* (2), *Mukha roga* (disorders of oral cavity) (2), *Palitya* (greying of hair) (2), *Indralupta* (Alopecia areata) (2), *Vrudhhi* (herniation) (2) and one each in *Agnimandya*, *Arunshika*, *Amavata* (rheumatoid arthritis), *Apachi*, *Gulma*, *Galakilaka*, *Hikka*, *Hasta dosha*, *Kadara*, *Kamala* (jaundice), *Krimi* (worms), *Parshva shula* (pleurisy), *Plague*, *Plihodara* (splenomegaly), *Padakantaka*, *Nasarsha* (nasal polyps), *Snayuka*, *Vidradhi* (abscess), *Visphota*(boils), *Visuchika* (cholera), *Utfullika* and are indicated in *Panchakarma*.(table 15, 16)

Table 1: Arka as an ingredient of various formulations indicated in Kushtha (Skin disorders)

Kushtha				
Sr.no	Formulations	Dosage forms	Parts used/type	References
1.	Ankollakadi lepa	Lepa	Patra	15,49
2.	Ardrakadya taila	Oil	Kshira	15
3.	Arka ksharadi lepa	Lepa	panchang	24,49
4.	Arka kwatha	Kwatha	,alarka	5
5.	Arka manashila taila	Oil	patra swaras	13,35
6.	Arka mula lepa	Lepa	moola	18
7.	Arka pushpa lepa	Lepa	pushpa	38
8.	Arka snuhi lepa	Lepa	Kshira	25
9.	Arka taila	Oil	patra swaras	17,22,33,10,16,36,15, 25, 31,32,49
10.	Bhallatakadi lepa	Lepa	kshira, arka moola	8,6,13,10,35,15,46,49
11.	Bhanu taila	Oil	Kshira	26,29,49
12.	Bindu ghrit	Ghrita	Kshira	15
13.	Brihat somraji taila	Oil		35,49
14.	Chakrangabeejadi lepa	Lepa	moola	33,35,36
15.	Chandanadi taila	Oil	Kshira	18
16.	Chitraka taila	Oil	Kshira	29,49
17.	Chitrakadi lepa	Lepa	Arka	4,49
18.	Chitrakadi yoga	Lepa	Patra	BS
19.	Dantyadi pradeha	Lepa	Patra	6
20.	Eladi lepa	Lepa	Arka	6
21.	Gandirikadya taila	Oil	Arka	13,10,35, 16,20,49
22.	Gruhadhumadi lepa	Lepa	Kshira	15
23.	Gunjadi udvartana	Churna	Kshira	33,36,49

24.	Haritaladi lepa	Lepa	Kshira	5
25.	Jatyadi pradeha	Lepa	Patra	4
26.	Kacchhurakshas taila	Oil	Kshira	35,49
27.	Kacchoradi taila	Oil	Arka	44
28.	Kanakshiri taila	Oil	pallav	4,15,49
29.	Kandarpasara taila	Oil	patra, kshira	35,49
30.	Karaveeradi taila	Oil	Kshira	14
31.	Kodravatanduladi lepa	Lepa	Kshira	32
32.	Kushtha kalanala taila	Oil	Kshira	15, 25, 31,49
33.	Kushthadi taila	Oil	Arka	4,8,49
34.	Kushthahara taila	Oil	moola	18
35.	Laghu vishagarbha taila	Oil	Arka	25,26, 29
36.	Lakshadi lepa	Lepa	moola	5
37.	Mahamarichadya ghrita	Ghrita	Arka rasa	20
38.	Mahamarichadya/ brihat marichadya taila	Oil	Kshira	22,13,33,10,35,16,15, 25,26,29, 31
39.	Mahasinduradya /brihatsinduradya/	Oil	Patra	13,33,35, 16,36,15,26,29, 31,48
40.	Mahatrunak taila	Oil	Kshira	13,35
41.	Mahavajrak taila	Oil	Arka	5
42.	Mahavajrak taila	Oil	Kshira	16
43.	Mahavajrak taila	Oil	kshira	8,44,15,49
44.	Mahavishagarbha taila	Oil	Arka	25,26,29,49
45.	Maheshwar ghrita	Ghrita	Arka	33
46.	Manasheeladi	Lepa	Kshira	8,6,13,33,10,35,16,15

	pradeha			,49
47.	Manashiladya oil	Oil	Kshira	20,49
48.	Mandara arka	Arka kalpana	Arka	34,38
49.	Marichadi pradeha	Lepa	Kshira	4,
50.	Marichadi taila (2)	Oil	Kshira	16
51.	Marichadi taila (3)	Oil	Kshira	16
52.	Marichadya taila(4)	Oil	Kshira	15
53.	Marichyadi/laghuma richadya/laghu vishagarbha taila	Oil	kshira	17,22,13,33,10,35,16 11,36,15, 25,29, 31,32, 49
54.	Neelinyadi lepa	Lepa	Kshira	24
55.	Nimba taila	Oil	Kshira	24,49
56.	Nishadi pralepa	Lepa	moola	48
57.	Prapunnatadi lepa	Lepa	Kshira	29,49
58.	Putikadi lepa	Lepa	Patra	5,8,6,-13,10, 35,15,49
59.	Rasadi lepa	Lepa	kshira	29
60.	Saindhav arka lepa	Lepa	kshira	20,49
61.	Sarjarasadi lepa	Lepa	Kshira	15
62.	Shadbindu taila	Oil	kshira, patra rasa	35,49
63.	Shwetakaravirapalla vadya taila	Oil	moola	4,15,48,49
64.	Sinduradya taila	Oil	kshira	25,45,41
65.	Snuhyadi taila	Oil	kshira	16,49
66.	Suryatapta siddha taila	Oil	Kshira	24
67.	Vajra taila	Oil	Kshira	17,36,18, 25,26,49
68.	Vajrak taila	Oil	moola	5,8,13,33, 10,35,44, 16,15,49

69.	Vayasyadi lepa	Lepa	moola	37
70.	Vicharchikari taila	Oil	patra rasa	35,49
71.	Visha taila	Oil	Arka	13,33,10, 35,16,15,18,26,49
72.	Vishadi lepa	Lepa	Kshira	13,35,49

Table 2: Arka as an ingredient of various formulations indicated in Arsha (Haemorrhoids)

Arsha				
Sr.no	Formulations	Dosage form	Parts used/type	References
1.	Arka kshira lepa	Lepa	kshira	5
2.	Arkadi dhupana	Dhupa	moola	4,8,6,33,35,16, 36,15,29,30
3.	Arkadi lepa	Lepa	kshira	4,8,13,33,36,15 ,18,30,49
4.	Chirabilvadi taila	Oil	patra rasa	44
5.	Chitrakadya taila	Oil	kshira	15
6.	Dantyadi taila	Oil	kshira	16,
7.	Dantyaadya taila	Oil	kshira	15
8.	Dashamuladi guda	Guda	Arka	8.44
9.	Gajasthyadi lepa	Lepa	kshira	6
10.	Kasisadi taila	Oil	Arka ,alarka	5
11.	Kasisadi taila(2)	Oil	Alarka kshira	6
12.	Kasisadya /, brihat kasisadya taila	Oil	kshira	17,22,35,16,36, 15,29,32,49
13.	Kasisadya taila (3)	Oil	kshira	35,16,15
14.	Katutumbyadi varti	Varti	kshira- bhavana	36,15
15.	Krishnadi lepa	Lepa	kshira	33,36,
16.	Krishnadi lepa (2)	Lepa	kshira	16, 29

17.	Ksharasutra	Kshara	kshira	29
18.	Kushthadi lepa	Lepa	kshira	4,8,35,15, 25, 49
19.	Laghu kasisadya taila	Oil	kshira	15,49
20.	Mahanimbadi taila	Oil	kshira	BS
21.	Mulakadi kashaya	Kwatha	patra	4
22.	Nishadi lepa	Lepa	patra	36
23.	Pippalyadi lepa	Lepa	kshira	22,49
24.	Shigrumuladi lepa	Lepa	patra	18
25.	Sudhadi lepa	Lepa	kshira	29
26.	Suvarchikadya lepa	Lepa	Arka	15,49
27.	Vrushadi kashaya	Kwatha	patra	9,15

Table 3: Arka as an ingredient of various formulations indicated in *Karnavyadhi* (Diseases of ear)

Karna vyadhi				
Sr.no	Formulations	Dosage form	Parts used/type	References
1.	Arka swaras	Swaras	patra	17,13,33,10,12,21, ,44, 36,15,26,32,38,49
2.	Arka taila	Oil	patra	18
3.	Arkadi putapaka	Swaras	ankur	5,8,17,22,33, 44,16,36, 31,26,30,32,38,49
22	Arkadi rasa	Rasa	patra	26
4.	Ashwatthadi putapaka	Swaras	patra	8
5.	Bilvadi svedana	Kwatha	Arka	5,16,15,49
6.	Dantyadi lepa	Lepa	kshira	36
7.	Dashashatkaradi lepa	Lepa	kshira	33,36,15,49
8.	Godhadi taila	Oil	Arka,alarka	5,6
25	Godhadya taila /jivaniya	Oil	Arka	5,8,33,36,26

	taila			
9.	Hingvadi yoga	Putapaka rasa	patra	44
10.	Ingudadya lepa	Lepa	kshira	15,49
11.	Mulakadi taila	Oil	patra rasa	38
12.	Nagaradi taila	Oil	patra rasa	33,44,36,32,49
23	Nirgundirajanyadi taila	Oil	swaras	44
13.	Nirgundyadi taila	Oil	Arka	26,30
14.	Nishadi lepa	Lepa	kshira	36
15.	Rasonadi yoga	Putapaka rasa	patra	44
16.	Saindhavadi taila	Oil	patra	32
17.	Shwetarka taila	Oil	moola	22
18.	Snuhyadi rasa	Rasa	patra	13,35
19.	Trayantyadi taila	Oil	Arka	16
24.	Varunadi taila	Oil	patra	13,35,49
20.	Vidangadi taila	Oil	Arka	5
21.	Vishagarbha taila	Oil	patra rasa	16,49

Table 4 Arka as an ingredient of various formulations indicated in Visha

Visha					
Sr.no	Formulation	Dosage forms	Visha type	Parts used/type	References
1.	Akhu vishahar lepa	Lepa	Akhu visha	kshira	33
2.	Arka hingu lepa	Lepa	Vrishchika visha	kshira	47
3.	Arka kshira	Lepa	Vrishchika visha	kshira	15
4.	Arka kshira purana	Arka Kshira	Luta vrana	kshira	14,18
5.	Arka kshiradi lepa	Lepa	Vrishchika visha	kshira	15

6.	Arka maricha lepa	Lepa	Vrishchika visha	kshira	24
7.	Arka muladi kwatha	Kwatha	Luta visha	moola	5
8.	Arka patradi yoga	Kalka	Sarpa visha	patra	26
9.	Arka swaras	Swaras	Vrishchik visha	Arka	44
10.	Arka tuladi yoga	For preparing wick to light lamp	Matkuna durikaran	Arka tula(cotton)	47
11.	Asphotadi nasya	Churna	Sarpa visha	Raktarka moola, Shwetarka kshira	24
12.	Bhallatakadi dhupa	Churna	Mushakadi saranopaya	phala	47
13.	Guda tailadi yoga	Lepa	Alarka visha	kshira	33,11, 25,26,30,4 6,47,49
14.	Guduchyadi lepa	Lepa	Sarpa visha	Shwetarka moola	26
15.	Haritaladi lepa	Lepa	Vrishchika visha	kshira	42,
16.	Karveeradi taila	Oil	Luta visha	kshira	14
17.	Kutherakadi lepa	Lepa	Vrishchika visha	kshira	10
18.	Nirgundyadi kwatha	Kwatha for sveda	Visha	patra	24

19.	Palandvadi lepa	Lepa	Alarka visha	kshira	47
20.	Paribhadradi nasya	Swaras	Sarpa visha	patra rasa	44
21.	Prabhavati gutika	Gutika	Vrishchika visha	kshira	26,30
22.	Punarnavadi lepa	Lepa	Visha	moola	44
23.	Sikhtha lepa	Lepa	Vrishchika visha	kshira	46
24.	Tutthakadi pradhamana	Churna	Sarpa visha	moola	38
25.	Visha prabha varti	Varti	Luta visha	Arka	45

Table 5: Arka as an ingredient of various formulations indicated in Vatavyadhi

Vatavyadhi					
Sr.no	Formulations	Dosage form	Vatavyadh i type	Parts used/type	Reference s
1.	Arka patra	Svedana	Manyasta mbh	patra	22,38
2.	Arkadi taila	Oil	Vatavyadh i	Arka	26, 30,38
3.	Arkadi taila	Oil	Khalli	patra rasa,	26,49
4.	Atharanga taila	Oil	Vatavyadh i	Arka	38
5.	Bhringadi kwatha	Kwatha for nasya	Ardita vata	patra	26
6.	Dashamuladya taila	Oil	Vatavyadh i	Arka	15

7.	Dhatturadi rasa	Swaras	Vatavyadh i	patra swaras	42
8.	Erandadi svadana yoga	Pakwa jala	Vatavyadh i	patra	33,36
9.	Jyotishmatyadi taila	Oil	Vatavyadh i	moola	38
10.	Karpasadi lepa	lepa	Avabahuk a	moola	24
11.	Kuchaladi taila	Oil	Pakshagha ta	moola	42
12.	Mahanarayan taila	Oil	Vatavyadh i	Arka	22,36
13.	Mandar taila	Oil	Sandhigatv ata	moola,patr a,pushpa	39,38
14.	Mulakadi taila	Oil	Apatanak	Arka	5,6
15.	Palashadi taila	Oil	Pakshagha ta	patra	38
16.	Shatapushpadi kalka	Kalka	Katigata vata	kshira	33
17.	Sparshavatari oil	Oil	Sparsha vata	patra rasa	18
18.	Suratarvadi lepa	Lepa	Asthigata vata	kshira	36
19.	Trikatukadi nasya	Churna	Vatavyadh i	moola rasa	26,40
20.	Tumbyadi taila	Oil	Ekanga vata	Arka	10
21.	Vataghna taila	Oil	Vatavyadh i	patra rasa	32
22.	Vishagarbha taila	Oil	Vatavyadh	Arka	10,49

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Table 6: Arka as an ingredient of various formulations indicated in Vrana (Wound)

Vrana					
Sr,no	Formulations	Dosage forms	Vrana type	Parts used/type	References
2.	Amogha vranaghna taila	Oil	Vrana	patra rasa	24
3.	Arka muladi dhuma	Bhasma	Vrana shodhana	moola	32
1.	Arka patra	-	Acchhadana on vrana	patra	4
4.	Arka twacha	Lepa	Vrana shodhana	tvak	8,6
5.	Dantyadi lepa	Lepa	Vrana darana	Kshira	17,33,36,15, 26,49
6.	Dravantyadi taila	Oil	Vrana	Arka	5
7.	Nimbadi dhavan yoga	Kwatha	Vranashotha	moola	13,33,10,15, 49
8.	Nimbadi varti	Varti	Vrana	Arka	26
9.	Nyagrodhadi ropana kwath	Kwatha	Vrana ropana	Arka	4,33,36,26
10.	Saptaparnadi kwatha	Kwatha	Vrana	tvak	5
11.	Shwetarka moola lepa	Lepa	Vrana	Shwetarka moola	46
12.	Shwetarkamuladi lepa	Lepa	Vranashotha	Shwetarka moola	35
13.	Vranaropana taila	Oil	Vranaropana	Arka kshira	44

Table 7: Arka as an ingredient of various formulations indicated in Bhagandara (Fistula)

Bhagandara				
Sr.no	Formulations	Dosage form	Parts used/type	References
1.	Arka muladi lepa	Lepa	moola	30
2.	Bhagandara har lepa	Lepa	kshira	31
3.	Bhagandara nivarak taila	Oil	kshira	39
4.	Darvika varti	Varti	kshira	26,30
5.	Haridradi taila	Oil	kshira	38
6.	Jyotishmatyadya taila	Oil	Arka	8
7.	Karviradya taila	Oil	kshira	13,33,10,35,36,15
8.	Nishadi lepa	Lepa	moola	44
9.	Nishadya taila	Oil	kshira	22,13,33,10,35,16,36,26,49
10.	Snuhyadi varti	Varti	kshira	22,13,10,35,16,15
11.	Syandana taila /vishyandan /chitrakadya	Oil	Arka	5,22,13,33,CS,8,35,16,36,15,26,49
12.	Trivrutadya taila	Oil	moola	5,

Table 8: Arka as an ingredient of various formulations indicated in *Shotha* (Inflammation)

Shotha					
Sr.no.	Formulations	Dosage form	Shotha type	Parts used/type	References
1.	Arkadi seka	Kwatha	Shotha	Arka	22,33,10,16,36,15
2.	Chandanadi lepa	Lepa	Garbhini shotha	moola	33
3.	Kutajadi sveda	Siddha jala	Shotha	patra	33, 36,15

4.	Mulakadi sechana	Kwatha	Shotha	Arka	6
5.	Naktamaladi kashaya	Kwatha	Shotha	moola	9
6.	Naktamaladi seka	Kwatha	Shotha	Arka	5
7.	Nimbadi siddha jala	Siddha jala	Shotha	Arka	8
8.	Rasnadi yoga	Udvardana	Shotha	Arka	4,16,49
9.	Shigru lepa	Lepa	Shotha	Arka	6
10.	Shigrutvagadi lepa	Lepa	Kaphaj Shotha	Arka	15,49
11.	Shothodar loha	Loha	Shotha	kshira	16,
12.	Vasadi yoga	Kwatha	Shotha	patra	4

Table 9: Arka as an ingredient of various formulations indicated in Nadivrana (sinus)

Nadivrana				
Sr.no	Formulations	Dosage forms	Parts used/type	References
1.	Badariphalatvagadi varti	Varti	kshira	49
2.	Bhadradya taila	Oil	kshira	49
3.	Bhallatakadi taila	Oil	Arka	5,22,13,10,35,1 5,49
4.	Dantimuladi lepa	Lepa	kshira	30
5.	Ghontaphaladi varti	Varti	kshira- bhavana	5,8,13,10,35,36 ,15
6.	Jatyadi varti	Varti	Arka	22,13,33,10,35, 16,36,15,26,30, 31,49
7.	Karanjadi prakshalan yoga	Swaras	patra rasa	16
8.	Kumbhikadya taila	Oil	kshira	22
9.	Makushthadi lepa	Lepa	kshira	42

10.	Nadivranahar arka	Arka kalpana	Arka	34
11.	Saindhavadya taila	Oil	Arka	22,35,49
12.	Snuhyadi varti	Varti	kshira	16,36,32,49

Table 10: Arka as an ingredient of various formulations indicated in Jvara (fever)

Jvara					
Sr. No.	Formulation	Dosage form	Jvara type	Parts used/type	References
1.	Agurvadya taila	Oil	Jvara	Arka	4,49
2.	Aparajit Dhupa	Dhupa	Jvara	patra	8,6,13,10,35,49
3.	Arkadi lepa	Lepa	Sannipata jvara	kshira	36
4.	Atasyadi lepa	Lepa	Jvara	moola	49
5.	Gugguladi lepa	Lepa	Jvara	Arka	36
6.	Jvaranashakanjana	Churna	Jvara	kshira	49
7.	Kiratadi taila	Oil	Jvara	Arka	35,49
8.	Mahishakshadaya dhupa	Churna	Jvara	pushpa	26
9.	Nasyabhairava rasa	Churna	Sannipata	Nasya alongwith arka kshira	29,27,40
10.	Shwetarka mula dharana	Dharana	Shita jvara	Shwetarka moola	38
11.	Suryeshwar rasa	Gutika	Jvara	Nasya alongwith arka kshira	29

Table 11: Arka as an ingredient of various formulations indicated in Granthi (Cyst)

Granthi				
Sr.no.	Formulations	Dosage	Parts used/type	References

		form		
1.	Arka moola lepa	Lepa	moola	15
2.	Arka muladi lepa	Lepa	moola	42,
3.	Arka shalabha rasa	Lepa	shalabha	12
4.	Bivadi kwatha	Kwatha	Arka	5,16
5.	Dantyadi lepa	Lepa	kshira	13,33,35, 16,15
6.	Gadadi lepa	Lepa	kshira	36,49
7.	Gandhakadi lepa	Lepa	kshira	33
8.	Gunjadi lepa	Lepa	Arka	18
9.	Khadiradi lepa	Lepa	Arka	15
10.	Punarnavadi lepa	Lepa	moola	18

Table 12: Arka as an ingredient of various formulations indicated in Netra roga (Ocular disorders)

Netra roga					
Sr.no.	Formulations	Dosage forms	Netra vyadhi	Parts used/type	References
1.	Arka bijadi anjana	Anjana	Timira	beeja	24
2.	Arka mula rasa	Swaras	Netra roga	moola	16
3.	Arkadi varti	Varti	Pilla	Arka tula	24
4.	Kushtadi lepa	Lepa	Shuklarma	moola	37
5.	Lodhra seka	Swaras	Kaphaja abhishyanada	patra	33,16,36,49
6.	Phaninjakadi rasakriya	Rasa kriya	Balasa grathita	Arka	6
7.	Rohishadi sveda	Kwatha	Kaphaja abhishyanada	patra,asphota	6
8.	Shashaka charma mashi	Mashi	Netra roga	Arka tula for acchadana	16

Table 13: Arka as an ingredient of various formulations indicated in Shwitra

Shwitra				
Sr.no	Formulations	Dosage form	Parts used/type	References
1.	Arkadi yoga churna	Churna	moola	38
2.	Katukadya taila	Oil	moola, kshira	16,49
3.	Mutrika rasa kriya	Rasa kriya	kshira	6
4.	Savarnikarana taila	Oil	moola	18
5.	Shwitrahar lepa	Lepa	kshira	27,28,37
6.	Shwitrari rasa	Gutika	patra for purana of this rasa	29
7.	Snuhyadi lepa	Lepa	patra	16,49
8.	Tutthadi lepa	Lepa	Arka	5,29

Table 14: Arka as an ingredient of various formulations indicated in Gandamala

Galaganda				
Sr.no.	Formulations	Dosage form	Parts used/type	References
1.	Ajmodadi taila	Oil	kshira	33,36,49
2.	Arka kshiradi lepa	Lepa	kshira	12,15,49
3.	Bhallatakadi lepa	Lepa	kshira	33,23,21,26,49
4.	Dantyadi lepa	Lepa	kshira	25,29
5.	Gandhakadi lepa	Lepa	kshira	33,36,18,26,30,49
6.	Kalmrutadi yoga	Lepa	moola	8
7.	Mundyadi lepa	Lepa	moola	30
8.	Shanadi lepa	Lepa	Arka	5

Table 15: Arka as an ingredient of various formulations indicated in Danta vyadhi

Danta vyadhi					
Sr.no.	Formulation	Dosage form	Danta vyadhi	Parts used/type	References
1.	Arka kshira	-	Krimidanta	kshira	6,16
2.	Arka patra	Sveda	Danshtra	patra	42
3.	Arka patra bhasma	Bhasma	Dantachhada utpanna vrana	patra	24
4.	Dantyadi churna	Churna	Danta roga	kshira	49
5.	Ravi toya	Swaras	Chala danta	kshira	33
6.	Saptacchadadi yoga	Kalka	Krimidanta	kshira	8,13,35,44,1 6
7.	Vandhyakarkotakya di churn a	Churna	Danta vrana	kshira	30

Table 16: Arka as an ingredient of various formulations indicated in various other conditions

Other diseases					
Sr.no.	Formulation	Dosage form	Indication	Parts used/type	References
1.					
2.	Akashavallyadi nasya	Churna	Shirashula	kshira	39
3.	Aparapatanartha basti	Kwatha	Aparapatan a	Arka ,alarka with sura	8
4.	Arka bhasma	Bhasma	Upadansha	tvak	38
5.	Arka dugdhadi lepa after agni daha	Lepa	Plihodara	kshira	36,18
6.	Arka kshira	-	Padakantak a	kshira	24
7.	Arka kshira abhyanga	-	Anamaka roga	kshira	35

8.	Arka kshira haridradi lepa	Lepa	Mukhakarsh nya	kshira	17,33,35,16, 43,48,49
9.	Arka kshira lepa	Lepa	Kadara	kshira	44
10.	Arka kshira lepa	Lepa	Parshva shula	kshira	42
11.	Arka kshiradi dhuma	Churna	Kasa	kshira	16
12.	Arka kshiradi nasya	Churna	Apasmara	kshira	29
13.	Arka mula nasya	Churna	Apasmara	moola	38
14.	Arka muladi dhuma	Churna	Kshavathu, kasa	moola	33,35,36,26, 41,49
15.	Arka muladi lepa	Lepa	Amavata	moola	8
16.	Arka muladi nasya	Kalka	Kamala	moola	33,12,36, 15,26,30,49
17.	Arka navneet yoga	Lepa	Vipadika	kshira	14
18.	Arka patra	Ardra patra(pattab andhan)	Udara	patra	42
19.	Arka patra kashaya	Kwatha	Upadansha	patra	5,36
20.	Arka pushpa taila	Oil	Rajakshaya- artava janana	pushpa	49
21.	Arka pushpa yoga	Arka pushpa with taila	Hikka	pushpa	42,
22.	Arka putapaka rasa	Swaras	Utfullika	patra	42
23.	Arka taila	Oil	Hasta dosha	kshira	49
24.	Arka taila	Oil	Visuchika	patra rasa	36
25.	Arkadi anjana	Anjana	Anamaka roga	Arka tula	13
26.	Arkadi dhuma	Churna	Kasa	patra	10
27.	Arkadi dhuma	Churna	Shwasa	patra	29

28.	Arkadi dhuma(2)	Churna	Shwasa	patra	29
29.	Arkadi jala	Siddha jala	Rajyakshma	Arka	8
30.	Arkadi kshiradi yoga	Lepa	Graha dosha	kshira	15
31.	Arkadi utkarika	Utkarika	Udara	Arka moola tvak	42
32.	Arkadi varti	Varti	Kaphaja yonivyapad	kshira	4
33.	Arkadi vati	Vati	Upadansha	moola	38
34.	Ashwagandhadi utsadana	Churna	Urustambh	moola	4
35.	Badaradayo dhupa	Churna	Upadansha	Arka	35,
36.	Bhabudugdhadi lepa	Lepa	Gala kilaka	kshira	18
37.	Brahmi ghrita	Ghrita	Shwasa		49
38.	Brihat mandar taila	Oil	Vruddhi	pushpa rasa	49
39.	Brihatmarichadya taila(same as kushtha)	Oil	Vatashonita	kshira	36,49
40.	Chitrakadi lepa	Lepa	Plague	moola	39
41.	Chitrakadya taila (2)	Oil	Nasarsha	kshira	15
42.	Dantyadi lepa	Lepa	Visarpa	kshira	4,8,6
43.	Devadarvyadi lepa	Lepa	Udara	Arka	4,8,13,33,35 ,16,36,15,49
44.	Gunjadi lepa	Lepa	Indralupta	kshira	37
45.	Gunjadya taila	Oil	Apachi	Arka	13,35
46.	Japadi kwatha	Kwatha	Upadansha	Arka	31
47.	Jayadi kwatha	Kwatha	Upadansha	patra	22,13,33,10, 35,36,26,49

48.	Jimutabhriyadi taila	Oil	Khalitya	Arka	44
49.	Kadalyadi lepa	Lepa	Lomashatana	kshira	17
50.	Kanak taila	Oil	Shiroroga	Arka	35
51.	Kaphahar basti	Kwatha	Agnimandya	moola	48
52.	Karanja taila	Oil	Visarpa	kshira	22,33,35,16,36,26,49
53.	Karanjadi lepa	Lepa	Vruddhi	Arka	30
54.	Karaviradya nasya	Oil	Krimija shiroroga	moola	15
55.	Kariradi dhavan yoga	Kwatha	Kaphaja yonivyapad	Arka	4
56.	Karveeradi lepa	Lepa	Visphota	moola	18
57.	Katutailadi yoga	Lepa	Arunshika	kshira	15
58.	Kulatthadi taila	Oil	Vidradhi	Arka	5
59.	Kushthadi ghrita	Ghrita	Vataja Visarpa	Arka	13,10,15
60.	Kushthadi taila	Oil	Shirovrana	kshira	16
61.	Kushthadi varti	Varti	Karnini yoni	Arka agra	4,13,35,49
62.	Manasheeladi gutika	Gutika	Shwasa	kshira	29
63.	Marichadi dhuma	Churna	Kasa	kshira	35, 41
64.	Marichadya taila (same as kushtha)	Oil	Vatashonita	kshira	36
65.	Mashadi lepa	Lepa	Khalitya	kshira	12,15
66.	Mashamasyadi lepa	Lepa	Shiroroga	kshira	49
67.	Nagaradi lepa	Lepa	Shirashula	moola	48
68.	Nagaradi taila	Oil	Mukha roga	Arka	44
69.	Nimbadi kwatha	Kwatha	Krimija Shiroroga	arka	6

70.	Nimbadi sechana yoga	Kwatha	Snayuka	Arka	33
71.	Nirgundyadi taila	Oil	Shiroroga	Arka	15,49
72.	Paradadi dhupa	Churna with ghrita	Upadansha	moola tvak	35,49
73.	Rasanjanadi lepa	Lepa	Palitya	Arka patra – acchadana	35
74.	Rasnadi udvartana	Churna	Urustambh	moola	9
75.	Saptachhadadi udavartana	Lepa	Graha dosha	patra	12,33, 31
76.	Sarshapadi dhupa	Churna	Balagraha	moola	49
77.	Sarshapadi lepa	Lepa	Vatashonita	Arka	4,22,16
78.	Shankhadi lepa	Churna	Palitya	kshira	49
79.	Shankhadi yoga	Lepa	Lomashattana	kshira	15
80.	Shiladi duma	Churna	Kasa	moola	13
81.	Shingaraphadi dhuma	Churna	Upadansha	moola	38
82.	Snuhyadi taila	Oil	Khalitya	kshira	22,13,33,10, 35,16,36, 15,49
83.	Snuhyadi taila(2)	Oil	Khalitya	kshira	18
84.	Snuhyarkadi lepa	Lepa	Shirovrana	kshira	49
85.	Sphurjakadi oil	Oil	Balagraha	patra	18
86.	Taptaraja taila	Oil	Shiroroga	patra swaras	35
87.	Tiladi kshara	Lepa	Indralupta	kshara	14
88.	Upadansha kuthar dhuma	Churna	Upadansha	moola tvak	39
89.	Vachadi pralepa	Lepa	Graha dosha	Kshira bhavana	12

90.	Vartaki dhuma	Churna	Kasa	kshira	13
91.	Vatsakadi lepa	Lepa	Urustambh	moola	4
92.	Vidangadya taila	Oil	Krimi	kshira	15,49
93.	Vijayavardhan bhasma yoga	Bhasma	Gulma	patra	19
94.	Vipadikahar lepa	Lepa	Vipadika	kshira	39

Table 17: Arka as an ingredient of various formulations indicated in Panchakarma

Panchakarma				
Sr.no.	Formulation	Dosage form	Parts used/type	References
1.	Asthapana basti	Kwatha	Arka	5
2.	Asthapana basti dravya	Kwatha	Arka	4
3.	Basti vyapad taila	Oil	patra	8
4.	Basti yoga	Kwatha	Arka	8
5.	Drava sveda	Kwatha	Arka	6
6.	Khara paka vidhi	-	Arka panchanga	5,8,6
7.	Koshatakyadi niruha	Kwatha	Arka	6
8.	Nadi sveda	Kwatha	Arka patra	4
9.	Niruha basti yoga	Kwatha	Arka	4
10.	Niruha basti yoga	Kwatha	Arka ,alarka	4
11.	Prastara sveda	-	Arka patra	4,7
12.	Priyangvadi niruha	Kwatha	Arka	6

DISCUSSION

One of the main causes for skin ailments is infection. The anti-fungal activity of latex is already reported that states the MIC and MFC values of latex extract against fungal strains varies from 1 mg to 8 mg and the results are comparable with Amphotericin B.^[49] (Table 1)

Thus, this suggests that *Arka* has a promising role in curing certain skin ailments. Similarly, management of haemorrhoids, otalgia is mainly done by anti-inflammatory, analgesic drugs which suffice its role in *Arsha*, *Karnavyadhi*. The anti-nociceptive activity and analgesic activities of dry latex have been

proven.^[50] Many ethnomedicinal references are also available which suggests that the use of *Arka* as antidote in scorpion bite, snake bite, dog-bite is still practiced.^[51] In relation to the use of *Kshira* and roots of *Arka* in *Vrana*, the wound healing and anti-bacterial activity has also been reported after topical application against fusidic acid in mice.^[52] Apart from this, *Arka* has been advocated in various procedures of Panchakarma like Vamana, Niruha basti, Svedana, etc. mainly in treatise. Use of *Arka* is also mentioned in *granthi* where in leaves, root and latex in form of topical formulations are prescribed. Anti-angiogenic activity of root of *Calotropis* has been documented which can be in line to treat *granthi* by inhibition of VEGF (vascular endothelial growth factor). This can also be probably useful in validating the role of *Arka in Timira* if this condition is related to macular degeneration as anti-angiogenetic drugs is first line of treatment in this case.^[53]

CONCLUSION:

Arka finds a wide range of therapeutic importance in 375 external applications in almost 57 disease conditions. Moreover, its usage in panchakarma inspite of being included in semi-poisonous plant category; again draw attention to its safe local administration. More thorough clinical data can suffice the validation of these external uses of *Arka*.

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