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A COMPREHENSIVE REVIEW OF ERANDADI KALKA AND GOKSHURADI GUGGULU IN THE MANAGEMENT OF KAPHAJA ASHMARI W.S.R. TO NEPHROLITHIASIS

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Abstract

Ashmari is an important urinary disorder described in Ayurveda, while nephrolithiasis refers to stone formation in the kidneys. Ayurvedic texts describe therapeutic approaches for *Ashmari*, including herbal and herbo-mineral formulations. *Erandadi Kalka* and *Gokshuradi Guggulu* are considered in this review for their traditional relevance to urinary disorders and possible role in *Kaphaja Ashmari*. This review aims to examine the classical basis, ingredients, pharmaceutical preparation, Ayurvedic properties and contemporary evidence related to these formulations, with special reference to nephrolithiasis. Information will be gathered from classical Ayurvedic texts, authoritative formularies, pharmacopoeial publications and scientific literature. The review will discuss individual ingredients, their traditional actions such as *Mutrala* and *Ashmaribhedana*, and available experimental or clinical findings concerning diuresis, crystallisation, urinary parameters and stone-related outcomes. It will also consider formulation standardisation, quality control, safety, dosage considerations and limitations in translating traditional descriptions into modern clinical terminology. A comparative discussion will explore the rationale for using these formulations in the Ayurvedic understanding of *Kaphaja Ashmari* while distinguishing traditional indications from clinically established effects in human nephrolithiasis. Evidence should be interpreted cautiously, as findings from individual herbs or experimental models cannot establish the efficacy of complete formulations. This review may identify research gaps and provide a foundation for well-designed pharmacological and clinical studies evaluating their safety and therapeutic potential as supportive approaches to urinary stone management.

Keywords: *Erandadi Kalka*, *Gokshuradi Guggulu*, *Kaphaja Ashmari*, Nephrolithiasis, Anti-urolithiatic Activity, Ayurvedic Formulations.

1. Introduction

Ashmari is an important disorder described in classical Ayurvedic literature, characterised by the formation of stone-like structures within the urinary system. Acharya Sushruta has explained its

aetiology, classification, clinical manifestations and management in detail. Among its four varieties, *Kaphaja Ashmari* is associated with distinct clinical and morphological characteristics. In contemporary medicine, nephrolithiasis refers to the formation of calculi within the kidneys and is influenced by dietary, metabolic, environmental and genetic factors. The recurrent nature of urinary stone disease makes its prevention and management important areas of clinical research. [1]

Ayurveda describes various medicinal formulations and therapeutic approaches for the management of *Ashmari*. Herbal preparations are traditionally used to support urinary function, facilitate the elimination of calculi and manage associated symptoms. The therapeutic concepts of *Mutrala* (promoting urination), *Ashmaribhedana* (traditionally described as acting against urinary calculi) and *Shothahara* (reducing inflammation) provide a basis for investigating the pharmacological properties of Ayurvedic formulations through contemporary scientific methods. [2]

Erandadi Kalka is a traditional Ayurvedic preparation mentioned in the context of *Ashmari* management. Its reference is reported in *Yoga Ratnakara*, and its therapeutic relevance makes it an important subject for reviewing classical pharmaceutical principles and medicinal ingredients. An understanding of its composition, preparation method and Ayurvedic properties may help explore its possible role in urinary stone management. However, the exact ingredients and proportions should be established from the original formulation reference before drawing conclusions about its pharmacological activity. [3]

Similarly, *Gokshuradi Guggulu* is a classical compound formulation included in the *Ayurvedic Formulary of India*. Its composition includes *Gokshura*, purified *Guggulu*, *Shunthi*, *Maricha*, *Pippali*, *Haritaki*, *Bibhitaka*, *Amalaki* and *Musta*. The formulation is traditionally indicated in urinary disorders such as *Ashmari*, *Mutrakrichchhra* and *Mutraghata*. Its classical composition and therapeutic indications provide a basis for investigating its potential role in urinary stone management. [4]

The National AYUSH Mission also lists *Gokshuradi Guggulu* among the essential Ayurvedic medicines, with *Ashmari* included among its traditional indications. [5]

Considering the traditional importance of both formulations, a comprehensive review of *Erandadi Kalka* and *Gokshuradi Guggulu* is relevant for understanding their therapeutic rationale in *Kaphaja Ashmari* with special reference to nephrolithiasis. The present review aims to examine their classical references, ingredients, pharmaceutical preparation, Ayurvedic properties and available contemporary scientific evidence. It also intends to identify research gaps regarding their standardisation, safety and clinical effectiveness, thereby providing a foundation for future pharmacological and clinical investigations.

2. Conceptual Understanding of *Kaphaja Ashmari*

2.1 Definition and Classical Description

Ashmari is a urinary disorder described in Ayurveda, characterised by the formation of calculi in the urinary system. Acharya Sushruta classified it into four types: Vataja, Pittaja, Kaphaja and Shukraja. Kaphaja Ashmari is traditionally associated with features such as heaviness, urinary obstruction and whitish, glossy urine. [6]

2.2 Aetiological Factors

Classical texts associate Ashmari with improper dietary habits and lifestyle factors. Excessive consumption of heavy and unctuous foods, along with reduced physical activity, may be considered relevant from the Ayurvedic perspective. [7]

2.3 Pathogenesis (*Samprapti*)

In Kaphaja Ashmari, predominance of Kapha is traditionally associated with the formation and growth of calculi. In modern medicine, nephrolithiasis develops through urinary supersaturation, crystal formation, aggregation and retention within the urinary tract. [8]

2.4 Clinical Features

Kaphaja Ashmari may present with heaviness, pain and difficulty in urination. Modern nephrolithiasis commonly presents with renal colic, flank pain, haematuria and dysuria.

Ayurvedic features	Contemporary features
Difficulty in urination	Dysuria
Pain and heaviness	Flank pain or renal colic
Disturbed urinary function	Urinary obstruction or haematuria

These features provide a conceptual comparison and are not exact diagnostic equivalents. [9]

3. Overview of *Erandadi Kalka*

3.1 Classical Reference and Description

Erandadi Kalka is a traditional Ayurvedic formulation mentioned in Yoga Ratnakara for the management of Ashmari. A review of classical formulations also records it as a Kalka preparation indicated in Ashmari, with the root of Eranda as the plant part used. [10]

3.2 Ingredients and Identification

The available literature identifies Eranda (Ricinus communis Linn.) as an important ingredient of this formulation. However, the complete ingredient list and proportions should be confirmed from the original Yoga Ratnakara reference before presenting them as the definitive composition.

Ingredient	Botanical name	Part used
Eranda	Ricinus communis Linn.	Root

[10]

3.3 Pharmaceutical Preparation

Kalka Kalpana is a pharmaceutical preparation in which the prescribed plant material is cleaned, dried when required and finely triturated with a suitable liquid medium to obtain a smooth paste. The exact method, proportions and Anupana for Erandadi Kalka should be followed according to its original classical reference.

A published case report describes administration of 4 g of Erandadi Churna mixed with honey three times daily. However, this clinical preparation should not be assumed to represent the exact classical preparation of Erandadi Kalka. [11]

3.4 Ayurvedic Properties and Therapeutic Relevance of *Eranda*

Eranda is described as having Madhura, Katu and Kashaya Rasa, Guru, Snigdha and Tikshna Guna, Ushna Virya and Madhura Vipaka. It is traditionally considered Vata-Kapha Shamaka and is associated with actions such as Shothahara, Vedanasthapana and Mutravishodhana. These properties provide a traditional basis for exploring its relevance in urinary disorders. [10]

4. Overview of *Gokshuradi Guggulu*

4.1 Classical Reference and Description

Gokshuradi Guggulu is a classical Ayurvedic formulation mentioned in Sharngadhara Samhita, Madhyama Khanda, Chapter 7, verses 84–86. It is included in the Ayurvedic Formulary of India (AFI), with traditional indications including Ashmari, Mutrakrichchhra, Mutraghata and Prameha. [12]

4.2 Ingredients and Composition

According to the AFI, the formulation contains nine medicinal ingredients prepared using a decoction of Gokshura. The ingredients and their botanical identities are presented below.

S. No.	Ayurvedic name	Botanical name	Part used
1	**Gokshura**	Tribulus terrestris	Fruit
2	**Guggulu**	Commiphora wightii	Purified resin
3	**Shunthi**	Zingiber officinale	Rhizome
4	**Maricha**	Piper nigrum	Fruit
5	**Pippali**	Piper longum	Fruit
6	**Haritaki**	Terminalia chebula	Pericarp
7	**Bibhitaki**	Terminalia bellirica	Pericarp
8	**Amalaki**	Phyllanthus emblica	Pericarp
9	**Musta**	Cyperus rotundus	Rhizome

[13]

4.3 Pharmaceutical Preparation

As described in the AFI, Gokshura is used to prepare a decoction, which is reduced to the prescribed quantity. Purified Guggulu and the remaining powdered ingredients are then incorporated and processed to obtain the final Guggulu preparation. The classical formulation specifies a dose of 3 g and mentions Musta Kwatha, Pashanabheda Kwatha and Ushira Kwatha as suitable Anupana. [12]

4.4 Ayurvedic Properties and Therapeutic Relevance

The ingredients of Gokshuradi Guggulu possess traditionally described properties relevant to urinary health. Gokshura is associated with Mutrala activity, while Guggulu is traditionally valued for its Shothahara properties. The inclusion of Triphala, Trikatu and Musta contributes to the formulation's broader Ayurvedic therapeutic rationale. Its classical indications provide a basis for investigating its potential relevance in Ashmari. [14]

5. Pharmacological and Therapeutic Potential

The ingredients of Erandadi Kalka and Gokshuradi Guggulu have been discussed in traditional Ayurvedic practice for their possible relevance to urinary disorders. Contemporary research has investigated several related activities, including diuretic, anti-urolithiatic, anti-inflammatory and antioxidant effects. However, evidence for individual ingredients should not be considered proof of the clinical efficacy of either complete formulation.

5.1 Diuretic Activity

Diuretic activity may help increase urine volume and support the urinary elimination of dissolved substances. Gokshura (Tribulus terrestris), an ingredient of Gokshuradi Guggulu, has traditionally been

used in urinary disorders. Its potential urinary effects have been investigated experimentally; however, findings from plant extracts cannot be directly generalised to the complete formulation. [15]

5.2 Antiurolithiatic Activity

Among the ingredients, Tribulus terrestris has specific experimental evidence related to urolithiasis. Animal studies have reported reduced crystal deposition, improved renal parameters and antioxidant effects following administration of its extracts. These findings provide a preliminary scientific rationale for further investigation of Gokshuradi Guggulu, but do not establish its clinical effectiveness in patients with kidney stones. [16]

5.3 Anti-inflammatory and Antioxidant Activities

Oxidative stress and inflammation are involved in renal tissue injury associated with stone formation. Research on Commiphora species, including Guggulu, has reported antioxidant and anti-inflammatory activities. Such properties may be relevant to studying the formulation, although direct evidence for the complete Gokshuradi Guggulu preparation remains limited. [17]

5.4 Potential Effects on Urinary Crystal Formation

Urinary stone formation involves crystal nucleation, growth, aggregation and retention in renal tissues. Plant-derived compounds are being investigated for their ability to influence these processes through antioxidant, anti-inflammatory and other pharmacological mechanisms. Nevertheless, the available findings are largely preclinical and require further validation. [18]

Summary of Pharmacological Evidence

Ingredient	Reported activity	Available evidence
Gokshura	Antiurolithiatic, diuretic and antioxidant potential	Experimental studies
Guggulu	Anti-inflammatory and antioxidant activities	Preclinical studies and reviews
Eranda	Anti-inflammatory and analgesic potential	Mainly experimental studies

6. Contemporary Scientific Evidence

Contemporary research on Ayurvedic ingredients used in urinary disorders has mainly focused on experimental studies, pharmacological activities and preliminary clinical investigations. However, evidence specifically evaluating the complete formulations Erandadi Kalka and Gokshuradi Guggulu remains limited.

6.1 Experimental Studies

A study by Kaushik et al. (2019) investigated the anti-urolithiatic potential of an aqueous extract of Tribulus terrestris in Wistar rats. The findings showed reduced urinary crystal deposition, improved renal function and restoration of renal tissue architecture. The study also reported antioxidant activity. [19]

6.2 Clinical Evidence

A randomised, placebo-controlled clinical trial evaluated a combination of five herbal extracts, including Tribulus terrestris, in patients with urolithiasis. The intervention showed improvement in certain stone-related outcomes and urinary volume. However, this study did not evaluate Gokshuradi Guggulu or Erandadi Kalka and therefore provides only indirect evidence. [20]

6.3 Evidence Related to *Erandadi Kalka*

A published case report described the use of Erandadi Churna in a patient with renal calculus. Reduction in stone size was reported during treatment. Since this was a single-patient observation, it cannot establish the efficacy of the formulation. [21]

6.4 Safety and Toxicity

The safety of individual herbal ingredients requires careful evaluation. Experimental findings regarding Tribulus terrestris are encouraging, but human safety data remain limited. Possible adverse effects, herb–drug interactions, ingredient quality and variation in formulation preparation should be considered before clinical use. [22]

Summary of Contemporary Evidence

Evidence category	Major findings	Limitation
Experimental studies	Antiurolithiatic potential of Tribulus terrestris	Mainly animal studies
Clinical studies	Positive findings with a multi-herb preparation containing Tribulus terrestris	Not the same as Gokshuradi Guggulu
Case report	Improvement reported with Erandadi Churna	Single-patient observation
Safety studies	Preliminary evidence of safety in experimental models	Insufficient human data

7. Comparative Evaluation of *Erandadi Kalka* and *Gokshuradi Guggulu*

Both Erandadi Kalka and Gokshuradi Guggulu are traditional Ayurvedic formulations discussed in relation to urinary disorders. However, they differ in their pharmaceutical preparation, composition and available scientific evidence.

7.1 Comparative Analysis

Parameters	Erandadi Kalka	Gokshuradi Guggulu
Formulation type	Kalka preparation	Guggulu preparation
Classical reference	Yoga Ratnakara	Sharngadhara Samhita
Important ingredient	Eranda	Gokshura and Guggulu
Pharmaceutical form	Paste or triturated preparation	Tablets or pills
Traditional relevance	Ashmari	Ashmari, Mutrakrichchhra, Mutraghata
Available evidence	Limited clinical case report	Experimental evidence on related ingredients and formulations

[23]

7.2 Therapeutic Rationale

Erandadi Kalka is traditionally mentioned for Ashmari, while Gokshuradi Guggulu has a broader classical indication in urinary disorders. The traditional properties of their ingredients provide a rationale for investigating their possible effects on urinary function, inflammation and stone-related processes.

7.3 Limitations of Available Evidence

Although individual ingredients have shown promising pharmacological activities, evidence directly evaluating both complete formulations is insufficient. Differences in preparation, dosage, quality and

composition may also influence their therapeutic effects. Therefore, their comparative efficacy in nephrolithiasis cannot presently be established.

Discussion

Erandadi Kalka and Gokshuradi Guggulu are traditional Ayurvedic formulations that hold relevance in the management of Ashmari. Their classical descriptions provide a therapeutic basis for exploring their potential role in Kaphaja Ashmari with special reference to nephrolithiasis.

From the Ayurvedic perspective, Kaphaja Ashmari is associated with urinary obstruction and characteristic changes in the urinary system. The traditional properties of the ingredients, particularly their Mutrala, Shothahara and other supportive actions, provide a rationale for investigating these formulations.

Contemporary research has reported promising diuretic, anti-inflammatory, antioxidant and anti-urolithiatic activities in certain individual ingredients. These activities may be relevant to different stages of urinary stone formation, including crystal development, aggregation and renal tissue injury. However, findings from individual ingredients or experimental models cannot establish the efficacy of the complete formulations.

An important limitation is the lack of well-designed clinical studies directly evaluating Erandadi Kalka and Gokshuradi Guggulu in patients with nephrolithiasis. Further research is required to establish their composition, standardisation, appropriate dosage, safety and therapeutic outcomes.

Overall, these formulations represent potential subjects for scientific investigation. Their traditional use provides a foundation for future research, but their clinical effectiveness should be established through systematic pharmacological and clinical evaluation.

Conclusion

Erandadi Kalka and Gokshuradi Guggulu are traditional Ayurvedic formulations described in relation to Ashmari and other urinary disorders. Their classical indications and ingredient properties provide a rationale for exploring their potential role in Kaphaja Ashmari with special reference to nephrolithiasis. Contemporary studies have reported promising pharmacological activities, including diuretic, antioxidant, anti-inflammatory and anti-urolithiatic effects of certain ingredients. However, scientific evidence directly establishing the efficacy and safety of both complete formulations remains limited. Further studies focusing on pharmaceutical standardisation, experimental evaluation, toxicity assessment and well-designed clinical trials are necessary. Such research may help establish their therapeutic potential and provide a scientific basis for their appropriate use in urinary stone management.

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