

AN AYURVEDIC APPROACH TO TREATING SEPTIC ARTHRITIS OF KNEE JOINT WITH EFFUSION (KROSHTUKASHEERSHA): A SINGLE CASE STUDY

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ABSTRACT

Septic arthritis, or joint infection, occurs when an infectious agent invades a joint, causing inflammation and potentially significant morbidity and mortality if left untreated. Causes include bacteria, viruses, fungi, and parasites. Physicians must rely on indirect signs and high suspicion; raised CRP, ESR, and weight-bearing difficulty enhance diagnosis. USG aids in quick joint screening and the detection of effusions. Lack of response to minimally invasive treatments necessitates an open approach. According to *Ayurveda*, it can be correlated with *Kroshtukasheersha*, which is responsible for *Vata* and *Rakta Dusti*. **Aim of the study:** To study the prevalence, aetiology, complications and management of septic arthritis through *Ayurveda*. **Methods:** *Ayurveda* Classical treatment was used to treat a 35-year-old female patient who complained of severe right knee joint pain along with swelling and locally rising temperature for 12 days. **Results:** After treatment, individual

criteria were assessed by using subjective and objective parameters, and the patient showed encouraging results in this study. **Conclusion:** Acute Septic arthritis is still a major health problem in developing countries, including India. In *Ayurveda*, she was treated with the

combination of *Aushadies* and classical Herbal preparations, which showed good efficacy, and no further accumulation of fluid was seen during follow-up.

KEYWORDS: *Kroshtukasheersha*, Septic Arthritis, VAS Scale, *Vatavyadhi*.

INTRODUCTION

Septic arthritis is a joint inflammation caused by an infectious aetiology, typically bacterial; however, it may also be due to fungal, mycobacterial, viral, or another rare pathogen.^[1] Septic arthritis is often monoarticular, impacting a single big joint, such as the knee or hip; yet, polyarticular septic arthritis, which affects many or smaller joints, can also arise. Septic arthritis, although rare, is an orthopaedic emergency that can result in substantial joint destruction, hence elevating morbidity and death rates.^[2] Initial diagnosis and intervention are essential for maintaining joint functionality. Common organisms include *Staphylococcus aureus*, *Escherichia coli*, and *Pseudomonas aeruginosa*. In *Ayurveda*, a sudden painful and stiff knee joint resembling a jackal's head is called *Kroshtukasheersha*.^[3,4] *Acharya Sushruta* termed *Kroshtukasheersha* a *Vatavyadhi* affecting *Vata* and *Rakta Dusti*. Septic arthritis occurs at a rate of 5 per 100,000 annually.^[5] Among septic joint cases, 85% have underlying conditions such as diabetes or immunocompromised states like HIV, renal failure, hepatitis, and intravenous drug abuse. Multiple risk factors significantly elevate the risk of septic arthritis.^[6] Here, a combined treatment method is used, like *Vatarakta* treatment along with *Shotha*, because *Vata* and *Rakta Dusti* are involved.

OBJECTIVE OF THE STUDY

To evaluate in a study the prevalence, aetiology, complications and management of septic arthritis with special reference to *Kroshtukasheersha* through *Ayurveda*.

MATERIALS AND METHODS

Place of study: OPD Dept of Kayachikitsa, Raghunath Ayurved Mahavidyalaya and Hospital, Contai, Purba Medinipur, West Bengal, India, 721401.

Chief Complaints: A 35-year-old female came to Raghunath Ayurved Mahavidyalaya & Hospital with complaints of severe pain, tenderness, swelling, and local rise of temperature of right Knee joint for 12 days.

Associated Symptoms: Constipation since 3 months.

History of present illness: Patient was apparently normal 12 days back, and later developed pain in the right knee joint along with swelling and locally rising temperature. The pain increased gradually and became severe, leading to difficulty in flexion and extension of right knee joint, and finally presented gait disturbance. Patient had taken Allopathic treatment as NSAIDS, but didn't get any relief, as well as swelling. The patient had come to our Ayurvedic Hospital for better management.

Past History: No H/O of DM/HTN/CAD/CVA/CKD. No surgical history.

Family history: Nothing significant, but her father has a history of varicose veins.

Personal history: She is a housewife in a non-vegetarian Hindu family. She had a poor appetite with irregular bowel movements and normal micturition. She had a history of disturbed sleep due to right knee joint pain.

Dietary Habits

- Her *Agni* was *Vishama* and takes 1-2 times a day.
- Commonly consumed food– oily and spicy.
- Current appetite– Poor.

Dashvidha Pariksha: Her *Prakriti* was *Pitta-Kaphaja*, *Twak-rakta sara*, *Madhayama Samhanana*, *Sama Pramana*, *Madhyam Satva* with *mandagni*, *Avara Vyayama Shakti* and of *Youvana Vaya*. She presented *Vikrati* in *Rasa*, *Rakta*, *Mamasa*, and *Meda* with *Daurblaya*.

Clinical Findings

On examination (Right Knee joint)

Table 1: Showing subjective parameters and objective parameters.

Subjective parameters		Objective parameters	
	Before treatment		Before treatment
Pain (VAS Scale)	10	CRP	62.4 mg/dl
Swelling	Present	ESR	40 mm/hr
Tenderness	Grade 3	Total WBC	18,000 /cumm
Local Rise of Temperature	Present	Uric Acid	3.6 mg/dl
Redness	Present	S. Creatinine	1.0 mg/dl
Gait	Limping gait		

Systemic Examination

- Gastrointestinal system- P/A- soft, non-tender

- Respiratory System- Normal vesicular breath sound present
- Cardiovascular System- S1, S2 audible
- Central Nervous System- Conscious, Oriented, Afebrile

Samprapti Ghataka

<i>Dosha - Vata Dosha</i>	<i>Udbhavasthana - Pakwashaya</i>
<i>Dhatu - Rakta</i>	<i>Sancharasthana - Sarvashareera</i>
<i>Srotas - Raktavaha</i>	<i>Vyaktasthana - Janu Sandhi</i>
<i>Srotodusti Prakara - Sanga</i>	<i>Adhisthana - Sarira, Janu Sandhi</i>
<i>Agni- Jataragni, Dhatwagni</i>	<i>Rogamarga - Madhyama</i>
<i>Ama - Jataragnijanya</i>	<i>Vyadhi Swabhava - Chirakari</i>

Line of treatment in Ayurveda- *Vatarakta Chikitsasutra* has been adopted, due to involvement of *Vata* and *Rakta Dusti*.

SHAMANA CHIKITSA

Table 2: Details of Shamana Chikitsa for a couple of 20 days (05/09/2025-25/09/2025)

Sr. No	Medicine	Dose with <i>Anupana</i>	Interval
1.	<i>Kokilakshadi Kashayam</i>	15ml medicine with 45ml lukewarm water twice daily before food	Morning & Evening
2.	<i>Kaishore Guggulu</i>	500mg with <i>Kashayam</i> twice daily before food	Morning & Evening
3.	Syrup Green <i>Punarnabha</i>	15ml medicine twice daily after food	Noon & Night
4.	<i>Vaishvanara Churna</i>	3gm <i>Churna</i> with lukewarm water twice daily after food	Noon & Night
5.	<i>Vishagarbha Tailam + Karpura</i>	Apply over right knee joint twice daily	Noon & Night

Table 3: Details of Shamana Chikitsa for the next couple of 20 days (26/09/25-16/10/2025).

Sr. No.	Medicine	Dose with <i>Anupana</i>	Interval
1.	<i>Mahamanjisthadi Kashayam</i>	15ml medicine with 45ml lukewarm water twice daily before food	Morning & Evening
2.	<i>Amritadi Guggulu</i>	500mg with <i>Kashayam</i> twice daily before food	Morning & Evening
3.	Syrup Green <i>Punarnabha</i>	15ml medicine twice daily after food	Noon & Night
4.	<i>Vaishvanara Churna</i>	3gm <i>Churna</i> with lukewarm water twice daily after food	Noon & Night
5.	<i>Vishagarbha Tailam + Karpura</i>	Apply over right knee joint twice daily	Noon & Night

RESULT

Table 4: Results showing changes before and after treatment in subjective parameters.

Subjective parameters-	Before treatment	During Treatment	After treatment
Pain (VAS Scale)	10	5	2
Swelling	Present	Present	Absent
Tenderness	Grade 3	Grade 2	Grade 0
Local Rise of Temperature	Present	Mild Present	Normal
Redness	Present	Present	Skin colour
Gait	Limping gait	Limping gait	Steady gait



Fig. 1: Pictures showing subjective parameter changes before and after treatment.

Table 5: Results showing changes before and after treatment in objective parameters.

Objective parameters	Before treatment	After treatment
CRP	62.4 mg/dl	18.3 mg/dl
ESR	40 mm/hr	16 mm/hr
Total WBC	18,000 /cumm	12,000 /cumm
Uric Acid	3.6 mg/dl	3.0 mg/dl
S. Creatinine	1.0 mg/dl	0.9 mg/dl

DISCUSSION

Kokilakshadi Kashayam (*Bhaishajya Ratnavali*, *Vatarakta Rogadhikara* 27/13) is a potential *Ayurvedic* formulation that combines the medicinal properties of *Kokilaksha* and *Guduchi* for the treatment of gout and other inflammatory illnesses. The presence of alkaloids, flavonoids, and tannins implies that it might have anti-inflammatory, antioxidant, antibacterial, and immune-modulating activities.^[7,8] These characteristics are consistent with its usual indications for arthritis. The presence of phenolics and flavonoids has antioxidant properties, which may contribute to the protective effects on cells and tissues.^[9,10]

Kaishore Guggulu is a well-known *Ayurvedic* formulation mentioned in classical texts such as *Yogaratanakar*, *Bhaishjyaranatnavali*, *Sharangdhara Samhita*, and *Chakradutta* under the category of *Vatarakta Rogadhikara*. Its main ingredients—*Guduchi*, *Triphala*, and *Trikatu*—when combined with *Guggulu*, create a detoxifying and rejuvenating combination aimed primarily at removing deep-seated *Pitta* from the tissues. Therapeutic indications of *Guggulu*

are multiple according to different *Ayurvedic* classical textbooks, such as *Sthaulya*, *Vata Vyadhi*, *Amavata*, *Vidradhi*, *Udara Roga*, *Vatarakta*, *Sotha*, *Puti Karna*, and *Vrana*. *Kaishore Guggulu* heals the *Vyadhis* of *Kishoravastha* and produces a *Rasayana* effect. It fights against *Vatarakta*, *Vatvyadhi*, *Madhumeha*, *Twakrogas*, *Kasa*, *Pandu*, *Udara*, and, eventually, restores immunity.^[11] An active compound, 5(1-methyl, 1-aminoethyl)-5-methyl-2-octanone, *Guggulu* gum, showed significant antibacterial activity against Gram-positive bacteria and moderate activity against gram-negative bacteria;^[12,13] as a result, it exhibited antibacterial activity.^[14]

Syurp Green *Punarnava* contains *Punarnava*, *Gokshru*, *Sarapunkha*, *Swet Chandan*, *Haridra*, *Swarna Patri*, *Sajina*, *Varun*, *Kurthi*, *Kulekhara*, *Neemgruch*, *Khas*, *Manjistha*, *Arjun*, *Neemchal*, *Katki*, *Apamarga*, and other ingredients, manufactured by *Gita Ayurveda*. The main herb *Punarnava* is a *Sleshmapittarakta Binashini*, and *Sothahara*. It has chemical constituents such as anti-inflammatory compounds like liriiodendron, quercetin, and kaempferol that have shown potential for anti-inflammatory activity. It has ethanol, methanol, chloroform, ethyl acetate, and aqueous extracts that exhibited inhibitory activity against gram-positive bacterial species. As a result, it acts as an anti-inflammatory and antibacterial agent.^[15]

Mahamanjisthadi Kashayam, mentioned in *Sharangadhara Madhyamkhanda* and *Bhaishajya Ratnavali*, is indicated in *Kustha*, *Vatarakta*, *Upadamsha*, *Vrana*, etc. The herbs in this *Kashayam*, such as *Manjistha*, *Nimba*, *Nisha*, and *Guduchi*, have anti-inflammatory properties that help reduce severe inflammation, pain, and swelling in the joints.^[16]

Amritadi Guggulu is derived from *Chakradutta Vatarakta Chikitsaprakarana*. The primary constituents of *Amrita Guggulu* are *Guduchi*, *Guggulu*, *Danti*, *Vyosha*, *Vidanga*, *Triphala*, *Tvak*, and *Trivrit*. *Triphala*, *Danti*, *Trivrit*, and *Amrita* are among the compounds that bring relief in *Daha* and *Atisweda*. *Trivrit*, *Tvak*, *Amalki*, *Bibhitaki*, *Vidanga*, *Sunthi*, and *Amrita* are medications that treat *Shotha* and *Kandu*. *Guggulu* has *Srotoshodhaka* property, which aids in the early breakdown of *Dosha-Dushya Sammurcchana*.^[17] It has *Deepaniya*, *Raktasodhana*, and *Tridoshashamaka*, resulting in a carminative, diuretic, and anti-inflammatory, so it is very helpful in *Vatarakta*, *Amavata*, and *Agnimandya*.

Vaishvanara Churna is found in *Chakradatta*, *Bhaishajya Ratnavali*, and *Sahasrayogam* under the *Amavata Chikitsa Prakarana*. It includes *Saindhava Lavana*, *Ajwain*, *Sunthi*, *Ajamoda*, and *Haritaki*. *Saindhava Lavana* has Sodium chloride, Sodium bicarbonate,

Insoluble matter, Magnesium chloride, Calcium chloride, Calcium sulphate, and Trace elements like iodine, *Ajwain* contains thymol and carvacrol, *Shunthi* has 6-,4-,8-,10-,12- gingerols, *Ajamoda* is rich in flavonoids (apigenin, apiin, luteolin, and quercetin), Phenolic acids (caffeic acid and ferulic acid), and essential oil, *Haritaki* contains chebulagic acid and chebulinic acid, which helps have an antioxidant, anti-inflammatory, antimicrobial, and laxative effect.^[18,19,20]

Vishagarbha Tailam, mentioned in *Bhaishajya Ratnavali Vatavyadhi Rogadhikara*, is composed of *Tila Taila*, processed in the decoction of *Dhatura* Seeds, *Nirgundi*, *Madaar*, *Karvir*, *Kutha*, etc. All are *Visha Dravya*; it has anti-inflammatory and analgesic properties and helps to improve blood circulation in the body, which can help with healing, followed by reducing inflammation, pain, and stiffness in the joints; it strengthens the nerves and muscles and helps in maintaining flexibility of joints.^[21] *Karpura*, or camphor, is an anti-inflammatory agent due to the action of several chemical compounds, such as camphor, linalool, and borneol, all of which have an overall anti-inflammatory effect.^[22]

CONCLUSION

Septic Arthritis of the Knee Joint with effusion is contrasted with *Kroshtukaseersha* of *Ayurveda*, which was treated with the combination of traditional medicines mentioned above and demonstrated good effectiveness, with no additional fluid buildup noted during follow-up. Clinical studies can be conducted to determine the effectiveness of the aforementioned combination of *Shamana Aushadies*.

REFERENCE

1. Mayo Clinic [internet]. Mayo Foundation for medical Education and Research; 2015[cited 2017 April 4]. Available from: <http://www.mayoclinic.com/health/bone-and-joint-infection/DS00545>
2. Momodu II, Savaliya V. Septic Arthritis. InStatPearls [Internet] 2019 Apr2. StatPearls Publishing. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK538176/> (last accessed 25.12.2019)
3. https://www.researchgate.net/publication/372725109_Management_of_Pseudogout_Kroshtuksheersha_through_herbal_medicine_a_case_report.
4. Madhavnidanm by Madhavkar with commentary of Vijayrakshit and shrikanthdatta, chauokhamba prakashan varanasi, 2005, vatvyadhi, verse no. 58
5. Shirliff, Mark E, Mader, Jon T (October 2002) Acute Septic arthritis: 527-544).

6. Williams KD, infective arthritis, camp bells, operative orthopaedics S. terry canal, moray year book, inc. st. louis, 9th Edi, 1998, 1: 601-23.
7. Parab SM, Parab NB, Panchal PL, Palkar PP, Jagtap VA. Review on Pharmacological Activities of *Hygrophila Auriculata*.
8. Sharma P, Dwivedee BP, Bisht D, Dash AK, Kumar D. The chemical constituents and diverse pharmacological importance of *Tinospora cordifolia*. *Heliyon*, 2019 Sep 1; 5(9).
9. Zahra M, Abrahamse H, George BP. Flavonoids: Antioxidant Powerhouses and Their Role in Nanomedicine. *Antioxidants* (Basel), 2024 Jul 29; 13(8): 922. doi: 10.3390/antiox13080922. PMID: 39199168; PMCID: PMC11351814.
10. Kaurinovic B, Vastag G. Flavonoids and phenolic acids as potential natural antioxidants. February 2019.
11. Ahire P, Parulkar G. Kaishore Guggulu: A Precious Medicine. *International Journal Of Scientific Research*, 2023 Jun; 12(06).
12. Goyal P, Chauhan A, Kaushik P. Assessment of *Commiphora wightii* (Arn.) Bhandari (Guggul) as potential source for antibacterial agent. *J Med Med Sci.*, 2010; 193: 71-5.
13. Ishnava KB, Mahida YN, Mohan JS. In vitro assessments of antibacterial potential of *Commiphora wightii* (Arn) Bhandari. Gum extract. *J Pharm Phytother*, 2010; 2: 91-6.
14. Sharma A, Patel VK, Rawat S, Ramteke P, Verma R. Identification of the antibacterial component of some Indian medicinal plants against *Klebsiella pneumonia*. *Int J Pharm Pharm Sci.*, 2011; 2: 123-7.
15. Kumari Isha et al. *Boerhavia diffusa* (punarnava): a review based on its Ayurvedic and Modern therapeutic uses. *Int. J. Res. Ayurveda Pharm.*, 2021; 12(2): 124-131. <http://dx.doi.org/10.7897/2277-4343.120262>
16. Thakur K, Mol P, Gawhankar M, Gupta H, Patil P, Thakur M. Physicochemical characterization and antimicrobial properties of Mahamanjishthadi kadha: An Ayurvedic formulation. *Annals of Phytomedicine: An International Journal*, 2020 June 1; 9.
17. Kumar Sanjiv et al: Conceptual Study of Amrita Guggulu. *International Ayurvedic Medical Journal* {online} 2022 {cited March 2022} Available from: http://www.iamj.in/posts/images/upload/857_860.pdf
18. Santhi Krishnan, I.S. Aswathy, Jasmine Peter, Vidya Sabu, A. Helen. Anti-Inflammatory Potential of Vaisvanara Churnam-An Ayurvedic Polyherbal Formulation in Cholesterol Fed Rats. *Indian Journal of Scientific Research*, 2018; 18(2): 29-37.

19. Dashti-Rahmatabadi MH, Hejazian SH, Morshedi A, Rafati A. The analgesic effect of *Carum copticum* extract and morphine on phasic pain in mice. *Ethnopharmacol*, 2007; 109(2): 226-28.
20. Chin YW, Jung HA, Liu Y, Su BN, Castorol JA, Keller WJ, Pereira MA, Kinghorn AD. Anti-oxidant constituents of the roots and stolons of Licorice (*Glycyrrhiza Glabra*). *J. Agric. Food Chem.*, 2007; 55(12): 4691-4697.
21. Nagar K, Bhusal L, Professor Anupam. Unveiling The Potential of Vishagarbha Taila: A Comprehensive Review. *World Journal of Pharmacy and Pharmaceutical Sciences*, 2024 Sept 24; 13(10): 296–307.
22. Xiao, S.; Yu, H.; Guo, Y.; Cheng, Y.; Yao, W. The Antibacterial and Anti-Inflammatory Potential of *Cinnamomum camphora* chvar. *Borneol Essential Oil In Vitro. Plants*, 2025; 14: 1880. <https://doi.org/10.3390/plants14121880>