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Ureteric Calculi in a 24 Year Old Man: A Case Study

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Abstract: ***Introduction: Ashmari is one among the eight most difficult to cure diseases (Ashtamahagada) described in Ayurveda classical texts. The symptomatology of Ashmari resembles the clinical features of Urolithiasis mentioned in contemporary medical science. Urolithiasis is the third most common disease of the urinary tract. Aim & objectives: Conventional management of Urolithiasis does not have any effect on the pathogenesis of this disease and therefore, recurrence of disease occurs very commonly. To find out effective management of Ashmari with Ayurvedic medicines with no adverse events. Case Presentation: In this present study an effort is made to cure ureter calculi (4.8 mm). On Ayurvedic parlance, 24 year male patient was diagnosed as Ashmari based on the signs and symptoms. Patient was prescribed the Ayurvedic medicines. Patient were advised to follow-up initially after 07 days. Result: Improvement in clinical features was there within 07 days. Patient showed complete relief in his complaints on third follow up visit. Repeat Ultrasonography scan did not reveal any ureteric calculus. Conclusion: Chandraprabha Vati, Gokshuradi Guggulu and Kulathadi Ghrit, the administered drugs have effectively disintegrated the pathogenesis of Ashmari and lead to expulsion of the Ashmari from the urinary tract.***
Keywords: Ashmari, Ureter Calculus, Urolithiasis, Gokshuradi Gugglu, Chandraprabha Vati, Kulathadi Ghrit.

I. INTRODUCTION

Ashmari is one of the prevalent ailments of the mutravahasrotas (urinary system) alongside Mutrakrichra and Prameha. In Ayurveda, Acharya Susruta described eight most difficult to cure diseases (Ashtamahagada) and Ashmari is one among them owing to its potentiality to disturb the structure and functions of urinary system.[1] The symptomatology of Ashmari explained in Ayurvedic texts resembles the clinical features of Urolithiasis mentioned in the contemporary medical science. Urolithiasis is third most common disease of the urinary tract after urinary tract infections and prostatic disorders.[2] The cases of renal calculi are mostly seen at age of 20-40 years and decline with over 50 years. Modern science stresses various factors like genetics, age, sex, metabolic disorders, Sedentary lifestyle, dehydration, the mineral content of water, nutritional deficiency etc. for Urinary stone formation. Urolithiasis causes pain, loss of working time, medical expenses, need for hospitalization and an infrequent reason for renal failure. In modern science, the best possible management for urinary calculus is the use of drugs to correct the involved Pathologies and use of diuretics as well as surgical intervention including open surgery, percutaneous techniques etc. Urolithiasis is a complex process as a consequence of an imbalance between promoters and inhibitors of urinary crystallization in the kidneys.[3] Around 97% of the calculi are found in the kidneys and ureters while the other 3% in the urinary bladder and urethra.[4] Prevalence and incidence of urolithiasis has been increasing in present time; may be due to rapidly changing diet & lifestyle or better diagnostic tools for more accurate diagnosis. It occur in approximately 12% of the global population and its re-occurrence rate in males is 70-81% and 47-60% in females.[5] In Ayurveda, there are various formulations like Ghrita, Kwatha, Churna, Kshara Dravyas etc use for Ashmari Chikitsa.[6] In Ayurveda, 4 types of Ashmari are described by Acharyas Vataj Asmari, Pittaj Ashmari, Kaphaj Ashmari and Shukraj Ashmari. Vataj Ashmari symptoms resemble with Calcium Oxalate type Stone, Pittaj Ashmari symptoms resemble with Uric Acid type stone, Kaphaj Ashmari symptoms resemble with Oxalate/Phosphate type stone. Mostly Kaphajpradhyanya dosh is involved in Ashmari. Ayuveda has a more radical approach and wide range of options in the management of Ashmari. Ayurvedic drugs have potential to manage Ashmari (Urolithiasis) effectively due to their properties like ashmari-bhedana (lithotriptic), mutrala (diuretic), vednasthapana (analgesic), shothahara (anti-inflammatory), basti-shodhana (improve kidney functions), deepana-pachana (correct digestion and metabolism) and by maintaining urine pH. Acharya Susruta has described medical treatment for facilitating the disintegration of the Ashmari with ghrita (medicated ghee), kshara (medicated alkali preparation), kashaya (decoction), ksheera (medicated milk), basti (medicated enema) etc. before opting for surgical intervention.[7] A recent onset of Ashmari can be managed with oral medicines whereas large size and chronic calculi requires surgical treatment.[8]

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A. Case Report

A 24-years old male Patient came in OPD with symptoms of

1) Pain in the left side of Abdomen
2) Burning Micturition
3) Nausea
4) Vomiting

B. History of Present Illness

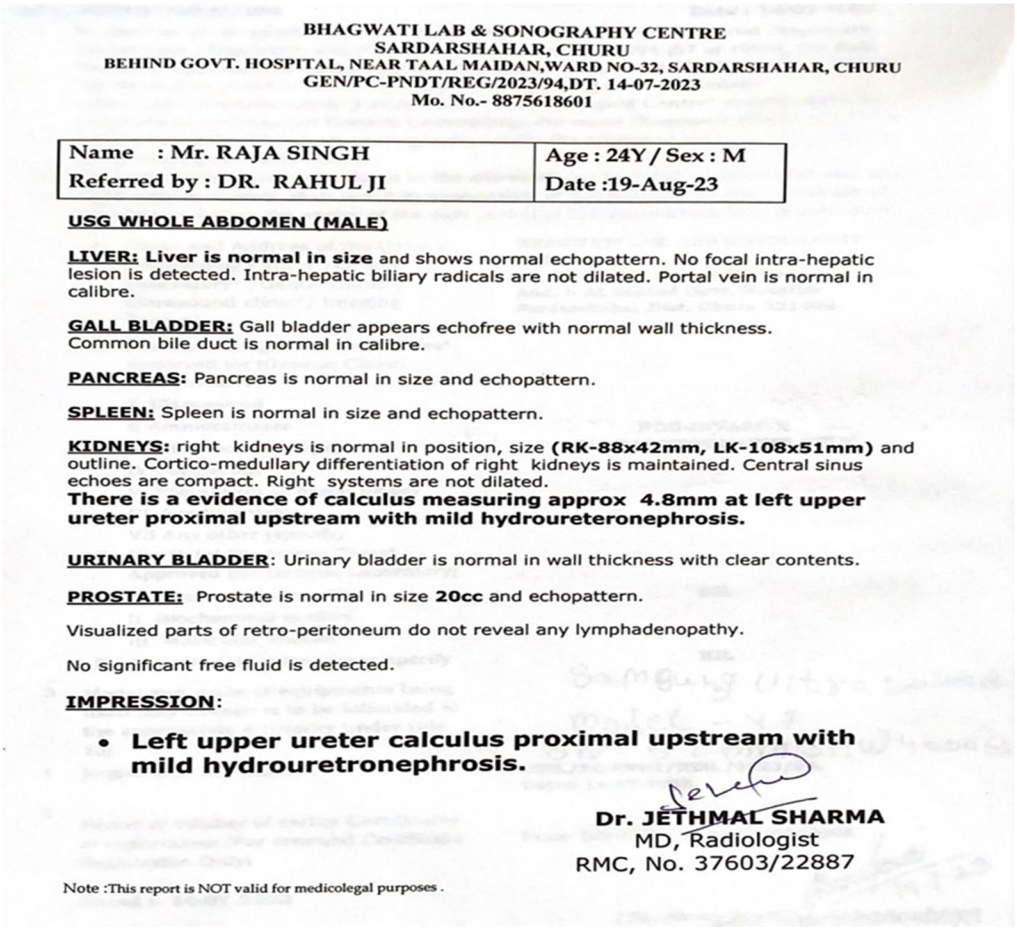
The patient was normal before 9-10 months, afterwards he is complaining of spasmodic pain on the left side of the Abdomen, Burning Micturition, Nausea, and vomiting. He had taken opinion of modern diagnosed as left upper ureter stone. He took analgesics, antiemetic medicine but had symptomatic relief for some days. So, he came to SBLD Ayurved Vishwa Bharati, Sardarshahar for ayurvedic treatment.

1) *Past History:* He had no history of Diabetes Mellitus, Hypertension, Asthma and Hypothyroidism or any type of Surgery.
2) *Family History:* NAD

C. Clinical Examination

Per Abdomen Examination- elicited tenderness on the right and left lumbar region of the Abdomen.
No other Abnormality Detected during the general and systemic examination.
Vital Parameters- Vital Parameters were normal.
USG Report Shows- (19/08/2023) the right kidney is normal in size and reported calculus measuring 4.8 mm in left upper ureter.

BEFORE TREATMENT



BHAGWATI LAB & SONOGRAPHY CENTRE
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GEN/PC-PNDT/REG/2023/94,DT. 14-07-2023
Mo. No.- 8875618601

Name : Mr. RAJA SINGH	Age : 24Y / Sex : M
Referred by : DR. RAHUL JI	Date :19-Aug-23

USG WHOLE ABDOMEN (MALE)

LIVER: Liver is normal in size and shows normal echopattern. No focal intra-hepatic lesion is detected. Intra-hepatic biliary radicals are not dilated. Portal vein is normal in calibre.

GALL BLADDER: Gall bladder appears echofree with normal wall thickness. Common bile duct is normal in calibre.

PANCREAS: Pancreas is normal in size and echopattern.

SPLEEN: Spleen is normal in size and echopattern.

KIDNEYS: right kidneys is normal in position, size **(RK-88x42mm, LK-108x51mm)** and outline. Cortico-medullary differentiation of right kidneys is maintained. Central sinus echoes are compact. Right systems are not dilated.
There is a evidence of calculus measuring approx 4.8mm at left upper ureter proximal upstream with mild hydroureteronephrosis.

URINARY BLADDER: Urinary bladder is normal in wall thickness with clear contents.

PROSTATE: Prostate is normal in size **20cc** and echopattern.

Visualized parts of retro-peritoneum do not reveal any lymphadenopathy.

No significant free fluid is detected.

IMPRESSION:

- **Left upper ureter calculus proximal upstream with mild hydrouretronephrosis.**

Dr. JETHMAL SHARMA
MD, Radiologist
RMC, No. 37603/22887

Note :This report is NOT valid for medicolegal purposes .

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II. MATERIAL AND METHOD

Sr. No.	Name of Drug	Dose	Kala	Frequency	Anupan
1	Kulathadi Ghrit	10 ml	Before food	2 times	Koshna Jala
2	Gokshuradi Gugglu	2 tablets	After food	2 times	Jala
3	Chandraprabha vati	2 tablets	After food	2 times	Jala

The patient was advised to drink plenty of water and avoid a protein rich diet like egg, meat soybean, Dairy products etc, and Oxalate rich food like Spinach, Tomatoes, Ladyfinger, Chocolates, cold drinks etc. and avoid Calcium supplements.

III. COMPOSITION OF PRESCRIBED FORMULATION MEDICINES

A. Chandraprabha Vati

Chandraprabha (Cinnamomum camphora), Vacha (Acorus calamus), Musta (Cyperus rotundus), Bhunimba, (Andrographis paniculata), Daruka (Cedrus deodara), Haridra (Curcuma longa), Ativisha (Aconitum heterophyllum), Darvi (Berberis aristata), Pippalimoola (Piper longum), Chitraka (Plumbago Zeylanica), Trivrit (Operculina turpethum), Danti (Baliospermum montanum), Patra (Cinnamomum tamala), Twak (Cinnamomum zeylanicum), Ela (Elettaria cardamomum), Vamsha lochana (bambusa bambos), Dhanyaka (Coriandrum sativum), Haritaki (Terminalia Chebula), Vibhitaki (Terminalia bellirica), Amalaki (Emblica officinalis), Chavya (Piper chaba), Vidanga (Embelia ribes), Gajapippali (Piper chaba), Swarna makshika bhasma, Shunti (Zingiber officinalis), Marich (Piper nigrum), Pippali (Piper longum), Yava kshara, Swarjik kshara, Saindhava lavana, (Rock salt), Sauvarchala lavana, Vida lavana, Loha Bhasma, Sita (Sugar), Shilajatu (Asphaltum), Guggulu (Commiphora mukul)

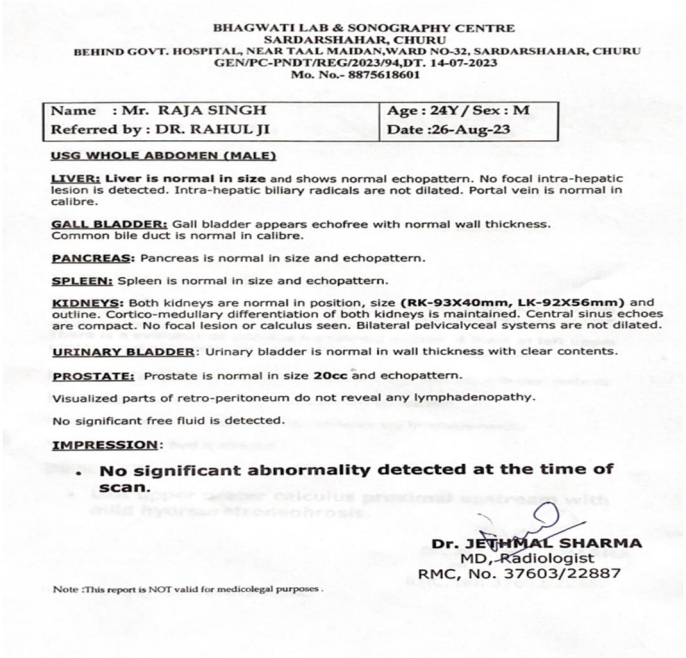
B. Gokshuradi Guggulu

Gokshur (Terribulus Terrestris), Guggulu (Comiphora mukul), Shunthi (Zingiber officinale), Maricha (Pipper nigrum), Pippali (Pipper longum), Haritaki (Terminalia Chebula), Vibhitaki (Terminalia bellirica), Amalaki (Emblica officinalis), Musta (Cyperus rotundus), Varuna (Crataeva nurvala), Pashanbheda (Berginia ligulata), Shunti (Zingiber Officinale).

C. Kulathadi Ghrit

Kulatha (Dolichos biformis), Sendha lavan (Rock salt), Vidang (Embelia ribes), Sharkara (Sugar), Sheetali (Cynodon dectylon), Kushmand (Benincasa hispida), Gokshur (Tribulus terrestris), Yavshar (Hardoleum vulgare), Gau ghrat, Varun (Crataeva nurvala).

AFTER TREATMENT



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GEN/PC-PNDT/REG/2023/94,DT. 14-07-2023
Mo. No.- 8875618601

Name : Mr. RAJA SINGH	Age : 24Y / Sex : M
Referred by : DR. RAHUL JI	Date :26-Aug-23

USG WHOLE ABDOMEN (MALE)

LIVER: **Liver is normal in size** and shows normal echopattern. No focal intra-hepatic lesion is detected. Intra-hepatic biliary radicals are not dilated. Portal vein is normal in calibre.

GALL BLADDER: Gall bladder appears echofree with normal wall thickness. Common bile duct is normal in calibre.

PANCREAS: Pancreas is normal in size and echopattern.

SPLEEN: Spleen is normal in size and echopattern.

KIDNEYS: Both kidneys are normal in position, size **(RK-93X40mm, LK-92X56mm)** and outline. Cortico-medullary differentiation of both kidneys is maintained. Central sinus echoes are compact. No focal lesion or calculus seen. Bilateral pelvicalyceal systems are not dilated.

URINARY BLADDER: Urinary bladder is normal in wall thickness with clear contents.

PROSTATE: Prostate is normal in size **20cc** and echopattern.

Visualized parts of retro-peritoneum do not reveal any lymphadenopathy.

No significant free fluid is detected.

IMPRESSION:

- **No significant abnormality detected at the time of scan.**

Dr. JETHMAL SHARMA
MD, Radiologist
RMC, No. 37603/22887

Note :This report is NOT valid for medicolegal purposes.

D. Follow-Up And Outcome

Patient was advised to follow-up initially after 7 days. Burning micturition, Pain was relieved within 07 days and no other complaints were told by the patient. Patient was advised to repeat Ultrasonography (whole abdomen) scan after 7 days; Ultrasonography scan was done on 26th August 2023 and did not revealed any renal calculus. Clinically also, he has complete relief in pain abdomen, burning micturition and dysuria. Patient was advised to strictly continue following diet and lifestyle restrictions to prevent re-occurrence of calculus and visit the OPD of the institute if any complaint recurs again. No adverse events occurred during the course of treatment and even after stopping the treatment.

IV. DISCUSSION

Acharya Susruta considered Ashmari as a grave disease and fatal as death itself.[9] As per Ayurveda, the main reason for Ashmari is an aggregation of Kaphapradhana dosha in Mutravahasrotas due to Agnimandya and Ama formation.[10] The process of Ashmari formation takes place by the stagnation and supersaturation of the urine and by crystallization of the crystalloids within the urine.[11] The mechanism of renal calculus formation as per modern medical science is a complex process that ends up from various complex processes including supersaturation, nucleation, growth aggregation, and retention of urinary stone constituents within tubular cells.[12] Despite a big selection of conventional medical intervention options, 50% of patients suffer a minimum of one recurrence, and 10-20% experience three or more further episodes of recurrence.[13,14] If left untreated or poorly treated, it could result in urinary tract infection, urinary obstruction, chronic kidney diseases, nephropathy, and hypertension.[15,16,17]

Ayurvedic drug management to disintegrate the pathogenesis of Ashmari includes the drugs with the following properties: Ashmari Bhedana: - Disintegration, dissolution, expulsion, and to some extent prevention of urolithiasis like Gokshura (Tribulusterrestris Linn.), Varuna (Crataevamurvala Buch-Ham.). Pashanbheda (Bergeniaciliata Sternb.). Kulatha (Dolichos biflorus Linn.). Punarnava (Boerhavia diffusa Linn.) etc [18,19] Mutrala:- Drugs that increase the urine production and are thus helpful in the expulsion of the calculas like Gokshura, Punarnava, Shvetaparpati, Trina panchamula etc. [20,21] Deepana-Pachana:- Drugs to correct abnormalities in the digestion and metabolism (as the intermediary metabolites (ama) being excreted through the urinary tract could precipitate and give rise to urolithiasis) like Trikatu [Combination of Shunthi (Zingiber officinale), Pippali (Piper longum). Maricha (Piper nigrum)]. Triphala [Combination of Haritaki (Terminalia chebula). Bibhitak (Terminalia bellerica). Amalaki (Phyllanthus emblica)]. Musta (Cyperus rotundus) etc. Vedanasthapana & Shothahara:- Anti-inflammatory and analgesic drugs like Chandraprabha, Guggulu, Gokshura, Punarnava etc.[22] The constituents of the prescribed medicines, Chandraprabha Vati, Gokshuradi Guggulu and Kulathadi Ghrit have Ashmari Bhedana (lithotripsic), Mutrala (diuretic), Vedanasthapana (analgesic), Shothahara (anti-inflammatory), Basti-shodhana (improve kidney functions), Daha shamaka and Deepana pachana (correct digestion and metabolism) properties as mentioned above. By means of these medicinal properties, the administered drugs have effectively disintegrated the pathogenesis of Ashmari and lead to expulsion of the Ashmari from the urinary tract in the present case.

V. CONCLUSION

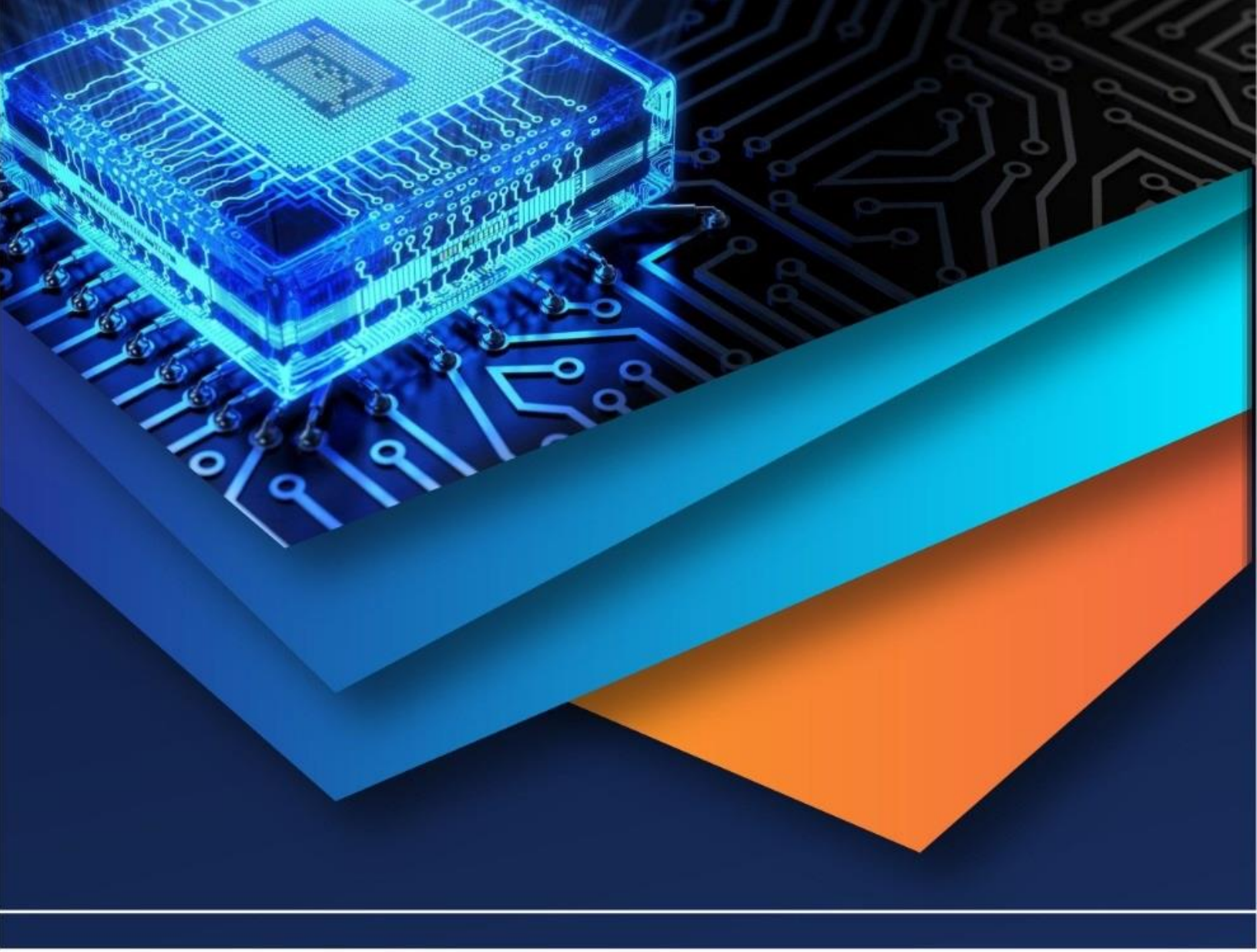
Chandraprabha Vati, Gokshuradi Guggulu and Kulathadi Ghrit are effectively disintegrated the pathogenesis of Ashmari, providing complete relief in burning micturition, dysuria and expulsion of Ashmari from the urinary tract in the present case. This case shows the effective conservative management of Ashmari with Ayurvedic medicines with no adverse events.

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