



“EFFECTIVE MANAGEMENT OF GOMUTRA ARKA IN VARIOUS DISEASES”

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ABSTRACT

Mutra is one of the important *Jangamdravya* used in the treatment of various diseases. *Mutra varga* has been discussed taking into account its importance and significance. Eight types of *Mutra* are enumerated with specific qualities and application. When *Vata Dosha* gets aggravated in body it does not hamper daily routine in the beginning. Most of the time, it goes unnoticed. When not treated properly, it may lead to severe diseases like *Udavarta*, *Gulma* and *Shwasa*. *Chikitsa* of *Pakvashayagata Vata* is given as *Vatanulomana*, *Virechana*, *Niruha Basti*, *Asthapana Basti* and *Varti*. In *Anaha* and *Udavarta*, use of *Gomutra* has been mentioned. usage of *gomutra arka* for the treatment of otomycosis provided good results and is the main motive for studying the antifungal action of *gomutra*.

KEY WORDS : *Gomutra Arka*,*vatvyadhi*, *Otomycosis*, *antifungal activity*

INTRODUCTION-

After screening of various results on cow urine and its distillate in various research articles it concludes that cow urine is a really multidimensional drug. As it is anticancerous, antimicrobial, anti-diabetic, anti-urolithiatic,

antipsychotic drug and also enhances the immunity of animals and humans. *Ayurveda* already told that fresh cow urine of indigenous cow is the best.

Nowadays resistance to antibiotics is a major concern to world but as a bioenhancer cow urine distillate is found very effective to overcome such kind of issues.

In *Vatavyadhi Chikitsa Adhyaya*, treatment of *Pakvashayagata Vata* is mentioned as similar to *Udavarta Chikitsa*. In *Trimarmiya Adhyaya* treatment of *Udavarta* is given as *Vatanulomana*, *Virechana*, *Niruha Basti*, *Asthapana Basti*, *Varti* is mentioned. In *Anaha* and *Udavarta*, use of *Gomutra* has been mentioned. Fresh *Gomutra* has been advised for administration however due to difficulty in obtaining the same *Gomutra Arka* has been used, it is found to be more palatable.

USE OF GOMUTRA ARKA IN PAKVASHAYAGATAVATA -

When *Vata* gets aggravated in *Pakvashaya* it should be treated with *Snehayukta Virechana Dravyas* followed with *Shodhaniya Dravya Basti*. *Pakvashaya* is divided in 2 parts *Pittashaya* and *Vatashaya*. In *Vatashyagata Vata Prakopa* depending on the *Dosha* vitiation *Kalk / Kashaya/ Sneha Basti* are given. When *Vata* gets avruta by *Kapha Ksharayukta Ushana Basti* like *Trivruta*, *Gomutra*, *Vidari Kalka* are given.

SAMPRAPTI OF PAKVASHAYAGATA VATA

To see the effect of *Gomutra arka* in patients of *Pakvashayagata Vata*, patients were assessed on the following symptoms as *Antrakujana*, *Shoola*, *Atopa*, *Krichramutra*, *Krichrapurisha*, *Anaha* and *Trikvedana*. The present study is conducted on bases of symptoms from *Pakvashayagata vata*.

When *Vata* gets aggravated by consuming inappropriate *Ahara* and *Vihara*. Along with *Manasik Hetu*. It causes obstruction in 2 ways

1. *Dhatukshayajanya*
2. *Margavrodhajanya*

In *Margavarodhajanya samprapti*, *Vata* is vitiated and gets *Aavruta* with *Kapha* due to consumption of *Ahara* like *Sankirnashana*, *Paryushitanna*, *Visham Ashana* and *Vihara* like *Yanayan*, *Ratrijagran* along with *Manas Hetu Atichinta*. Which causes *Jatharagni Mandya*. Further leading to excessive *Kapha* formation. *Gomutra Arka* does *Bhedana* of *Avarut Kapaha* and *Vayu* gets *Anulomit*.

ANTIFUNGAL ACTIVITY OF GOMUTRA ARKA IN OTOMYCOSIS -

Otomycosis is a fungal infection of the external ear canal that often occurs due to *Aspergillus niger*, *A. fumigatus* or *Candida albicans*. Although *Otomycosis* has been classically described as a fungal infection of the external auditory canal, it has been suggested that the term be expanded and redefined to include fungal infections of the middle ear and open mastoid cavities.¹ It is seen in hot and humid climate in tropical and subtropical regions.³ Secondary fungal infection is also seen in patients using topical antibiotics for treatment of *otitis externa* and middle ear suppuration which leave a medium sterilized of other organisms in which the fungus may flourish. *Otomycosis* occurs throughout the world and its prevalence changes with location and climate. The aetiological

agents of Otomycosis are commonly found in indoor and outdoor air, in the soil and dust, and on decomposing plant matter. Warm humid environments support their growth, and the human ear canal is ideal for their proliferation. In the tropics, Otomycosis accounts for upto 30% of patients with symptomatic ear disease. It occurs in men and women of all ages.² The causal organisms and their habitat- Otomycosis is most commonly caused by *Aspergillus* species, particularly *Aspergillus fumigatus*, *Aspergillus niger*, *Aspergillus nidulans* and *Aspergillus flavus*, and *Candida* species, particularly *Candida albicans*, *Candida parapsilosis* and *Candida tropicalis*. In temperate regions, there is a slight preponderance of infections with *Candida* species while in tropical and sub-tropical regions, *A.niger* is the most common cause of infection.² The fungal mass may appear white, brown and black in colour. In aspergillus infections numerous black specks may be seen in the epithelial debris. Pigmented fungal tufts atop a tangle of hyphal threads resembling a cotton ball or moist white plug dotted with black debris (“wet newspaper”). Aggressive infection involves epithelial and subcutaneous tissues and may result in TM perforation. Microscopic examination of a smear from the debris will confirm the diagnosis.

The goals of management of Otomycosis are to relieve symptoms, eliminate disease, and prevent recurrence. This is accomplished by identifying the infecting organisms, identifying and treating any predisposing factors, cleaning and drying the ear, and applying topical antifungal medications. Special attention should be focused on meticulous cleaning of the paratympanic sulcus, which is the site of many early infections and the area responsible for recurrences. Systemic antifungals may be necessary as a last resort in refractory cases.

The popularity of usage of *gomutra* is increasing day by day and thereby a number of studies are evolving for understanding its antimicrobial, anticancerous, antioxidant properties. The biochemical estimation of cow urine has shown that it contains sodium, nitrogen, sulphur, Vitamin A, B, C, D, E, minerals, manganese, iron, silicon, chlorine, magnesium, citric, succinic, calcium salts, phosphate, lactose, carbolic acid, enzymes, creatinine and hormones.⁷ Presence of urea, creatinine, *swarna kshara* (aurum hydroxide), carbolic acid, phenols, calcium and manganese have strongly explained for exhibition of antiseptic, antimicrobial and germicidal properties of cow urine.⁸ 95% of *Gomutra* arka has water, 2.5% consists of urea, and the remaining 2.5% is a mixture of minerals, salts, hormones and enzymes.⁹

Gomutra with its *katu rasa*, *thikshnushna*, *kshara*, *krimihara* & *sophahara* property act effectively on Otomycosis, which is a fungal infection in the external auditory canal. With proper *pramarjana* and appropriate usage of medicine like *gomutra arka* is giving good result to this condition. According to modern medicine, the treatment for this condition is cleaning the ear canal, application of antifungal drops or powder to the ear. The main problems that exist in antifungal drugs are drug resistance and they are forced to depend on new drugs. According to modern research, antimicrobial, germicidal, antifungal property of cow's urine was explained due to the presence of urea, creatinine, *swarna kshara* (aurum hydroxide), carbolic acid, phenols, calcium and manganese. Among them the most important component having antifungal property is phenol. Phenols antifungal action involve damage to the plasma membrane, resulting in the leakage of intracellular compounds

such as potassium(K^+) leading to cell death.¹² Antifungal activity of cow's urine distillate was analysed against *Aspergillus niger* and *A. flavus*.

medicinal properties, particularly as a antifungal and anticancer agent.¹⁰ bioenhancer and as an antibiotic,

Medical values of cow's urine

Uses	
Urea	Anti-microbial activity
Uric Acid :	Anti-microbial activity
Nitrogen :	Diuretic
Sulphur :	Purifies blood
Copper :	Controls fat deposition
Iron :	Production of RBC in blood
Sodium :	Purifies blood, checks hyperacidity
Potassium :	Appetizer, eliminates muscles fatigue
Other salts :	Antibacterial, prevents comma and ketoacids
Carbolic Acid :	Antibacterial, prevents gas gangrenes
Ammonia :	Integrity of body tissue and blood
Sugar-Lactose :	Good for Heart, thirst, giddiness
Vitamin A,B,C,D, E :	Prevent excessive thirst, infuse vigour, increase potency
Creatinine :	Antibacterial
Swarna Kshar :	Antibacterial, improves immunity (aurum hydroxide) acts as antidote
Enzyme-urokinase :	Dissolve blood clot, improves heart disease, blood circulation
Colony stimulating factor :	Effective for cell division and multiplication
Erythropoietin stimulating factor :	Production of RBCs
Gonadotropin :	Promotes menstrual cycle, sperm production
Kallikrein :	Releases Kallidin which expands peripheral veins and reduces blood pressure.
Allantoin :	Heals wounds and tumours
Anticancer substances :	Prevents multiplication of carcinogenic cells
Phenols :	Bactericidal, antifungal

STUDY OF ANTI-MICROBIAL ACTIVITY OF GOMUTRA ARK:

Anti-microbial activity of the Gomutra ark can be detected by observing the growth response of various microorganisms to that ark which are placed in contact with them. Many methods for detecting such actions of organism are available but since they are not equally sensitive, the results obtained will be influenced by the method selected and the microorganism used for the test. In order to detect anti-microbial activity of the ark, three conditions are required to be fulfilled. First, the ark must be brought in to contact with the cell wall of the microorganism that have been selected for the test. Second, conditions must be adjusted so that the microorganism are able to grow when no anti-microbial agent are present. Third, there must be some means of judging the amount of the growth, if any made by the test organism during the period of time chosen for the test. Minimal inhibitory concentration (MIC) of an antibiotic is the minimum concentration required to inhibit the growth of the test organisms after 18-24 hours of incubation. In other words, MIC is the highest dilution of an antibiotic, which can inhibit the growth of the test organisms. An antibiotic possesses different minimal inhibitory concentration values for different micro-organisms. On the other hand, a micro-organism needs different inhibitory concentrations for different antibiotics.

Gomutra arka parishek on wound healing-

Wound healing Action:-

In Ayurveda, Arka Kalpana is used by Lankapathi Ravana which is explained in the treatise of Arka Prakasha, which goes into length regarding its preparation, storage, and utilization. This formulation has a one-year shelf life without the use of any preservatives. With more active ingredients extracted it is colourless, Teekshna, Sukshma and Vyavayi guna are present in Arka Kalpana which aids in achieving results more quickly. The use of Arka in Vrana is mentioned in Classics [8]. Gomutra is explained under Mutra Varga. It is widely used in the management of wound care. This helps in faster healing by promoting granulation tissue formation. Which has been used for various therapeutical benefits like anticancer and immunomodulatory effects. Gomutra is listed as one of the Dravya in Parisheka & Krimighna Upakramas. Gomutra has Krimihara property. Gomutra is effective for Shodhana [10], Lekhana, Vedana Shamaka, Kandu Shamaka, krimi kustha hara. Ghrita Upakrama is advised for shodana and ropana in (vitiated pitta and rakta) case of chronic deep-seated suppurative ulcers with burning sensation.

Gomutra is proved to possess analgesic & krimighna property.

- Parishekha is a Bahya Upakrama used specially for alleviating the pain and inflammation in soppa and vrana.
- Katu and Kashaya rasa of Gomutra helps in alleviating Kandu.
- Tikta And Kashaya rasa of Gomutra Arka responsible for alleviating Vikrutha Gandha.

- Kshara guna, lekhana, chedana property of Gomutra helps in slough debridement in the ulcer facilitating granulation tissue formation.

gomutra arka shows significant effect in wound healing activity in Wistar albino rats. Study found that Cow urine heals wound faster than 1% w/w nitrofurazone ointment locally. Study demonstrated that cow urine ark significantly increases wound healing in diabetic wound patient. Thus, it helps in accelerating wound healing in diabetic patients because of its property of enhancing granulation tissue formation.

Mechanism of action -

The prominent antimicrobial/germicidal/antifungal property of cow urine is due to it containing different volatile and non-volatile components like urea, creatinine, aurum hydroxide, phenol, carboxylic acid and salts of calcium and manganese. This germicidal property is even more enhanced due to the presence of different amino acids and urinary peptides which are instrumental in increasing the bacterial cell wall and surface hydrophobicity.

DISCUSSION

Gomutra Arka is capable of curing several curable and incurable diseases, so it is used for many health problems worldwide. Its therapeutic potentials are now achieving a major attention in various drug therapy researches and projects.

Gomutra has *Ushna, Tikshna, Kshara, Laghu, Agnidipaka, Snigdha* property. *Gomutra* also has *Katu, Madhura Rasa* and *Lavana Anurasa*. It is useful in diseases like *Udara, Arsha, Gulma, Kustha, Kilasa, Krimi*. It acts as *Vishaghna*, and also useful for *Utsadana, Aalepana, Aasthapana Basti, Virechana Karma*.

According to *Acharya Sushruta*, *Gomutra* has *Medhya* property. This property is not mentioned by *Acharya Charak* and *Vagbhata*. *Gomutra* has *Tikshna* and *Ushna Guna* which is beneficial for *Pachana* of *Sanchita Doshas*. And helps in *srotasa shodhana* removes accumulated *Doshas* from *Urdhva Shira (Sthana of Buddhi)*. Thus, it acts as *Medhya*.

Comparison between Two Aushadh sevan kala -

give medicine twice (morning and evening) *Kala*. After the suggestion by the experts *Aushadh sevan kala* was modified to *Apana kala*. In the study conducted *Gomutra arka* was administered for 10 patients in morning and evening *kala* and for 20 patients it was administered before meal (i.e *Apana kala*). From the result obtained it was observed that *Antrakujana, Shoola, Krichramutra Krichrapurisha* and *Trikvedana* got good results within short time in *Apana kala* Group.

Upashaya in Symptoms of Pakvashyagata Vata after Gomutra arka sevan -

- From the collected data by previous clinical study it was observed that *It takes 5 days for Gomutra Arka* to reduce *Antrakujana symptoms* in patients with *Paryushita anna, Visham Ashana sevan* along with *viharaj hetu* such as *Atichankramana, Ratrijagrana* and *Mana shetu* as *Atichinta*.

- Maximum no of patients with *Paryushitaanna sevan, Sankirnashana, Gramya ahara sevan hetu* and *Viharaj Atiyanayan, Atichankramana hetu* got relief in 7 days in *shola symptoms* by consuming *GomutraArka*.
- It takes 7 days for *Gomutra Arka* to reduce *Atopa symptoms* in patients with *Paryushita anna sevan Gramya Ahara* along with *viharaj hetu* as *Ratrijagrana*.
- It takes 3 days for *Gomutra Arka* to reduce. *Krichramutra symptoms* in patients with *hetu's of Paryushitaanna, Sankirnashana hetu* along with *viharaj hetu* such as *Yanayan, Ratrijagrana* and *Manashetu Atichinta*.
- It takes 5 days for *Gomutra Arka* to reduce *Krichrapurisha symptoms* in patients with *vishtambi ahara, Sankirnashana hetu sevan* along with *viharaj hetu* such as *Ratrijagrana* and *Manas hetu Atichinta*.
- It takes 5 days for *Gomutra Arka* to reduce *Anaha symptoms* in patients with *Paryushitaanna, Sankirnashana ahar hetu sevan* along with *viharaj hetu Yanayan* and *Ratrijagrana*.
- It takes 7 days for *Gomutra Arka* to reduce *Trikvedana lakshana* in patients with *Visthambi ahara sevan, Vidahiannasevan* along with *viharaj hetu* as *Atichankramana* and *Manas hetu Atichinta*.
- From various previous study shows that patients doing, *Sankirnashana, Visthambi Ahara Paryushita anna sevana* and indulging in *Viharaj hetus* such as *Yanayan, Ratrijagaran, Atichankramana* having symptoms such as *Antrakujana, Krichramutra, Krichrapurisha, Anahagot* early relief in symptoms after consumption of *Gomutra Arka*.
- They got faster relief in symptom i.e in 3 days. The reason of early relief in symptoms can be interpreted on the basis of *Samanya Vishesha siddhanta*. *Gomutra* possessing *Ushna* and *Tikshna Guna* dilates the *Mutravahasrotasa*. Thus relieving in *Krichramutra*.
- In symptoms such as *Antrakujana* (13 patients), *Krichrapurisha* (22 patients) and *Anaha* (23 patients) after consuming *GomutraArka* patient got relief in 5 days. In this *LakshanasVata* gets aggravated and obstructs *mala* causing *Malavarodha*. *Gomutra* is *Vataghana* and helps in *Anulomana* of *mala*.
- Otitomycosis causes discomfort to the patients with its symptoms like aural fullness, itching, and dull pain and causes irritation in day-to-day activities. Due to its increased chance of recurrence the sufferer himself is aware of the drugs and without doing inspection, will start medicine. As tympanic membrane perforation is the complication of otomycosis, the medicine will pass through the middle ear cavity and reach round window where it gets absorbed through it and causes ototoxicity.

Conclusion-

Administration of *GomutraArka* is more effective in *Apana kala* as compared to morning and evening. *Gomutra Arka* is significantly effective in symptoms of *PakvashayagataVata*. Drug resistance is the major problem faced by pharmacology now a day. Antifungal resistance is also common. In such condition, by the antimicrobial, antifungal, antioxidant, bioenhancer property of *gomutra arka*(cows urine distillate) will give good result and thereby helping the patients to relieve from this condition using a natural source. *Gomutra Arka*

is scientifically proven to act as an immunomodulator along with its bacteriostatic action. On analysing different result on gomutra arka in it concludes that gomutra arka and its concoction is really multidimensional drug. *Ayurveda* already told that fresh cow urine digamous cow is the best. More well-planned experimental, animal studies in human/animal subjects are required gather more data about to assess its potential as an effective anti-cancerous, antimicrobial a diabetic, anti-urolithiasis, anti-psychotic etc

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