

# COMPILATION ON THERAPEUTIC POTENTIAL OF COW'S URINE (GOMUTRA)

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## **ABSTRACT**

The Ayurvedic texts have defined the therapeutic effects of certain animal products e.g. honey, milk, pitta, vasa, majja, blood, meat, stool, urine, semen, bones, muscles, horn, nails, hair and gorochana. Amongst these animal products Mutra (Urine) is an important animal product. Cow urine (*Gomutra*) has a remarkable implication in Indian tradition. It is one of the five contents of *Panchagavya* which obtain from cow (urine, milk, ghee, curd and dung). Cow urine (*Gomutra*) has been mentioned in *Ayurvedic* texts as an effective medicinal substance/secretion of animal origin with several therapeutic properties. Classical treatises in *Ayurveda* i.e. *Charaka*, *Sushruta* and *Vagbhata Samhita* has described *Ashta mutra* (eight types of urine) along with their properties, indication and formulations. All these mutras (eight types of urine from different animals) are sharp, hot, pungent, bitter with salty as a secondary taste, light and promotive of evacuation. They relieve *Kaphaja* and *Vataja* disorders, those caused by *meda* (excessive adiposity), *visha* (poisoning), *krimi* (worms), *gulma* (gaseous swelling of the abdomen), skin diseases including leprosy, *arsha* (piles), *Kamala* (Jaundice), *shopha* (swelling), *Agnimandya* (loss of appetite), cancer etc. *Gomutra* is used for giving *Vasti/ basti* (therapeutic enema). *Gomutra* is also used in the *Rasashastra* for purifying the *Dhatu*, *Upadhatu*, *Visha* and other herbomineral compounds. Various actions and researches on cow urine are summarized in this article.

**KEYWORDS:** *Gomutra, Panchagavya, Ayurveda*

## **INTRODUCTION**

Infectious diseases endure a major threat to the public health despite incredible progress in human medicine. Appearance of widespread drug resistance to the currently available antimicrobials is a matter of profound concern. A high percentage of nosocomial infections are produced by highly resistant bacteria. Infections caused by resistant microorganisms often fail to respond to the ordinary treatment, resulting in prolonged illness, higher health care expenditures, and a bigger danger of death. There is a terrible need for the development of new antimicrobial agents with sensitivity intact against microorganisms. The rational designing of novel drugs from traditional medicines to treat these difficult to treat infections offers a new prospect for the modern health-care system.

In India, we use *panchagavya* as such or in single or in combination with other drugs for medicine and spiritual uses traditionally. Cow urine/*gomutra* has been elaborately explained in *Ayurveda* and described in “*Sushruta Samhita*”, “*Ashtanga Sangraha*” and other *Ayurvedic* texts as an effective medicinal substance/secretion of animal origin with innumerable

therapeutic properties<sup>1</sup>. *Bhav Prakash Nighantu* describes *gomutra* as the best of all types of animal urine (including human) and enumerates its various therapeutic uses<sup>2</sup>. The Ayurvedic texts have an abundant literature regarding the Cow-urine. The anti-microbial, bioavailability enhancer, free-radical scavenging property of Cow-urine is a well evidenced observation.

#### **Ayurvedic properties of Gomutra (cow's urine)-**

Rass- Katu, Tikta, Kashaya

Virya- Ushna

Guna- Ruksha, Laghu

Karma- Agnideepak, Bhedaka, Kapha Vata Nashaka

**TABLE 1: PROPERTIES AND USE OF GOMUTRA (COW URINE) ACCORDING TO AYURVEDA**

<b>Properties</b>	<b>Effect on Dosha</b>	<b>Action</b>	<b>Reference</b>
Sweet	Decrease Vata, Pitta Kapha	Wormicide, use in various skin disorders, beneficial in leprosy, itching and ascites	Charaka
Pungent, sharp, hot, light, alkaline	Decrease Vata and Kapha	Promotes intellect and digestive power, beneficial in colic, digestive disorders, constipation, useful as purgative.	Susruta Sutra

#### **Chemical composition of cow urine**

Water – 95%

Urea – 2.5%

Minerals, Salts, Hormones, Enzymes – 2.5%

Healthy cow urine has volume of 17-45 ml/Kg/day with specific gravity ranging from 1.025-1.045. Its pH ranges between 7.4 to 8.4 with seasonal variations.

Urea nitrogen and Total nitrogen varies between 23-28 ml/kg/day and 40-45 ml/kg/day respectively. Other important constituents are present such as Ammonia nitrogen 1-1.7ml/kg/day, Allantoin 20-60ml/kg/day, Calcium 0.1-1.4ml/kg/day, Chloride 0.1-1.1mmol/kg/day, Creatinine 15-20mg/kg/day, Magnesium 3.7mg/kg/day, Potassium 0.08-0.15mmol/kg/day, Sodium 0.2-1.1mmol/kg/day Sulphate 3-5mg/kg/day, Uric acid 1-4mg/kg/day<sup>3</sup>.

## MODE OF ACTION OF COW URINE

Presence of urea, creatinine, *swarn kshar* (aurum hydroxide), carbolic acid, phenols, calcium, and manganese has strongly explained the antimicrobial and germicidal properties of Cow urine<sup>4</sup>. Different fractions of Cow urine (CU) possess antimicrobial activity due to the presence of certain components like volatile and non-volatile ones<sup>5</sup>. Presence of amino acids and urinary peptides may enhance the bactericidal effect<sup>6</sup> by increasing the bacterial cell surface hydrophobicity. Cow urine (CU) enhances the phagocytic activity of macrophages. Higher amounts of phenols in fresh CU than CU distillate (CUD) makes it more effective against microbes.

After photo-activation, few biogenic volatile inorganic and organic compounds such as CO<sub>2</sub>, NH<sub>3</sub>, CH<sub>4</sub>, methanol, propanol and acetone, and some metabolic secondary nitrogenous products are also formed<sup>7</sup>. Photo-activated CU (PhCU) becomes highly acidic in comparison to fresh CU. An increase in bactericidal action may be due to a significant decrease in pH<sup>8</sup>, presence of inorganic phosphorus, chloride and dimethylamine may also play an important role<sup>9</sup>. CU prevents the development of antibacterial resistance by blocking the R-factor, a part of plasmid genome of bacteria<sup>11</sup>.

CU contains phenolic acids (gallic, caffeic, ferulic, o-coumaric, cinnamic, and salicylic acids) which have antifungal characteristics<sup>12</sup>. Various experiments show fungicidal effect against various species of *C. tropicalis*, *Aspergillus Malassezia*, and *C. glabrata*. CU inhibit the growth of *Malassezia* fungi (90-95%) which is responsible for causing dandruff for a longer time (4-5 days).

Cow urine shows significant effect in wound healing activity in Wistar albino rats. Study found that CU urine heal wound faster 1% w/w nitrofurazone ointment locally<sup>13</sup>.

Antioxidant property of uric acid and allantoin present in CU correlates with its anticancer effect. CU reduces apoptosis in lymphocytes and helps them to survive better. This action may be due to the free radical scavenging activity of the urine components, and these components may prevent the process of aging. It efficiently repairs the damaged DNA.

Early morning first voided CU is more sterile and have more macro and micronutrients along with other enzyme/urea content could be more effective<sup>14</sup>.

## CONCLUSION

The urine of cow causes increase of Pitta Dosha, is non-unctuous, penetrating, hot in potency (Ushna Virya), pungent and salty in taste; cures wounds, oedema, enlargement of abdomen, distension, colic pain and anaemia; mitigates Kapha and Vata, useful in abdominal tumours,

loss of appetite, poison leucoderma, leprosy and other skin diseases including haemorrhoids. It is easily digestible, best suited for therapies like purgation, application over the skin, sudation etc. stimulates hunger, digestion, break the solidified materials in the body. So among all the Ashta mootra vargas (eight categories of urine) the cow's urine is considered the best and in case of urine, the urine of female animals are considered the best because of their lagutva guna (lightness). Cow-urine is a known appetizer (Agnivardhaka). Since Agnimandya is responsible for all types of the diseases, Gomutra have its Agnivardhaka effect relieves the Agnimandya. However, more studies experimental as well as clinical can throw better light on it.

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