REVIEW PAPER A BRIEF REVIEW ON WONDER OF GOMUTRA (COW URINE)

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ABSTRACT

Gomutra (cow urine) is a staple in Indian culture. Cow's urine has been used for medicinal purpose as well as treatment of disease. Cow (Bos indicus) urine/Gomutra has been defined in the “Sushruta Samhita”, “Ashtanga Sangraha”, and various other Ayurvedic texts can be referred to as an important source of animal (particularly cow) origins medicine with a host of therapeutic applications. It has a wide range of therapeutic and medical properties. One of the five Panchagavya contents obtained from cows is cow urine (curd, milk, ghee, urine, and dung). Cowpathy is a therapy that uses Panchagaya items from cows (Panchgavyachikitsa). Cancer, infectious disorders, asthma, AIDS, GI disturbances, among other diseases are on the rise. Antibiotic resistance in infectious diseases such as tuberculosis is now increasing because of indiscriminate usage of antibiotics in larger doses. Bioenhancer activity of Gomutra (cow urine) has been scientifically confirmed.

Keywords: Bioenhancer, Cow urine, Gomutra, Panchagawya.

I. INTRODUCTION

Cows have been regarded as a holy species in eastern philosophy since ancient times [1-2]. Cow is regarded as a mother in Hindu faith [3]. They believe the cow to be a mother since the milk constituents of the cow and the mother are identical. Cow urine, on the other side, has antibacterial [4], antifungal [5], antiviral [6], insecticidal, and other properties, many of which justify its use. Similarly, the cow's dung has antibacterial and antiseptic properties and is used as a fuel for cooking as well as killing mosquitoes and other unhealthy organisms, so it is used to disinfect the setting [7]. People of other religions, especially Muslims and Christians, on the other hand, readily embrace the cow as a source of protein by consuming its beef. They are not hesitant to slaughter the animal, but the Hindu individual is beyond morality [8]. People are split into two categories: those who destroy cows and those who regard cows as mothers. This crucial analysis would compare the advantages of utilising animal urine rather than cow meat. In the other hand, it regardsas the cow as a source of milk, dung, urine, ghee, and curd. Aside from the human nutritional value of meat and milk, the benefit of the later would be much greater than the meat using [9]. The clinically proven science now has a safer means of utilising cow urine in the home, irrigation, manure, insecticides, pesticides, and a more complex disease model from common disease to cancer and more. This Vedic literature gives considerable importance to the cow, which is held to be both a source of life and anaccess to cleaning pollution.
Animal urine is a panacea for all ailments, and the animal is a handheld medicinal clinic [10]. Cow urine, which is one of the constituents in ‘Panchagavya,’ has been widely used in traditional Indian medicines, as mentioned in ancient holy texts such as Vridhabhagabhatt, Rajni GhuntuAmritasagar, Bhavaparaksh, Atharva Veda, Charaka Samhita, Sushruta Samhita, etc. [11]. Cow urine has been used in India since the Vedic and perhaps also prevedic periods. It has been recorded that gomutra can cure blood pressure, prostrate, constipation, artery blockage, AIDS, migraine, arthritis, diabetes, cardiac arrest, acidity, leukemia, thyroid, arthritis, psoriatic arthritis, eczema, fits, piles, ulcer, gynaecological problems, ear and nose problems. [12]. Due to its vast medicinal speciality, cow urine has become the most listened to, used, and venerated animal urine. Although it has been used internationally as ointments, and lotion it has often been used internally in the formulation of oral medicines & beverages. Innumerable examples of cow urine's curative effects for a variety of human illnesses may be found in ancient medicinal it was known as the world over as a wide-spectrum antibiotic. Cow urine is used not only as a medicinal agent for infections, but it also has a variety of other applications in the livestock and sericulture industries. So, based on ancient medical texts and recent science studies, this article tries to show how this heretical potion was used in a variety of ways in the ancient Indian method of medicine.

According to GC MS tests, the redistillate in cow's urine has a cumulative antioxidant status of about 2.6 m mol, with most of the antioxidants coming from volatile fatty acids 1500 mg/L. This discovery attributes the reported anti-cancer activity of polyphenols to their antioxidant properties [13-14], which in turn stimulates the third element in rat blood serum. This would raise histamine and leukocyte counts in the peripheral blood, causing many depletions in the blood and reducing neutrophilic and monocytic cells in the blood to return to normal in four hours. Phenols are the primary chemical elements in the composition of cow urine. Phenols consume gram-negative and gram-positive bacteria. The occurrence of phenols in urine has a strong antimicrobial impact. Cow-urine has a higher phenol content and therefore has a higher antimicrobial activity [15].

II. COMPOSITION OF COW’S URINE

The mixture of fluids consists of 2.5 percentage protein, 2.5 percentage ammonia, 95 percentage water, 24 different salts, hormones, and two forms of enzymes: one is urea, and the other has two extra substances. Other ingredients include iron, phosphates, ammonia, calcium, phosphoric acid, ammonium, manganese, urea, enzymes, and cytokines, together with the other nutrients [16].

The amount of healthy cow urine is 17-45 ml/Kg/day, with a basic gravity of 1.025-1.045. Its pH varies from 7.4 to 8.4 depending on the season. Urea nitrogen and total nitrogen are measured in millilitres per 23-28 kilogramme per day (ml/kg/day) and 40-45 ml/kg/day, respectively. The table below lists the other relevant constituencies. Nutrition, glucose, and haemoglobin are not found in the urine of healthy cows.
Table 1: Chemical constituents of healthy cow urine

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium</td>
<td>0.08-0.15 mmol/kg/day</td>
</tr>
<tr>
<td>Uric acid</td>
<td>1-4 mg/kg/day</td>
</tr>
<tr>
<td>Leucocyte</td>
<td>&lt;15 micro It</td>
</tr>
<tr>
<td>Chloride</td>
<td>0.1-1.1 mmol/kg/day</td>
</tr>
<tr>
<td>Calcium</td>
<td>0.1-1.4 ml/kg/day</td>
</tr>
<tr>
<td>Sodium</td>
<td>0.2-1.1 mmol/kg/day</td>
</tr>
<tr>
<td>Sulphate</td>
<td>3-5 mg/kg/day</td>
</tr>
<tr>
<td>Allantoin</td>
<td>20-60 ml/kg/day</td>
</tr>
<tr>
<td>Ammonia nitrogen</td>
<td>1-1.7 ml/kg/day</td>
</tr>
</tbody>
</table>

III. MEDICINAL PROPERTIES OF COW URINE

The light, tasteless, penetrating properties of cow urine nourishment is good for digestibility, increases metabolism, and contributes to the warmth of the intellect. It is not in the least distasteful for other animals [17].

Table 2. Properties of cow urine due to its constituents

<table>
<thead>
<tr>
<th>No.</th>
<th>Constituents</th>
<th>Properties of cow urine</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Carbolic Acid</td>
<td>Prevents Gas, purifies blood, Antibacterial,</td>
</tr>
<tr>
<td>2</td>
<td>Uric acid</td>
<td>Antimicrobial action tends to inhibit the growth of bacterial infections</td>
</tr>
<tr>
<td>3</td>
<td>Ammonia</td>
<td>It helps to keep tissue and blood well</td>
</tr>
<tr>
<td>4</td>
<td>Vitamin A, B, C, D, and E</td>
<td>Infuse vigour and stamina thereby preventing unnecessary thirst.</td>
</tr>
<tr>
<td>5</td>
<td>Factor that stimulates the synthesis of</td>
<td>Production of RBCs</td>
</tr>
<tr>
<td></td>
<td>erythropoietin</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Copper</td>
<td>Control’s fat deposition</td>
</tr>
<tr>
<td>7</td>
<td>Urea</td>
<td>Strong antimicrobial Agent</td>
</tr>
<tr>
<td>8</td>
<td>Gonadotropins</td>
<td>Promotes menstrual cycle; sperm production.</td>
</tr>
<tr>
<td>9</td>
<td>Sugar-Lactose</td>
<td>Prevents thirst and Giddiness</td>
</tr>
<tr>
<td>10</td>
<td>Nitrogen</td>
<td>it accelerates the production of urine</td>
</tr>
<tr>
<td>11</td>
<td>Iron</td>
<td>Production of RBC in blood</td>
</tr>
<tr>
<td>12</td>
<td>Phenols</td>
<td>Bactericidal, antifungal</td>
</tr>
<tr>
<td>13</td>
<td>Sodium</td>
<td>Control’s hyperacidity</td>
</tr>
<tr>
<td>14</td>
<td>Enzyme-urolokinase</td>
<td>Improves heart attack, fluid circulation, and dissolves blood clots</td>
</tr>
<tr>
<td>15</td>
<td>Potassium</td>
<td>Appetizer, eliminates muscles Fatigue</td>
</tr>
<tr>
<td>16</td>
<td>Aurum hydroxide</td>
<td>Antibacterial, boosts immunity, antidote</td>
</tr>
</tbody>
</table>
17 Anticancer substances Prevents the proliferation of carcinogenic cells
18 Creatinine Antibacterial
19 Sulphur Acts as a blood purifier and a diuretic

IV. BIOCHEMICAL ANALYSIS OF COW URINE

Several important compounds that our body metabolism seems to need but which have almost all been discovered by biochemical testing of urine, including sodium, chlorine, sulphur, phosphate, enzymes vitamins A, D, E, and B12, may be acquired by drinking plenty of fresh milk. Efforts have been made to identify factors that influence the antioxidant and antimicrobial properties of various fractions from cow urine utilizing solvents [18]. Cow urine also stimulates phagocytic action, which aids in the protection against bacterial infections, as well as the development of interleukin 1 and 2, IgG, IgA, IgM, and T-lymphocytes [19]. Since 96 percent of cow urine is water, 2 percent is urea, and the remaining 2 percent is a combination of the salts, minerals, and hormones, [20].

V. MECHANISM OF ACTION OF COW URINE

Owing to the existence of such elements such as volatile and non-volatile ones, cow urine has various fractions of antimicrobial activity [21]. The germicidal and antimicrobial effects of cow urine have been attributed to the presence of creatinine, calcium, carboxylic acid, urea, phenols, and manganese. Urinary peptides and Amino acids can enhance the bactericidal impact by enhancing the hydrophobicity of the bacterial cell surface. The phagocytic function of macrophages is enhanced by cow urine. Since fresh cow urine contains more phenols than cow urine therapy, it is more protective alongside microorganisms. Few biogenic volatile organic & inorganic compounds like methanol, propanol, Carbon-di-oxide, ammonia, methane, and acetone, as well as certain metabolic secondary nitrogenous materials, are produced after photo-activation. Photo active Cow Urine (PhCU) is much more acidic than Urine, which may explain the higher bactericidal activity [22].

Phosphorus, chloride, and dimethylamine, among other inorganic substances found in cow urine, can also play a part. By blocking the R element, a component of bacteria's plasmid genome, cow urine prevents the growth of antibacterial resistance. Phenolic acids (caffeic, ferulic, o-coumaric, salicylic acids, gallic, and cinnamic,) contained in cow urine have antifungal properties [23]. The anticancer activity of uric acid and allantoin found in cow urine is linked to their antioxidant properties. Cow urine makes lymphocytes survive longer by reducing apoptosis. This behaviour may be attributed to the urine components' free radical scavenging behaviour, and these components could help to slow down the ageing process. It effectively restores DNA that has been affected. Cow urine increases protection wound healing due to allantoin [24]. Cow urine improves immunocompetence by promoting the development of interleukin 1 & 2, as well as B & T lymphocyte blastogenesis and antibody titters for IgG IgA, and IgM, [25]. It has more sterile & containing two or more micro and macronutrient, as well as enzyme and urea material, making it potentially.

VI. COW URINE’S TRADITIONAL APPLICATIONS

Cow urine is thought to have medicinal properties and is used in a variety of medication formulations. It is mostly used as a disinfectant & purifier. As opposed to the synthetic pesticides commonly available to customers, this would be natural antibacterial and sterilizer, with a shelf life of about 5 years [26]. The assumption that 96% of cow's urine is water, 2% urea, & the other 2% is a combination of nutrients, salts, hormones, and enzymes reinforces the fact that it is not a poisonous effluent. Cow's urine has long been used in India's rural villages as an important antiseptic for burns, skin infections, washing, among other purposes. The rational usage of this animal product, according to ancient Indian Vedic Scriptures such as Sushruta Samhita, Manu Smriti, and Charaka Samhita as well as prevents any non-functionality of cancer, gastro-intestinal disease, heart disease, respiratory systems, and several others [27].

<table>
<thead>
<tr>
<th>Diseases</th>
<th>Constituents of gomutra along with adjuvant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epilepsy</td>
<td>Somapada bark, Mustard oil, Urine, Neem bark</td>
</tr>
</tbody>
</table>

Table 3. Constituents of Gomutra along with adjuvant
Leprosy | Dhruhardi, Urine
---|---
Anemia (Pandu) | Lohbhasmacow milk, urine, tripala,
Chronic leprosy | Vasaka leaves, Kuraila bark, Kaner leaves, Neem bark, Urine
Fever | Urine, Pepper, Curd, Ghee
Deformation condition in leprosy | Nimbuchal, Urine

VII. THERAPEUTIC USE OF COW URINE.

As a medicinal substance
Cow urine is a potent antibiotic as well as an important germicide. Therefore, although taken daily, cow urine therapy eliminates all infective agents & boosts immunity [28]. The following are some of the diseases that have been proven to be healed by cow urine like Cough, Dysmenorrhoea, Migraine or headache, Brain Disorders, Constipation, Diabetes, Ringworm, and Scratching, Acne, Gastrointestinal Disorders, Cancer, Thyroid, Cardiovascular Conditions, Pulmonary Disorders, Musculoskeletal Problems, Male Sexual Problems, AIDS, Blood Disorders, and Gynaecological Disorders [29]. The occurrence of carbolic acid, urea, creatinine, phenols, calcium, arum hydroxide, and manganese in cow urine has been due to its antimicrobial and germicidal properties [30]. On the other side, the antioxidant properties of uric acid and allantoin are attributed to their anticancer properties. Urine intake boosts immunity due to the inclusion of wound healing due to allantoin. [31]. Sulphur an act as a vasodilator, ammonia maintains structural stability of the corpuscles, sodium aids the structurally maintains the amount of the fluid, and sulphur serves as a fibrinogen and as an increasing the iron and the erythropoietinic element maintains the rate of haemoglobin. It produces a large concentration of nitrogen, which stimulates the kidneys, whereas phosphates, hippuric acid and uric acid, serve as diuretics. Copper and calcium contribute to the skeletal and anti-obesity health benefits.

As a natural pesticide and bioenhancer
Panchgavya, which consists of 5 cow items, dung, ghee, milk, and curd is frequently employed as a fertiliser and pesticide in agricultural activities. It has been found to be an efficient larvicide and pest controller when used alone and in conjunction with various vegetable formulations, improving the effectiveness of various natural preparation [32]. The role of cow urine as a bioenhancer was a recent discovery. Cow's urine distillate is a bioactive molecule action enhancer and availability facilitator (antibiotics, antifungals, and anticancer drugs) [33]. At 40-50°C, the distillate aids in the ingestion of antibiotics through cell membranes in animal cells, gramme positive and gramme negative bacteria, and two to seven times faster movement through the gut wall. It also boosts the activity of GnRH-BSA. Female mice's sex hormones and estrous cycles are negatively affected by the GnRH-BSA conjugate [34]. The purified cow urine serves as a bio-enhancer of immunisation efficacy. It functions as a biologic enhancer/nutritional supplement of agents in the forms of bio-compounds, drugs, else or as a medicinal, nutraceutical, or a nutrient with a range of biologically active materials.

In agriculture
They have increased yearly rye grasses yield by producing an improvement in the nitrogen portion of the land & a significant reduction in Nitrogen fixation by 10 percentage in clovers, particularly in the winter [35]. The impact on yield persisted two-three harvests, and clover development. The total nitrogen content in cow urine ranges from 6.6 to 21.4 g N/l, with urea accounting for 69 percent of the total. Urine increased the amount of nitrogen in grass (especially the nitrate fraction) and the amount of potassium in clover and grass. Even after high nitrogen fertiliser application, increased pasture growth has been reported from urine patches, which may be attributed to a higher level of nitrogen added or a reaction with another chemical in urine, like potassium or sulphur.

Improved honeybee rearing
Cow urine is being used to protect bees from bacterial disorder during the nurturing period [36]. They found that cow urine allowed rapid and holistic recovery of diseased combs, but also increases the efficiency of worker
bees, making them more robust. Urine may be an effective in helping to remove European foulbrood (EFB), a disease of honeybees all over the world, as well as mites, a problem found in bee colonies worldwide.

**Bull Urine's Impact on Crossbred Beef Heifers' Puberty and Calving Date**

It has suggested that bull urine contains a priming pheromone that can race up the initiation of rare it advantageous to age heifers [37]. Heifers who calve sooner through the calving season are more likely to do so during their lives. It also enables more productive calf crop management by early weaning, as well as a longer time to re-establish the ovarian cycle before the next breeding period. Heifers that use bull urine could prolong their calving season.

**Cow urine has an impact on mosquito ovipositor cues.**

The value of cow urine in providing ovipositor clues for Culex quinquefasciatus and Anopheles gambiae [38]. Cow urine has an impact on mosquito ovipositor cues. It has suggested that bull urine contains a priming pheromone that can race up the initiation of rare it advantageous to age heifers [37]. Heifers who calve sooner through the calving season are more likely to do so during their lives. It also enables more productive calf crop management by early weaning, as well as a longer time to re-establish the ovarian cycle before the next breeding period. Heifers that use bull urine could prolong their calving season.

**CONCLUSION**

Cow urine is one of the most effective natural medicines for improving health treatment. Because of the practices contained in urine samples, it is an extremely efficient medicinal agent for treating a variety of diseases. Cow urine is considered the elixir of immortality in the ancient Ayurvedic scriptures. It is both the most powerful and the safest natural cure that nature has entrusted upon us. Cow urine-based formulations will undoubtedly prove to be a viable drug, reducing the need for chemicals and antibiotics already in usage. Based on the findings of numerous scientific on cow urine, it is concluded that cow urine and its mixture is a truly multidimensional substance. Cow urine from an ancestral cow is the safest, according to Indian medicine. Since most of the experiments cited are in vitro studies, further well-prepared animal studies in animals or humans’ studies are needed to collect more evidence regarding its potential as an important anti-cancer, anti-diabetic, anti-uro lithiasis, anti-psychotic, antimicrobial, and other agent.

**REFERENCE:**