

# COWPATHY IN CANCER MANAGEMENT

**Prof. RS Chauhan**, PhD, FNAVS, FSIIIP, FIAVP

*Joint Director*

*Centre for Animal Disease Research and Diagnosis*

*Indian Veterinary Research Institute, Izatnagar-243 122 (UP)*

*Email: jdcadrad@rediffmail.com*

## INTRODUCTION

“Panchagavya” is a combination of cow urine, milk, dung, ghee and curd. Indian cow breeds are unique and distinct species, popularly known as “Kamdhenu” and “Gaumata, has high socio-cultural values, plays significant role in rural economy, represent cattle wealth and bio-diversity. The ancient Indian system of medicine, Ayurveda, has detail mentions of importance of panchgavya in the treatment of various human diseases. Apart from high medicinal values, panchgavya has many beneficial implications in agriculture, organic farming as good quality natural manure and biopesticides, bio-fertilizer, pest repellants and as alternate energy resources (biogas, fuel and electricity) (Charaka-Samhita, 1981, Susruta Samhita, 1985; Tietze, 1996; Chauhan, 2000, 2001, 2002 a,b, 2004a,b, 2005; Fulzele *et al.*, 2001, 2003; Joshi, 2002; Nautiyal, 2002; Garg and Chauhan, 2003a,b; Achliya *et al.*, 2004; Saxena *et al.*, 2004, Singh and Chauhan, 2004, Dhama *et al.*, 2005). These can provide food free from health hazards of chemical fertilizers and pesticides. Scientists / clinicians are facing problem in modern allopathic treatments due to the development of multiple drug resistance in microorganisms, presence of antibiotic residues in food chain and/or associated allergies and autoimmune disorders in humans. Immunity is reducing drastically as a result of the environmental pollution, use of agrochemicals in agriculture and presence of pesticides, heavy metals, fungal toxins etc. in the food chain. This has lead to the inefficacy of antibiotic drugs, development of resistance in bacteria, recurrent infections, and/or decreased immune status of an individual. As per WHO, the twentieth century wonder drugs “antibiotics” will not remain useful and become almost ineffective by the year 2020. Also the incidences of human sufferings from cancer, a deadly malady, are ever increasing in the current scenario of changed lifestyle and food habits along with dangers of carcinogen in the form of tobacco chewing, smoking, alcohol intake, environmental pollutants, occupational health hazards etc. The methodologies like chemotherapy, radiotherapy and surgery are available for treating the cancer, but the success rate is low particularly with malignant tumors, and moreover, these therapies produce severe side effects adding to the physical and mental agony of the patient and are costly, and even some of the tumors are incurable. In all these circumstances mentioned above one has to think over the alternative therapeutic approaches to control the infections, save mankind from different ailments and fight diseases such as cancer (Garg and Chauhan, 2003; Chauhan, 2005).

Utilizing the beneficial properties of cow’s urine, milk, ghee, curd and dung, the kind of treatment is called panchgavya therapy or **cowpathy**, a system of naturopathy. Panchgavya products have been found to be beneficial in curing several human ailments and enhance the body’s immunity and resistance to fight the infections. This kind of alternative treatment has been reported to be beneficial even for dreaded diseases like cancer, AIDS and diabetes. Of these, the cow urine recently has received worldwide attention. Two US patents have been granted to Indian scientists on establishing the bioenhancing properties of cow urine, its use in tuberculous patients and fight cancers, thus opening a new era in medical science. Cow urine along with the antibiotics can also prevent the development of resistance in microorganisms against the antibiotics. Several scientists from different laboratories of Council of Scientific and Industrial Research (CSIR), All India Institute of Medical Sciences (AIIMS), G.B. Pant University of Agriculture and Technology, Pantnagar, and Indian Veterinary Research Institute (IVRI), besides Non-Government Organizations (NGOs) and

other Institutes are working on different medicinal properties of cow urine and other panchgavya products. Several students of M.Sc., M.V.Sc., M.D. and/or Ph.D. are working on the medicinal properties of cow urine and other panchgavya products (Chauhan, 2005).

The people frustrated from the heavy medication of allopathy are now using cowpathy drugs and being benefited by the panchgavya products for several diseases. Cow urine is an important element of panchgavya, and the cow urine therapy has been successful in relieving human sufferings from flu, allergies, colds, rheumatoid arthritis, bacterial/viral infections, hepatitis, leucorrhoea, leprosy, asthma, skin infections etc. However, scientific validation of cow urine is required for its worldwide acceptance and popularity in terms of medicinal applications so as to exploit its optimal power for the service of mankind. Regardless of scientific validation, people are using and getting benefits of it. The present review focuses the anti-cancer activity of cow urine, well supported by the known scientific facts and case reports, success stories and feedback of cancer patients treated with cow urine therapy. The authors have compiled this information with ultimate goal of popularizing "Cow Urine Therapy / Chikitsa" as an alternate prophylactic / therapeutic approach, which is safer, cheaper and without any side effects for fighting cancer, the most dreaded and incurable malady. Many a good virtues of cow urine need proper attention and promotional campaigns and judicious support of the scientists, researchers and clinicians so as to strengthen the miraculous cow urine therapy which can inspire confidence in the physicians as well as the public that deadly diseases like cancer could be treated.

### **COW URINE THERAPY**

Cow urine has been described in 'Sushrita Samhita' and 'Ashtanga Sangraha' to be the most effective substance/secretion of animal origin with innumerable therapeutic values. The medicines made from cow urine are used to cure several diseases. Taken in measured quantities, cow urine or gaumutra has a unique place in Ayurveda and is suggested for improving general health. Exploring its antimicrobial activities, it is being used to produce a whole range of Ayurvedic drugs. Cow urine therapy has a long history. It is recognized as 'water of life' or "Amrita" (beverages of immortality), the nectar of the God in Vedas, sacred Hindu writing, which is said to be the oldest books in Asia. In India, drinking of cow urine has been practiced for thousands of years. It is an important ingredient of panchgavya, which has been tested by various workers for its immunomodulatory properties and have been reported that it enhances both cellular and humoral immune response (Kumar, 2001; Chauhan *et al.*, 2004). It has also been experimentally proved that among all sorts of urines, the urine of the Indian cows is most effective and interestingly almost nil or few medicinal properties with regards to immunomodulation are present in the urine of crossbred, exotic cows and buffaloes. The immunomodulatory property of indigenous cow urine is due to the presence of a "Rasayan" which has been found absent in urine of other animals on HPLC analysis

Cow urine singularly has got all such chemical properties, potentialities and constituents that are capable of removing all the ill effects, imbalances in the body (Bartnett, 1988; Chauhan *et al.*, 2001; Chauhan, 2003a). Cow urine contains 24 types of salts. Its main contents are water 95%, urea 2.5%, minerals, salt, hormones, and enzymes-2.5%. It contains iron, calcium, phosphorus, carbonic acid, potash, nitrogen, ammonia, manganese, iron, sulphur, phosphates, potassium, urea, uric acid, amino acids, enzymes, cytokine and lactose etc. (Bhadauria, 2002). Copper has the power to destroy diseases and act as an antidote. Cytokines and amino acids might play a role in immune enhancement. Since the urine of the cow contains all beneficial elements in it, hence it is natural and universal medicine that fulfills the deficiency of elements and reduces the increased elements in the body. It is the unique quality of the urine, which helps in curing even the most incurable diseases. There is evidence that the urine of the cow works as the best appetizer. It smoothens and nourishes the heart and adds to the power of wisdom of man, and increases their physical strength as well. It increases life span and purifies blood from all sorts of

impurities. Cow urine is entirely sterile after secretion and has antiseptic effect. It acts like a disinfectant and prophylactic agent and thus purifies atmosphere.

Practitioners of Ayurvedic medicine (from India) routinely use urine as a remedy. A number of ailments could be treated by cow urine therapy. Most of the medicines are made by distilling urine and collecting vapours termed as 'ark' (distillate). Improvements have been shown or reported with those suffering from flu, sinus, allergies, colds, ear infection, rheumatoid arthritis, bacterial/viral infections, tuberculosis, chicken pox, hepatitis, leprosy, asthma, gastric ulcer, heart disease, depression, hypertension, fatigue, burns, skin infections, eczema, tetanus, morning sickness, fever, obesity, etc. It is also used as a diuretic, laxative and for treatment of chronic malaria, enteritis, constipation, edema, baldness, headaches, fever, chemical intoxication, aging etc. It is proved as a universal curer of blood disorders, leucorrhoea and even leprosy. The urine of the cow cleans the intestines and removes the deposited material. Hence diseases like fever, mouth and skin diseases menstruation disorders, asthma, giddiness, increase of cough and urinary irregularities in humans are cured by its regular use without any side effects. It is non-toxic in nature. Cow urine can kill the number of drug resistant bacteria and viruses. Even this therapy has been reported to be beneficial for dreaded diseases like cancer, AIDS and diabetes.

### ***Cow Urine as Immunostimulant***

Cow's urine has immunostimulant activity in plants and animals. Recent researches showed that cow urine enhances the immune status of an individual through activating the macrophages and augmenting their engulfment power as well as bactericidal activity. In poultry, cow urine has been reported to enhance the immunocompetence of birds and provide better protection along with vaccination and increases egg production and egg quality. *In-vivo* cow urine treatment to developing chicks marginally upregulated the lymphocyte proliferation activity (Prabhakar *et al.*, 2004). Chauhan *et al.* (2001) and Kumar *et al.* (2004) reported the cow urine (Kamdheni ark / cow urine distillate) to be a potent and safe immunomodulator, which increases both humoral and cell mediated immunity in mice. It was observed that cow urine enhances both T and B cell proliferation and also increases the titre level of IgG, IgA and IgM antibodies. Chauhan *et al.* (2004) observed that it increases the secretion of interleukin-1 and 2 also. The level of both IL-1 and 2 in mice got increased by 30.9 and 11.0%, respectively and in rats these levels were increased significantly by 14.75 and 33.6%, respectively. Prabhakar (2004) reported that the cow urine had protective effect on lymphocytes of birds undergoing apoptosis and suggested the exploitation through experimental trails for specific use of cow urine as an adjunct to vaccination. Thus the cow urine not only maintains the immunity of body but also modulate it in the positive direction to an optimum level. Garg *et al.* (2004) reported beneficial effects of cow urine on serum biochemical profile (total serum protein, glucose, calcium and cholesterol of laying birds. Its usefulness as antimicrobial agent, positive effect on body weight gain and haematological profiles have also been reported. Garg *et al.* (2004) suggested that cow urine can be used as a feed additive for layer birds in order to get good quality eggs and immune-enhancer.

### ***Cow urine as Bioenhancer***

A cow urine distillate fraction (ark) has been identified as a bioenhancer of the activities of commonly used antibiotics, anti-fungal and anti-cancer drugs. Recently the cow urine has been granted U.S. Patents (No. 6896907 and 6410059) for its medicinal properties, particularly for its use along with antibiotics for the control of bacterial infection and fight against cancers. The activity of Rifampicin, a front-line anti-tubercular drug used against tuberculosis, increases by about 5-7 folds against *E. coli* and 3-11 folds against Gram-positive bacteria (The Hindu, 4 July, 2002; The Indian Express, 4 July, 2002). Bioenhancers are substances, which do not possess drug activity of their own but promote and augment the bioactivity or bioavailability or the uptake of drugs in combination therapy. Such bioenhancers have been earlier isolated only from plant sources. It has now been found that

cow urine also acts as a bioenhancer and increases the efficacy of the antibiotics against infectious agents. The molecule of invention helps in the absorption of antibiotics across the cell membrane in the animal cells, gram positive and gram negative bacteria. Bioenhancement has also been observed with other drugs viz. Ampicillin, Isoniazid, Clotrimazole, Cyanocobalamine etc. Bioenhancer activity has been found to reduce the antibiotic dose per day and duration of treatment in tuberculosis patients (Joshi, 2002). The Indigenous cow urine contains "Rasayan" tatva, which is responsible to modulate immune system and act as bioenhancer.

### **ANTI-CANCER PROPERTIES OF COW -URINE**

Cow urine possesses anti-cancer properties. Research works carried out by Go-Vigyan Anusandhan Kendra (Cow Science Research Center) at Nagpur revealed the beneficial properties of cow urine in the treatment of cancers. Further extensive research on cow urine therapy against fighting cancer carried out by Scientists of Central Institute of Medicinal and Aromatic Plants (CIMAP), CSIR Center at Lucknow, along with collaboration with Go-Vigyan Anusandhan Kendra, Nagpur confirmed this milestone achievement. Studies highlight the role of cow urine in curing cancers and that cow urine enhances the efficacy and potency of anti-cancer drugs. Recently, this significant achievement has been validated by the grant of U.S. Patent (No. 6896907) in the field of treatment of cancers (Amar Ujala, July, 19, 2005).

Scientists have proved that the pesticides even at very low doses cause apoptosis (cell suicide) in lymphocytes of blood and tissues through fragmentation of DNA. Distilled cow urine protects DNA and repairs it rapidly as observed after damage due to pesticides (Ambwani, 2004). It protects chromosomal aberrations by mitocycin in human leukocyte (Datta, 2001). Cow urine helps the lymphocytes to survive and not to commit suicide (apoptosis). Kumar *et al.* (2004) reported the prevention of pathogenic effect of free radicals through cow urine therapy. These radicals cause damage to various tissues and attack enzymes, fat and proteins disrupting normal cell activities or cell membranes, producing a chain reaction of destruction leading to the ageing process of a person. By regular use of cow urine one can get the charm of a youth as it prevents the free radicals formation.

Thus, the cow urine therapy is suggested to possess potent anti-cancer abilities by the virtues of the following properties –

**Antimicrobial capability:** Cow urine can kill the number of drug resistant bacteria and viruses, thus can reduce the incidences of cancer since many a viruses have been reported to cause cancer.

**Bioenhancing property:** It can promote and augment the bioactivity or bioavailability or the uptake of cancerous drugs, thus could enhance the efficacy and potency of the chemotherapy drugs, and reduce their dose and duration of treatment, which could also help reduce the cost and side effects of chemotherapy. So in combination therapy cow urine can be used efficiently.

**Immunomodulating activity:** Cow urine enhances the immunocompetence and improves general health of an individual. It has vital potential to enhance the activity of macrophages and lymphocytes (both T and B cells), and has been reported to increase the humoral and cellular mediated immunity. Increased immunocompetence of an individual is a very essential parameter to prevent the development of cancers by several mechanisms, of which the upregulation of lymphocyte proliferation and stimulation activity, increased macrophage activity, higher antibody production and increased synthesis and secretion of cytokines (IL-1, IL-2) plays significant role by enhancing the recognition of tumor cells by the immune cells of the body and cytotoxic activities of the tumor killing cells, the lymphocytes.

**Anti-aging factor:** It is an efficient anti-aging factor, since prevents the free radicals formation, which could help preventing cancers as the incidences of cancer increases as the one progresses towards old age.

**DNA repairing potential:** Cow urine efficiently repairs the damaged DNA, thus can be very effective for the cancer prevention and therapy, and can also reduce the spread of malignant cancers and help fighting tumors.

**Apoptosis inhibitor:** Cow urine can tremendously reduce apoptosis in lymphocytes and helps them to survive, thus the body can avail the tumor fighting abilities of the lymphocytes at their optimum activity and survivability.

**US Patent for Cow urine in the field of cancer:** Recently a pharmaceutical composition comprising an effective amount of bioactive fraction from cow urine distillate (CUD) as a pharmaceutically acceptable additive was tested and applied for a US patent. The invention relates to an absolutely novel use of CUD as an activation enhancer and availability facilitator for bioactive molecules such as anti-infective and anti-cancer drugs. It was found that the urine distillate effectively reduced the dosage of drug needed for the therapies. The applicants (Khanuja *et al.*, 2002) obtained the 'Kamadhenu Arka' (CUD) from Go-Vigyan Anusandhan Kendra, Nagpur, India and studied its effect and of the dried fraction (GM-IV). A pharmaceutical composition comprising of at least one anticancer agent ('Taxol'- Paclitaxel) and a cow urine distillate or a dried fraction (GM-IV) obtained from cow urine distillate was studied. Cow urine was distilled around 40-50°C to obtain the distillate and the distillate concentrate obtained by lyophilization. The cow urine distillate was used in a concentration range of 0.001 µl/ml to 100 µl/ml, and at a concentration 1 µl/ml was found to enhance the cell division inhibitory activity of the drug 'Taxol' in breast cancer cell line, MCF-7 (NCCS, Pune) by 2-20 folds. The GM-IV which was obtained in the range of 10-20 grams/100ml of the distillate showed the same effect at 0.001-10 µg/ml and was found to be more stable and devoid of unpleasant smell of urine and hence considered as the advanced product of the invention. Thus the potency of 'Taxol' (paclitaxel) was observed to get increase against MCF-7, a human breast cancer cell line in *in-vitro* assays.

Table showing the effect of Cow urine distillate as activation enhancer of 'Taxol'

Taxol (µg/ml)	Initial titre of cancer cells	Final titre of cancer cells with Taxol	Final titre of viable cancer cells with Taxol and Cow urine distillate
0.001	$0.9 \times 10^6$	$0.059 \times 10^6$	$0.039 \times 10^6$
0.005	$0.9 \times 10^6$	$0.042 \times 10^6$	$0.032 \times 10^6$
0.01	$0.9 \times 10^6$	$0.036 \times 10^6$	$0.012 \times 10^6$

The most important feature of this invention is the finding that the enhancement action and effectiveness of the 'Arka' is achievable in the very low concentration (nano to micro molar levels), thus a very low dose of ark can be helpful in curing cancer, which can reduce the cost of the treatment.

Thus encouraging results were observed with cow urine treatment for the antibiotics as well as cancer therapy. The findings have reflected a direct implication in reducing the effective dose of drugs as well as acting as a bio-enhancer. Therefore, the future of cow urine therapy is encouraging especially in cancer therapy, and it may very well reduce the harmful side effects of radiation treatments. The above two U.S. Patents have attracted global attention. US Patents honored to Indian Scientists on Cow urine therapy also made realize that the traditional practices from Indian systems of medicine have a strong scientific base.

During the past few years cow urine therapy has provided promising and authentic results for the treatment of cancer, a deadly malady which is being faced by the mankind and the incidences of which are ever increasing in the current scenario of changed lifestyle and food habits along with exposure to predisposing factors of carcinogens such as tobacco chewing, smoking, alcohol intake, environmental pollutants, occupational health hazards etc. Anti-cancer potential of cow urine therapy has been reflected by several case reports, success stories and practical feed back of patients for the treatment of cancer.

## **CASE REPORTS, FEEDBACK AND SUCCESS STORIES**

**Cow Urine Cancer Cure: Oro-Pharyngeal Carcinoma- A Case Report:** A patient (63 old women) from Kasargod district of Kerala state in November 2003 was presented to Kasargod Institute of Medical Sciences, Kasragod, Kerala, with stage IV squamous cell carcinoma of tonsil, and was treated with radiotherapy. Even though the carcinoma of tonsil is highly sensitive to radiations, it is unable to cure the IV<sup>th</sup> stage. The presented patient showed nasal regurgitation, dysphagia, dyspnoea and was spitting blood at times. The patient was supposed to succumb to the tonsillar neoplasia as evinced by the cachetic appearance and the severity of the symptoms suggesting a poor prognosis. She was later advised to take 15 ml of 'Amrutha Sara' (cow urine distillate) twice a day and was asked to come after 2 weeks for the follow up. On the first follow up visit the patient had shown improvement in the symptoms and was able to take small quantities of liquid food without the help of feeding tube. The same therapy was continued for a period of 10 months with which the patient was completely cured of the disease. After the cow urine therapy, the physical examination revealed no visible oropharyngeal lesions and no cervical palpable lymph glands. The malignant lesions in tonsils and secondary lesions in lymph glands were effectively controlled. The surface of the tonsillar fossa and fauces were smooth and showed no evidence of tumor growth. The tonsillar malignancy disappeared completely which suggested the antineoplastic effects of cow urine distillate. This points to the possibility of the role of the 'Amrutha Sara' as an effective antineoplastic drug, clearly evinced by the dramatic recovery of the patient from stage IV of the cancer to normalcy. The antineoplastic effects of cow urine may possibly be due to the antioxidant properties of vitamins A, E, C and the volatile fatty acids, both of which acted together to elicit a favorable response.

**Other Case Reports And Success Stories:** In other case reports and feed back obtained from persons treated for cancer using processed cow urine in the form of 'Ark', it has been observed that cow urine therapy was successful in fighting the cancer as reflected by the absence of cancerous cells/tissue, decrease in the size of tumor, clinical and biochemical picture of the patient. Mr Kamlesh kumar Agarwal, a native of Kareli Dist. Narsinghpur (MP) suffered from a cancer near the kidney due to which his kidney became nearly non-functional and inspite of different known cancer-therapies, there was no improvement in his health. After the use of 'Kamdhenu Ark' prescribed by the Cowpathy physicians, Nagpur, 98% improvement was reported in his cancer. Mr. Ram Sagar Singh, a native of Begusaray, north bihar got 80% improvement in the throat cancer after cow urine therapy. Smt. Seema Verma , resident of Jainagar (north Bihar), was completely cured from brest cancer by taking kamdhenu ark. Mr. Babulal Rungta, got affected with cancer suffered from chronic renal failure, with serum creatinine and urea level being 10.4 and 107, respectively, and was kept on dialysis twice a week. After cow urine therapy (Kamdhenu Ark) his serum creatinine and urea levels were dropped down to 5.3 and 63, respectively with a drastic improvement in the functioning of kidneys and relieving of cancer. Mr. Nanak Bhosray Dhingra, a patient suffering from multiple myeloma and severe waist pain showed improvement with the cow urine therapy.

However, scientific validation of cow urine therapy for the prevention and treatment of cancer, as reflected in the above practical cases and reports, is required for its worldwide acceptance and popularity. The unique anti-cancer activity of cow urine needs immediate attention and the strategies for promoting its vital medicinal potential and perspectives for the benefit of mankind should be planned appropriately. For this proper support of the scientists, researchers and clinicians/physicians is needed by which authentic research data and practical implications of cow urine therapy in the field of treatment of cancers can be generated, which can further strengthen this alternate low cost therapy having no side effects, generally observed with chemotherapy and radiation therapy being followed for curing cancers, and thus confidence can also be inspired in the public about its good virtues.

## **CONCLUSION**

Cancer is a dreaded malady to the mankind, which though can be treated by following various therapy procedures of surgery, chemotherapy, radiotherapy and immunotherapy along with recent molecular approaches of gene therapy, but the success rate and cost of these therapy modalities is not very high and moreover, their well known side effects puts burden on the patients to be treated. Alternate therapies including of herbs, homeopathy and ayurvedic medicines have also been claimed to be helpful in the prevention and control of cancer. Cow urine therapy has also been claimed to possess anti-cancer properties and has been supported recently by the grant of US patent in the field of cancer treatment by its virtues of bioenhancing the activity of anti-cancer drugs. The hypothesis of cow urine therapy in curing cancer has also been supported in the last few years by the case reports, feed backs and success stories of the patients treated by this novel alternate therapy for cancer. The area of cow urine therapy has tremendous potential in the field of medicine and has not been exploited to the extremes. Efforts need to be made for public awareness about the vital virtues of cow urine therapy. Though, the end user claims are many but scientific validation of those claims is required. Most of the tested practices of cowpathy or cow urine therapy are rejected as myth or mythological adventures. Now people need information and data based on research. It is therefore necessary to blend science, spirituality and wisdom. Such a blending has resulted in US patents for the cow urine in possessing anti-cancer and bio-enhancing properties. These approaches and their potential applications should be widely promoted. Modulating into the right channels the research on cow urine and other panchgavya elements, may be many more patents are awaiting ahead. Grant of U.S. Patents to cow urine has given the ultimate stamp of approval for Indian Systems of Medicine and the panchgavya products, particularly the cow urine, since they have passed through the high standards of modern scientific testifying methodologies. Establishment of research and development centers in this medicinal utility of cow urine and generation of authentic data for the support and of cow urine therapy in the treatment of cancer by physicians, clinicians, scientists and researchers should be given priority, which can strengthen and promote this unique and natural alternate therapy in fighting against the cancer, which would provide a great relief to the human sufferings. Cow urine is a universal medicine and can be the best therapy for mankind in curing various sorts of disorders. It is non-toxic and can be obtained free of cost through domestication of indigenous cow. The cow urine therapy should gain popularity not only in traditional families but also in highly educated and scientific societies. Thus an integrated approach is necessary to promote the highly valuable virtues and wide applications of Cowpathy, a new version of ancient science, which is definitely a promising formulation in the years to come by following the desired promotional strategies. Utilizing the beneficial properties of cow urine, day may not be far away when the incurable diseases like cancer, AIDS and other deadly maladies can be treated successfully. The role of cow urine in curing the cancer needs further attention as they can serve as a reliable treatment alternative without side effects. Further case studies involving the successful use of 'Go-muthra Ark' or 'Kamdhenu Ark' are to be brought to medical attention and should be passed on to the masses.

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