



A Low-Cost Leaf with Clinical Value: *Moringa oleifera* as Supportive Therapy in Canine Renal Impairment

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INTRODUCTION



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The kidneys work continuously as the body's filter, cleansing the blood and removing metabolic waste. When this function is compromised, the condition is termed renal impairment — among the leading causes of mortality in dogs. Its greatest clinical difficulty is that it advances silently: an affected dog may appear outwardly normal even after the kidneys have lost much of their function, and by the time an owner notices that something is wrong, 65–75% of functional kidney tissue may already be damaged. Against this background, a study at the Veterinary Clinical Complex (VCC), DUVASU, Mathura, examined two questions of direct practical importance: how frequently does renal impairment occur in dogs presented at a referral hospital, and can *Moringa oleifera* — the drumstick tree, known locally as *sahjan* and grown in courtyards across India — improve recovery when added to conventional treatment?

Occurrence and Risk Factors

Between February and July 2023, a total of 3,881 dogs presented at the hospital were screened, covering all breeds, ages and both sexes. Of these, 287 showed clinical signs suggestive of renal involvement — inappetence, lethargy, vomiting, weakness or altered urination. Detailed evaluation confirmed renal impairment in 43 dogs, an occurrence of approximately 1.1% of all dogs presented during the period.

Several patterns emerged from the survey that are of direct value to owners and clinicians alike:

- **Breed.** Labrador Retrievers accounted for the largest share of cases; Beagles the smallest.
- **Age.** Dogs between four and eight years of age were at the highest risk.
- **Sex.** Females were affected more frequently than males.
- **Season.** Cases peaked in May and were fewest in July, indicating a possible association with season and ambient heat.
- **Diet.** Dogs maintained exclusively on packaged commercial feed showed a higher occurrence than those fed home-prepared diets.

Evaluating Moringa Under Clinical Conditions

Moringa oleifera is long established in Indian households as a nutritious and readily cultivated plant. Its traditional reputation, however, is not in itself evidence of therapeutic value in renal disease; that can be determined only under controlled clinical conditions. For this purpose, fresh Moringa leaves were dried, ground to a fine powder and processed into an extract, which was administered orally in capsule form at a dose calculated on individual body weight.

Twelve dogs with confirmed renal impairment were allocated to two equal groups of six. Group I received conventional therapy alone — fluid therapy, medication and supportive care — for 14 days. Group II received the same conventional therapy

together with daily Moringa leaf extract over the same period. A third group of six clinically healthy dogs served as a reference for normal values. All three groups were evaluated at weekly intervals through haematological, serum biochemical and urinary parameters, together with two sensitive renal biomarkers — SDMA and Cystatin C — which detect renal compromise earlier than routine tests.

Findings

Dogs in both treatment groups improved. Haematological values that had fallen with the illness returned towards normal, and the nitrogenous waste products that accumulate in the blood during renal compromise declined significantly in both groups.

The most notable difference between the two groups emerged in the sensitive biomarkers. Dogs receiving Moringa leaf extract alongside conventional therapy showed a greater improvement in SDMA and Cystatin C than those on conventional therapy alone. Moringa did not replace veterinary treatment; it supplemented it — supporting renal function and achieving a better recovery within the same fourteen days.

Representative Cases from the Clinic

Group averages describe a trend; individual animals show what that trend looked like in the clinic. Three representative cases from the Moringa treatment group at the Veterinary Clinical Complex are summarised below.

Case 1 — Labrador Retriever, female, 6 years

The dog was presented with anorexia, lethargy and repeated vomiting — the three signs recorded most often across the study. Blood work on day 0 showed markedly elevated kidney waste products. Under combination therapy (conventional treatment with Moringa leaf extract), blood urea nitrogen and creatinine fell steadily over the 14 days. By the end of treatment the animal was eating voluntarily, alert and moving normally — an improvement the owner could observe directly, and not one confined to the laboratory report.

Case 2 — German Shepherd, male, 7 years

This dog was presented with marked weakness and reduced urination, and his SDMA value — one of the sensitive early-warning markers used in the study — was more than twice that of a healthy dog. Two weeks of combination therapy brought SDMA close to the normal range, following the same pattern seen across the Moringa group, and both energy and urination returned to normal well before the trial concluded.

Case 3 — Spitz, female, 5 years

Presented dehydrated and with markedly increased thirst and urination, this dog also showed a raised Cystatin C value, another of the early renal markers. Under combination therapy, Cystatin C declined steadily towards healthy values over the 14 days, accompanied by visible improvement in hydration and appetite — a case that routine testing alone would in all likelihood have detected only at a later and less recoverable stage.

These are representative profiles drawn from the treatment group of the clinical trial; individual response may vary from dog to dog.

Practical Significance

The study carries two practical messages for dog owners and veterinarians alike:

- **Recognise the risk early.** Older dogs, females, breeds such as the Labrador Retriever, and dogs maintained solely on packaged feed are at greater risk. In such animals, lethargy, loss of appetite or any change in drinking and urination warrants prompt veterinary attention — ideally before the disease is advanced.
- **An affordable adjunct already exists.** Moringa is inexpensive, easily cultivated and already present in most Indian homes and villages. It calls for no specialised equipment and no imported medicine, yet it can meaningfully support a dog's recovery when used alongside proper veterinary treatment.

CONCLUSION

The study supports the recommendation of Moringa leaves as a helpful adjunct — not a replacement — alongside conventional veterinary treatment for dogs with renal impairment. It links something as ordinary and familiar as a drumstick tree in the backyard to a tested clinical benefit: a low-cost option that any dog owner or practising veterinarian can reasonably consider.