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Treatment and survival of a dog diagnosed with multiple myeloma using *Viscum album* therapy: case report

Ana Catarina Viana Valle^{1*}, Maria Luíza Pereira Viana Valle², Aloísio Cunha de Carvalho³

¹Institute of Natural Veterinary Medicine, Brasília – DF, Brazil;

²IDIS/Lamasson, Ribeirao Preto – SP, Brazil;

³University of Brasilia, Brasilia – DF, Brazil

*Corresponding author, e-mail: dranacatarina@gmail.com

Abstract. Multiple myeloma is a plasma cell neoplasm that accounts for approximately 1% of all tumors in dogs and is more commonly diagnosed in elderly animals. Clinical signs are generally nonspecific and may include bone pain, lethargy, hematologic abnormalities, and systemic involvement. Conventional treatment is based on chemotherapy, which may provide variable clinical responses; however, the disease remains incurable, with a guarded prognosis and limited survival time. Given these therapeutic challenges and the increasing incidence of neoplasms in both human and veterinary medicine, there is growing interest in integrative approaches. In this context, *Viscum album* has been used for over a century in anthroposophic medicine for the treatment of cancer patients and, more recently, has been applied in homeopathic formulations, with promising results reported in the literature, including good tolerability, absence of significant adverse effects, and potential modulatory activity. This report describes the case of an 11-year-old mixed-breed dog diagnosed with multiple myeloma affecting a lumbar vertebra, which did not undergo conventional treatment and achieved a survival time of six years after diagnosis. An integrative therapeutic approach was adopted using injectable homeopathic *Viscum album*, administered daily in different potencies. After six months of follow-up, remodeling of the affected vertebra was observed, with no evidence of disease progression. The patient was monitored longitudinally, demonstrating a six-year survival with good quality of life until death due to age-related natural causes at 17 years of age. This study aims to report a clinical case, highlighting the favorable outcome of a patient diagnosed with multiple myeloma treated with homeopathic *Viscum album*, suggesting its potential as an integrative therapy. To date, this represents one of the first reports in the literature describing such a clinical evolution for this condition.

Keywords: Homeopathy, integrative veterinary oncology, survival.

Tratamento e sobrevida de um cão diagnosticado com mieloma utilizando terapia com *Viscum album*: relato de caso

Resumo. O mieloma múltiplo é uma neoplasia de células plasmáticas que corresponde a aproximadamente 1% de todos os tumores em cães e é mais comumente diagnosticado em animais idosos. Os sinais clínicos são geralmente inespecíficos e podem incluir dor óssea, letargia, alterações hematológicas e envolvimento sistêmico. O tratamento convencional baseia-se na quimioterapia, que pode proporcionar respostas clínicas variáveis; no entanto, a doença permanece incurável, com prognóstico reservado e tempo de sobrevida limitado. Diante desses desafios terapêuticos e do aumento da incidência de neoplasias tanto na medicina humana quanto na veterinária, há um interesse crescente em abordagens integrativas. Nesse contexto, o *Viscum album* tem sido utilizado há mais de um século na medicina antroposófica para o tratamento de pacientes oncológicos e, mais recentemente,

tem sido aplicado em formulações homeopáticas, com resultados promissores descritos na literatura, incluindo boa tolerabilidade, ausência de efeitos adversos significativos e potencial atividade moduladora. Este relato descreve o caso de um cão sem raça definida, com 11 anos de idade, diagnosticado com mieloma múltiplo acometendo uma vértebra lombar, que não foi submetido ao tratamento convencional e alcançou um tempo de sobrevida de seis anos após o diagnóstico. Foi adotada uma abordagem terapêutica integrativa utilizando *Viscum album* homeopático injetável, administrado diariamente em diferentes potências. Após seis meses de acompanhamento, observou-se remodelação da vértebra afetada, sem evidências de progressão da doença. O paciente foi acompanhado longitudinalmente, apresentando sobrevida de seis anos com boa qualidade de vida até o óbito por causas naturais relacionadas à idade, aos 17 anos. Este estudo tem como objetivo relatar um caso clínico, destacando a evolução favorável de um paciente diagnosticado com mieloma múltiplo tratado com *Viscum album* homeopático, sugerindo seu potencial como terapia integrativa. Até o momento, este representa um dos primeiros relatos na literatura a descrever tal evolução clínica para essa condição.

Palavras-chave: Homeopatia, oncologia veterinária integrativa, sobrevida.

Introduction

Multiple myeloma is a rare hematopoietic neoplasm in dogs, characterized by the clonal proliferation of plasma cells in the bone marrow, resulting in excessive production of monoclonal immunoglobulins and involvement of organs such as bones and kidneys ([Thrall et al., 2022](#); [Vail et al., 2019](#); [Withrow et al., 2020](#)). This disease accounts for less than 1% of all malignant neoplasms in dogs and approximately 8% of hematopoietic tumors ([Vail et al., 2019](#); [Withrow et al., 2020](#)). It primarily affects older animals, with a mean age ranging from 8 to 10 years, and no clear sex predisposition has been established ([Geigy et al., 2013](#)).

Clinically, multiple myeloma presents with nonspecific signs, including bone pain, lethargy, anemia, hypercalcemia, renal insufficiency, and increased susceptibility to secondary infections. In some cases, hyper viscosity syndrome may occur, leading to neurological and ophthalmic alterations ([Vail et al., 2019](#)). The etiology of the disease remains unknown and is characterized by a slow and progressive proliferation of neoplastic plasma cells, predominantly within the bone marrow ([Daleck et al., 2016](#)).

In human medicine, multiple myeloma represents approximately 1% of all cancers and about 10–15% of hematologic malignancies, with an estimated annual incidence of 3 to 4 cases per 100,000 individuals ([Rajkumar, 2014](#)). In dogs, conventional treatment is based on systemic chemotherapy, most commonly the combination of melphalan and prednisone. Although this approach may induce clinical remission in some patients, the disease remains incurable, with a median survival time ranging from months to approximately 18–24 months, depending on therapeutic response and associated complications ([Vail et al., 2019](#); [Withrow et al., 2020](#)).

Given the limitations of conventional therapies, including toxicity and frequent disease recurrence, there has been increasing interest in integrative therapeutic approaches in both human and veterinary oncology. These approaches aim not only at tumor control but also at improving patients' quality of life ([Valle & Valle, 2025a, 2025b](#)).

In this context, *Viscum album* (European mistletoe) has gained attention as a complementary therapy, having been used for over a century in anthroposophic medicine for cancer treatment ([Stein & Kummer, 2012](#); [Valle et al., 2024](#); [Valle & Valle, 2025b](#)). Its extracts contain various bioactive compounds, such as lectins, viscotoxins, polysaccharides, and flavonoids, which exhibit cytotoxic, immunomodulatory, and pro-apoptotic properties ([Cogo et al., 2023](#); [Klingemann, 2023](#); [Weissenstein et al., 2014](#)). In particular, mistletoe lectins have the ability to induce apoptosis in tumor cells and modulate immune responses, contributing to the control of tumor progression ([Kauczor et al., 2012](#); [Kleinsimon et al., 2017](#); [Klingemann, 2023](#)).

Clinical studies in humans suggest that *Viscum album* may improve the quality of life in cancer patients by reducing symptoms such as fatigue, sleep disturbances, and loss of appetite, and may also contribute to increased survival in certain cases ([Kienle & Kiene, 2010](#); [Ostermann et al., 2020](#)).

Additionally, its use has been associated with a reduction in adverse effects related to chemotherapy and radiotherapy (Tröger et al., 2014). Overall, this therapy is considered safe, with side effects generally being mild and self-limiting (Kienle et al., 2011).

In Europe, *Viscum album*-based preparations are among the most commonly used complementary therapies in oncology, being applied in both curative and palliative settings (Kienle et al., 2011). However, in veterinary medicine, there is still a lack of controlled studies evaluating its efficacy, particularly when administered in homeopathic formulations. Therefore, case reports play an important role in generating hypotheses and expanding scientific knowledge regarding integrative therapies in veterinary oncology. Thus, the present study aims to describe a case of multiple myeloma involving the lumbar vertebral region (L3–L4) in a dog treated with homeopathic *Viscum album*, highlighting its clinical evolution and prolonged survival.

Case report

An 11-year-old female mixed-breed dog was presented in June 2016 with a history of lumbar pain since April 2016. In May 2016, the animal had been diagnosed with multiple myeloma by another veterinarian, based on imaging findings and histopathological evaluation. Prior to presentation, radiographic examination of the lumbar spine revealed a mass localized at the L4 vertebra. Subsequently, magnetic resonance imaging identified an expansive lesion between the L3 and L4 vertebrae, measuring approximately 3 cm in diameter (Figure 1).



Figure 1. Magnetic Resonance Imaging – Lumbar spine image indicating (red arrow) the L4 vertebra with bone involvement.

A biopsy of the lesion was performed, and histopathological analysis demonstrated a proliferation of plasmacytic cells (Figure 2). Immunohistochemical evaluation showed positive expression for CD79a and MUM1, and negative staining for AE1/AE3, CD3, and lysozyme. These findings were consistent with the diagnosis of multiple myeloma, based on the phenotypic and morphological profile of the neoplastic cells.

At the first clinical evaluation conducted by the Integrative Veterinary Medicine service at NaturalPet (Brazil), physical examination revealed a patient in compromised general condition, presenting with hyporexia, normodipsia, and normal fecal output, but urinating only through manual bladder expression. Mucous membranes were normal in color, and the submandibular and popliteal lymph nodes were palpable, with no abnormalities in size or consistency. The heart rate was 80 bpm, the respiratory rate was within normal limits for the species and age, and body temperature was 37° C. Mild dehydration was observed, along with significant neurological signs, including paralysis of the hind limbs and urinary retention, along with lethargy. According to the owner, lethargy had been present for approximately six months, during which initial clinical investigations were performed but remained inconclusive. The hind limb paralysis developed after the vertebral biopsy procedure.

Given the diagnosis and the owners' refusal to pursue conventional treatment, an integrative therapeutic protocol was initiated in July 2016. The treatment consisted of daily administration of homeopathic *Viscum album* via the subcutaneous route, using dynamized potencies (D3, D6, D9, D12,

and D30) in combination. Additionally, autochemotherapy was performed at seven-day intervals, and a ketogenic diet, comprising approximately 50% to 70% lipids and proteins relative to total daily caloric intake, was instituted, as prescribed by another clinician.



Figure 2. Patient at 10 days after biopsy.

As part of clinical monitoring, periodic laboratory evaluations were performed, including complete blood count and serum biochemical analyses, as well as abdominal ultrasonography and thoracic radiography, with the aim of assessing the patient's overall condition and disease progression.

Clinical evolution (follow-up)

Following the initiation of the integrative therapeutic protocol in July 2016, the patient was monitored through regular clinical evaluations and serial laboratory testing. During the first weeks of treatment, a mild improvement in the patient's general condition was observed, including reduced fatigue and progressive increases in appetite and alertness, as reported by the owners.

Over the first three months, the clinical condition stabilized, with vital parameters remaining within normal limits and no evidence of systemic disease progression. The patient gradually showed improved interaction with the environment, increased activity, and awareness. However, neurological deficits—particularly hind limb paralysis and urinary retention, initially persisted.

After approximately six months of follow-up, partial improvement in neurological function was observed, with slight recovery of hind limb movement and a reduction in episodes of urinary retention. Follow-up imaging studies demonstrated remodeling of the previously affected lumbar vertebra (L3–L4 region) ([Figure 3](#)), with no evidence of neoplastic progression or development of new lesions.

Throughout the monitoring period, laboratory findings remained stable, with no significant alterations suggestive of progressive systemic involvement, such as renal failure or relevant hematologic disorders. The patient showed good tolerance to the instituted protocol, with no clinical adverse effects observed related to the use of homeopathic *Viscum album*, autochemotherapy, or the ketogenic diet.

In the subsequent years, the patient remained clinically stable, maintaining a good quality of life ([Figure 3B](#)), with no apparent pain and no evidence of tumor recurrence or progression. However, the occurrence of chronic cystitis should be noted, likely secondary to hind limb paralysis and the associated difficulty in urinary management, a condition that predisposed the patient to recurrent urinary complications. Clinical follow-up was maintained regularly, with continuous monitoring of general health status and occasional adjustments in management as needed. The injectable homeopathic *Viscum album* protocol was maintained throughout the entire period, with periodic variations in potencies and administration frequency.

The patient achieved an overall survival of approximately six years following the initial diagnosis and died at 17 years of age due to natural causes related to aging, particularly the progression of chronic kidney disease, which is common in geriatric dogs. Importantly, at the time of death, there were no clinical or laboratory findings suggestive of active neoplastic disease.



Figure 3. (A) Magnetic resonance: Absence of mass and evidence of bone remodeling (red arrow). (B) Quality of life.

Discussion

Multiple myeloma is a rare hematopoietic neoplasm in dogs, characterized by the clonal proliferation of plasma cells in the bone marrow, leading to excessive production of monoclonal immunoglobulins and involvement of multiple organs, including bones, kidneys, and the hematopoietic system ([Thrall et al., 2022](#); [Vail et al., 2019](#)). Despite advances in veterinary oncology, the therapeutic management of this disease still presents significant limitations, mainly due to the toxicity associated with conventional protocols based on chemotherapy and corticosteroids, as well as the incurable nature of the condition ([Vail et al., 2019](#); [Withrow et al., 2020](#)).

Clinical signs associated with multiple myeloma in dogs are highly variable and often nonspecific, including lethargy, hyporexia, neurological disorders, renal insufficiency, ocular alterations, hemorrhagic diathesis, and manifestations related to hyper viscosity syndrome secondary to hyperglobulinemia ([Geigy et al., 2013](#); [Vail et al., 2019](#)). Additionally, bone pain associated with osteolytic lesions and pathological fractures is a common finding, resulting from osteoclastic activity induced by neoplastic cells ([Daleck et al., 2016](#)). In the present report, the patient exhibited relatively mild clinical signs, primarily lethargy and lumbar pain, with the latter associated with the osteolytic lesion identified in the L3–L4 vertebrae on imaging studies. Although multiple myeloma may affect various skeletal sites, including long bones, pelvis, ribs, and skull, vertebral involvement is frequently reported due to the high hematopoietic activity in these regions ([Withrow et al., 2020](#)). The absence of multiple osteolytic lesions in this case suggests a localized pattern of involvement, which may be associated with a distinct clinical course.

The definitive diagnosis of multiple myeloma is based on a combination of clinical, laboratory, and histopathological criteria. Key diagnostic features include bone marrow plasmacytosis (>10%), monoclonal gammopathy, osteolytic lesions, and systemic alterations such as proteinuria, hypercalcemia, and renal dysfunction ([Vail et al., 2019](#)). In the present case, the diagnosis was confirmed through biopsy followed by histopathological and immunohistochemical analyses, which demonstrated positivity for CD79a and MUM1 and negativity for AE1/AE3, CD3, and lysozyme. The association between histopathological findings and the immunophenotypic profile proved essential for definitive diagnosis, highlighting the importance of immunohistochemistry in differentiating round cell neoplasms and confirming cellular origin ([Thrall et al., 2022](#)).

From a therapeutic perspective, multiple myeloma remains a challenging disease to manage. Chemotherapeutic protocols, particularly the combination of melphalan and prednisone, may induce clinical remission and prolong survival; however, they are not curative, and relapses are common

([Withrow et al., 2020](#)). The median survival time in treated dogs is approximately 18 months, varying according to therapeutic response and associated complications ([Matus et al., 1986](#)).

Given these limitations, there is growing interest in integrative therapies that may contribute both to tumor control and the modulation of the host immune response. In this context, *Viscum album* has been extensively studied, particularly in human medicine, due to its cytotoxic and immunomodulatory properties ([Kienle & Kiene, 2010](#); [Ostermann et al., 2020](#)). Its main bioactive compounds, such as lectins and viscotoxins, have demonstrated the ability to induce apoptosis, inhibit cell proliferation, and modulate antitumor immune responses ([Klingemann, 2023](#); [Stein & Kummer, 2012](#); [Valle et al., 2024](#); [Yousefvand et al., 2022](#)).

Experimental studies indicate that *Viscum album* extracts exhibit antiproliferative activity in tumor cell lines, including multiple myeloma, potentially interfering with cellular mechanisms related to the cell cycle and apoptosis. Furthermore, interleukin-6 (IL-6) plays a central role in the pathogenesis of multiple myeloma, acting as a key growth and survival factor for malignant plasma cells ([Rajkumar, 2014](#)). Evidence suggests that *Viscum album* compounds may modulate inflammatory pathways and cytokines involved in tumor progression, including IL-6 ([Klingemann, 2023](#); [Stein & Kummer, 2012](#); [Valle et al., 2024](#); [Yousefvand et al., 2022](#)).

In the present report, the patient was treated exclusively with an integrative approach using injectable homeopathic *Viscum album*, showing a favorable clinical outcome, with a six-year survival and no evidence of tumor progression. This result contrasts markedly with data reported in the literature, which indicate a median survival of less than two years, even with conventional treatment ([Matus et al., 1986](#); [Withrow et al., 2020](#)). Moreover, no significant adverse effects were observed during the follow-up period, which supports previous reports of good tolerability of *Viscum album* therapy ([Kienle et al., 2011](#)).

Although a direct causal relationship between the therapy and the clinical outcome cannot be established, the findings suggest a potential beneficial effect of *Viscum album* in disease modulation, either through direct action on tumor cells or stimulation of the immune system.

Additionally, during follow-up, the patient developed chronic cystitis, likely secondary to urinary retention caused by hind limb paralysis, a condition that persisted over the years. Death occurred at 17 years of age and was attributed to age-related causes, particularly the progression of chronic kidney disease, with no clinical evidence of neoplastic progression at the final stage.

Thus, this case report highlights the need for controlled clinical studies to evaluate the efficacy and mechanisms of action of *Viscum album* in veterinary oncology, particularly in homeopathic formulations, and to support its use as a complementary or alternative therapy in the management of multiple myeloma in dogs. Notably, this represents, to the best of current knowledge, one of the first reports in the literature describing long-term survival associated with clinical disease control and sustained quality of life in a dog diagnosed with multiple myeloma treated with this approach. These findings contribute to the field of integrative veterinary oncology by opening new perspectives for therapeutic strategies in challenging neoplastic conditions.

Conclusion

The use of homeopathic *Viscum album* was associated with lesion remission, improved quality of life, and a survival of six years in a dog diagnosed with multiple myeloma, exceeding outcomes reported in the literature. This appears to be one of the first reports of long-term survival in this condition, suggesting a potential therapeutic role for this integrative approach.

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