

CASE REPORT

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SEBACEOUS ADENITIS IN AKITA DOG – CASE REPORT

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ABSTRACT

Granulomatous sebaceous adenitis is characterized by a chronic idiopathic dyskeratosis, with low prevalence in the canine population. This disease results from degeneration and atrophy of the sebaceous glands, and so far, no known causes have been attributed. Still, studies suspect genetic involvement, autoimmune response, or anatomical anomalies of the gland. Sebaceous adenitis most often affects dog breeds such as Akita, Samoyed, and Poodle, which tend to manifest this disorder more severely. Findings include local or generalized pyoderma, alopecia, hyperkeratosis, and seborrhea. The diagnosis is defined by histopathological

examination after ruling out other dermatological or systemic diseases. This paper contains the case of a canine, Akita, aged 5, diagnosed with granulomatous sebaceous adenitis and pseudocyesis. She underwent ovariosalpingohysterectomy and correction of reproductive changes; in addition, it initiated topical therapy with keratolytic shampoo, mineral oil, and omega-3, showing a satisfactory response after three months of the intervention. The patient has clinical

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remission of all manifestations and maintains a good quality of life.

KEYWORDS: alopecia; chronic skin disease; dyskeratosis; hair thinning.

1. INTRODUCTION

Granulomatous sebaceous adenitis (GSA) is a rare chronic and idiopathic dyskeratosis characterized by degeneration and atrophy of the sebaceous glands. (SOUSA, 2006; GROGNET, 2008). The cause of GSA is unknown; some theories consider the genetic involvement in the destruction of the sebaceous gland, increased immune-mediated response to antigens in the glandular tissue, defects in cornification, and anatomical anomalies of the sebaceous gland with repercussions in extravasation of lipids and trigger a local inflammatory process (REICHLER et al., 2001; LUCAS, 2020).

Some reports describe GSA in several species, including dogs, cats, and humans. The most predisposed dog breeds include the Samoyed, German Shepherd, Vizsla, Dachshund, Standard Poodle, and Akita. In the last two mentioned, autosomal recessive genes linked to the disease were identified. GSA usually affects middle-aged adult dogs, and there is no sexual predisposition. (FRAZER et al., 2010).

Findings range from large foci of pyoderma (TEVELL; BERGAVALL; EGENVALL, 2008) or milder and more localized forms (MILLER et al., 2013). Pruritus is not reported, except in the presence of secondary bacterial infection (LUCAS, 2020). There are different degrees of alopecia, hyperkeratosis, and seborrhea, especially in the chronic phase. (TEVELL; BERGAVALL; EGENVALL, 2008). Akitas and Poodles often have evident follicular hyperkeratosis. (BARDAGÍ et al., 2010). “Moth-eaten” alopecia without the presence of papular crusts typical of folliculitis, superficial scales, usually thin, white, and non-adherent, may also be present. (MILLER et al., 2013). Some disease reports are restricted to the auricle (REICHLER et al., 2001).

It is essential to investigate and exclude demodicosis, dermatophytosis, endocrinopathies, seborrhea, and bacterial folliculitis. (LUCAS, 2020). Screening tests such as skin scrapings and fungal culture of affected individuals are negative; microscopic evaluation of the fur reveals yellow-brown keratosis sebaceous collars around the hairs (MILLER et al., 2013). The definitive diagnosis is established through the histopathological examination of the skin. (MILLER et al., 2013; LUCAS, 2020).

Treatment aims to decrease clinical signs, excess peeling skin, improve

coat quality, and possible fur regrowth. (ROSSER, 2000). The diagnosis and treatment of GSA are challenging, and the prevalence of this condition is rare in dogs, emphasizing the importance of considering it as a differential diagnosis in the routine of clinical and dermatological care. This report describes the manifestations, tests, prescribed therapy, and clinical evolution of a canine diagnosed with GSA.

2. CASE REPORT

A fertile Akita bitch, five years old and weighing 26.9 kg, was treated

in the city of Uberlândia-MG with a generalized hair loss, associated with irregular estrus and pseudocyesis, with approximately one month of evolution. On general physical examination, the parameters of heart rate, respiratory rate, temperature, capillary refill time, mucosa color, lymph nodes, and hydration were within the normal range for the species. (FEITOSA, 2004). On abdominal inspection, gynecomastia and galactorrhea were observed. During the dermatological evaluation, generalized hair thinning and opaque and dry fur were noted (Figure 1). There were pustules in the abdominal region

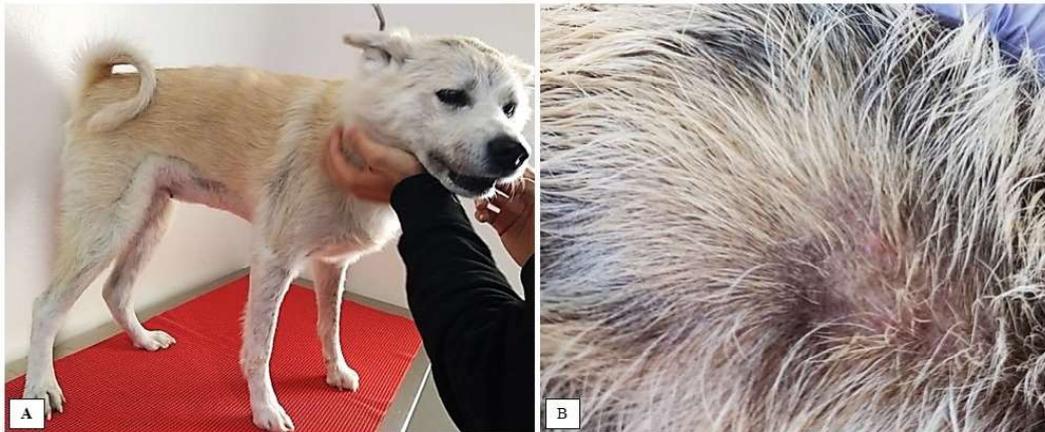


Figure 1. Image obtained during the first dermatological consultation. A) Presence of mild to moderate and generalized hair thinning, opaque and flawed coat (mainly in the head, shoulder blades, abdomen, and tail region). B) Area with thin fur. It is also possible to observe hyperpigmentation and opaque fur.

and evident secondary infection foci.

The parasitological skin test was negative. Skin cytology suggested increased cocci, probably associated with the inflammatory process and negative fungal culture. Hematological tests such as blood count and biochemical profiles

were performed with 12-hour fasting (triglycerides, cholesterol, creatinine, alkaline phosphatase, alanine aminotransferase, and urea). Urinalysis was also carried out. The values of the biochemical tests were within the normal range for the canine species.

(KANEKO, 2008). The blood count showed mild microcytic and hypochromic anemia (hematocrit 33%) and moderate thrombocytopenia (102.000/ μ L). The research for infectious agents (*Babesia* sp, *Ehrlichia canis*, *Rangelia vitalli*, *Leishmania* sp, *Anaplasma platys*, *Bartonella* sp, *Candidatus mycoplasma haemoparvum*, *Hapatozoon canis*, *Mycoplasma haemocanis*, *Neorickettsia risticii*, and *Rickettsia rickettsii*) was performed by polymerase chain reaction (PCR), and all were negative.

Abdominal ultrasound was also requested to search for reproductive comorbidities. This revealed slight enlargement of the uterine horns (with 2.7 cm diameter), luminal anechoic content, and mild to moderate cellularity. The ovaries showed preserved dimensions without any morphological alteration.

From these results, the ovariosalpingohysterectomy procedure was performed. During anesthesia, skin fragments were also collected from two different regions that were alopecic and with evident scaling (left intercostal and abdominal region). After the intervention, the uterus was inspected, and bloody content was

found in its lumen, suggesting incipient hemometra. This finding seems to justify patient hematological changes. The histopathological report revealed periannexal lymphoplasmacytic dermatitis associated with sebaceous adenitis in the chronic phase.

The instituted topical treatment included baths with mineral oil, with application in the whole animal body, acting for 2 hours, and then rinsing. A shampoo with keratolytic action based on salicylic acid, sulfur, and tar was also prescribed. (Sebolytic®, Virbac). Baths were initially performed twice a week for 60 days. After observing significant clinical improvement, the protocol was adopted at weekly intervals and later fortnightly. During this period, worsening of the dermatological condition was observed, being necessary to adapt the weekly protocol again until further recommendations. Complete resolution of the condition was achieved after three months (figure 2) of treatment, and it was not necessary to prescribe immunosuppressive therapy to obtain control of the clinical manifestations.

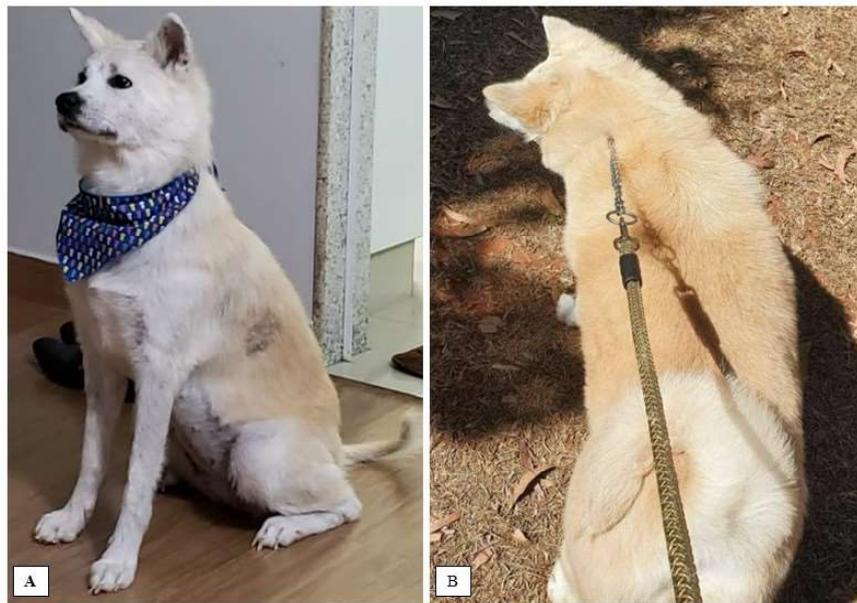


Figure 2. Canine diagnosed with granulomatous sebaceous adenitis during the period of therapy. A) Patient under topical and oral therapy for GSA for four weeks. It is possible to notice the recovery of fur on the face, limbs, and back, but hair thinning of the tail and left thoracic region is still visible. B) Dorsal view of the patient under topical and oral therapy for GSA from the 12th week. Compared to the start of treatment, it is possible to consider full fur filling.

3. DISCUSSION

According to Miller et al. (2013), the age group of dogs affected with GSA is more prevalent among young to middle-aged individuals, which was compatible with this report. However, this condition is more commonly described in males.

Individuals with GSA alone do not have blood count irregularities, or anemia, for example, except in the presence of comorbidities. (LUCAS, 2020). Excluding infectious causes through molecular tests (PCR) or serological tests are essential. The same applies to the ultrasound evaluation of the abdomen. (TROXEL et al., 2002),

and in this case, it was possible to verify alterations in the reproductive tract in the reported patient.

Akitas and Standard Poodles are breeds more predisposed to have severe and refractory GSA. (REICHLER et al., 2001; RHODES, 2014). There is an unproven suspicion about the presence of an autosomal recessive gene that leads to the destruction of the sebaceous glands and abnormalities in lipid metabolism, affecting sebum production and keratinization, or an anomaly of keratinization itself that obstructs the sebaceous ducts, in addition to immune-mediated destruction of the sebaceous glands (SCOTT et al., 2001). The patient did not manifest more

severe dermatopathy in this report and responded positively to treatment.

Due to the possibility of skin lesions being linked to other skin diseases or comorbidities, screening dermatological exams were collected. All tested negative, encouraging us to continue searching for the definitive diagnosis. These exams are crucial, as we can quickly and objectively exclude the most frequent skin diseases. (LUCAS, 2020). According to Rosser (2000), Long-coated dogs may present diffuse hyperkeratosis, seborrhea, and follicular casts as main alterations. In our report, only follicular casts were observed.

The patient's treatment consisted of baths with keratolytic shampoo associated with mineral oil and supplementation with oral omega-3. According to some reports, this therapy brings satisfactory results, sometimes requiring immunosuppressive therapy (LORTZ et al., 2010). However, as adjuvant therapy, vitamin A supplementation may be an option (SOUSA, 2006). Although the reported dog showed complete recovery of the areas with hair thinning, it was necessary to maintain the treatment regularly because of dermatological relapses. The tutors were able to fully adhere to

treatment, which was not hampered by financial limitations, contributing to the success of the therapy.

Corroborating the literature, the reported patient also manifested pyoderma. According to Tevell et al. (2008), the presence of pyoderma in different degrees is frequent in about 75% of the complaints of Akita owners. Reassessments and changes in therapy are often necessary for symptom remission and treatment success when treating GSA (MILLER et al., 2013); this was also observed in our report. Opting for more conservative protocols may be interesting to preserve the side effects of certain drugs.

4. CONCLUSION

The most common dermatological manifestations of granulomatous sebaceous adenitis involve varying degrees of alopecia, hyperkeratosis, and seborrhea. Regardless, changes in hematological or biochemical tests encourage the veterinarian to search for other comorbidities.

Even if the affected patients do not present the most severe form of the disease, it may be necessary to maintain topical therapy for an indefinite period, aiming to remission clinical signs.

ADENITE SEBÁCEA EM CÃO AKITA – RELATO DE CASO

RESUMO

A adenite sebácea granulomatosa é caracterizada como uma disqueratose crônica, idiopática e de baixa prevalência na população canina. Esta doença decorre da degeneração e atrofia das glândulas sebáceas, e até o momento não foram atribuídas causas conhecidas, mas estudos suspeitam do envolvimento genético, resposta autoimune ou anomalias anatômicas da glândula. A adenite sebácea acomete mais frequentemente cães da raça Akita, Samoieda e Poodle, que inclusive costumam manifestar este distúrbio de forma mais grave. Os achados incluem piodermite local ou generalizada, alopecia, hiperqueratose e seborreia. O diagnóstico é definido pelo exame

histopatológico, após descartar outras doenças dermatológicas ou sistêmicas. Neste trabalho contém o caso de uma canina, Akita, com 5 anos, diagnosticada com adenite sebácea granulomatosa e pseudociese. A mesma foi submetida à ovariossalpingohisterectomia e correção das alterações reprodutivas, além do início da terapia tópica com xampu queratolítico, óleo mineral e ômega-3, apresentando resposta totalmente satisfatória, após 3 meses da intervenção. Atualmente a paciente teve remissão clínica de todas as manifestações e se encontra com boa qualidade de vida.

PALAVRAS-CHAVE: alopecia; dermatopatia crônica; disqueratose; rarefação pilosa.

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