

## **PRIMARY INTRANASAL TRANSMISSIBLE VENEREAL TUMOR WITH BONE LYSIS OF THE MAXILLA AND METASTASIS. CASE REPORT.**

*(TUMOR VENÉREO TRANSMISSÍVEL INTRANASAL PRIMÁRIO COM LISE ÓSSEA DO MAXILAR E METÁSTASE. RELATO DE CASO.)*

*(TUMOR VENÉREO TRANSMISIBLE INTRANASAL PRIMARIO CON LISIS ÓSEA DEL MAXILAR Y METÁSTASIS. RELATO DE UN CASO.)*

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### **ABSTRACT**

The present work objectified to tell the case of a dog, male, cross-breed, 10 years of age, with report of sporadic epistaxis and slow growth of a mass, there are approximately four months, on the nasal cavity and, that in the last 10 days there was worsening with ulceration appearance. To the physical exam, hypertermia of 39,6°C, dear dehydration was verified in 5%, mucous and purulent nasal discharge, sneezes, crackling of structures bony in the maxillary and splenomegaly. The exam hematologic revealed a leucocytosis picture. To the head's exam radiografic and abdominal cavity, in projection laterolateraly, it was evidenced lisis and bony reabsorption of the maxillary and presence of amorphous mass in spleen, respectively. The cytology aspirative with fine needle of the mass on the nasal cavity, revealed presence of compatible cells with TVT. The animal came to death hours after the attendance. Picked fragments of the nasal mass and spleen for exam anatomopatologic, they allowed the confirmation diagnostic of TVT with metastasis in spleen.

**KEYWORDS:** Dog. Venereal transmissible venereal disease. Nasal cavity. Metastasis.

### **RESUMO**

O presente trabalho objetivou relatar o caso de um cão, macho, mestiço, 10 anos de idade, com histórico de epistaxe esporádica e crescimento lento de uma massa, há aproximadamente quatro meses, sobre a cavidade nasal e que nos últimos 10 dias houve agravamento com surgimento de ulceração. Ao exame físico, constatou-se hipertermia de 39,6°C, desidratação estimada em 5%, corrimento nasal mucopurulento, espirros, crepitação de estruturas óssea no maxilar e esplenomegalia. O exame hematológico revelou um quadro de leucocitose. Ao exame radiográfico da cabeça e cavidade abdominal, em projeção laterolateral, evidenciou-se lise e reabsorção óssea do maxilar e presença de massa amorfa em baço, respectivamente. A citologia aspirativa com agulha fina da massa sobre a cavidade nasal, revelou presença de células

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compatíveis com TVT. O animal veio a óbito horas após o atendimento. Fragmentos colhidos da massa nasal e baço para exame anatomopatológico permitiram a confirmação diagnóstica de TVT com metástase em baço.

**PALAVRAS-CHAVE:** Cão. Tumor venéreo transmissível. Cavidade nasal. Metástase

## RESUMEN

El objetivo del present trabajo fue relatar el caso de un can, macho, mestizo, de 10 años de edad, con historico de epistaxis esporadica y crecimiento lento de una masa, con aproximadamente cuatro meses, sobre la cavidad nasal y, que en los ultimos 10 días tuvo un agravamiento con surgimiento de ulceracion. Al examen físico, se constato hipertermia de 39,6°C, desidratación estimada en 5%, corrimiento nasal mucopurulento, estonudos, crepitaciones de estruturas oséas en el maxilar y esplenomeglia. El examen hematologico revelo un cuadro de leucocitosis. Al examen radiografico de la cabeza y la cavidad abdominal, en proyección laterolateral, se evidencio lisis y reabsorción osea en el maxilar y presencio de una masa amorfa en el baso, respectivamente. La citologia aspirativa con aguja fina de la masa sobre a cavidad nasal, revelo celulas compatibles con TVT. El animal murio horas despues del atendimento. Fragmentos recogidos de la masa nasal e baso para examen anatomopatologico, permitio la confirmación diagnostica de TVT con metastasis en el baso.

**PALABRAS-CLAVES:** Perro. Tumor venéreo transmisible. Cavidad nasal. Metastasis

The oral cavity and paranasal sinuses neoplasms are rare in most of the domestic animal species. Apparently, these tumors occur in dogs twice as frequently as in cats, and the published prevalence varies from 0.3% to 2.4% of canine tumors. The rate of metastasis is usually low, as it happens at the end of the natural cycle of these tumors (GINEL et al., 1995, LANA e WITHROW, 2001).

The transmissible venereal tumor (TVT) is among those which compromise the nasal cavity and paranasal sinuses, also known as Sticker Sarcoma. It is a neoplasia presently included in the group of the so called "Round Cells Tumors", along with the mast cell tumor, basal cell carcinomas, lymphomas and histiocytomas (DUNCAN e PRASSE, 1979). The evidence of TVT has been identified in all continents, where the tropical and subtropical climate zones, as well as big cities show more prevalence (ROGERS et al., 1998).

Rogers et al. (1998) assert that the TVT is a neoplasia of natural occurrence, relatively common in dogs, and it does not have a predilection for sex and/or breed. It presents major incidence in animals of age restrict to a higher level of sexual activity and in countries where the dog population is not subject to a rigorous epidemiological control. It is usually transmitted by the coitus, affecting the canine genital organs mucous; it is more frequent in the penis and prepuce of males, and in the female vagina and vulva (COHEN, 1985). It may affect the skin by the implantation of tumoral cells through licking or direct contact, in sites where there was a cutaneous lesion (ROGERS et al., 1998). Although the metastasis is considered uncommon, there are case reports of metastasis in 5% of the cases (NIELSEN et al., 1990).

Therefore, the objective of this work is to report the clinical and radiographic alterations that occur in the tissues and systems affected by the primary intranasal

transmissible venereal tumor with evidence of metastasis.

The reported animal was a ten years old cross-breed male dog, admitted at the West Shop Veterinary Clinic (Fortaleza-CE), with a description of sporadic epistaxis and slow growth of a mass in the nasal cavity, for approximately four months; in the last ten days the condition became worse and an ulceration appeared.

During the physical examination it was possible to verify that the animal had dyspnea, rectal temperature of 39.6°C, 5% estimated dehydration, lethargy, lack of appetite, halitosis, mucous and purulent nasal discharge, sneezing and pulmonary stertor with pulmonary wheezes. It was also observed that there was a hypertrophy of mandibular lymphonodes, evidence of a facial tumefaction palpable in the maxilla of soft consistency and adhered, extending itself from the bilateral nasal sinus to the frontal sinus region (frontal bone); it was more severe on its left side (Figure 1). There was crepitation of bone structures in the maxilla during the palpation. There was no air passage through the left nasal fossae and little passage through the right nasal fossae. In the maxilla's dentary arcade, the canine and premolar teeth one, two and three, on both sides, there was full mobility and no support. Immediately caudal to the left canine tooth, the hard palate was ulcerated, with exposure of the nasal cavity. During the abdominal palpation, there was splenomegaly with evidence of a potential neoplastic mass in the spleen. The animal showed signs of dementia and disoriented pace.

Given the physical examination findings, complementary exams were pursued. The hemogram showed discrete anemia, decreased hemoglobin values and hematocrit, increase of the total plasmatic proteins, as well as hemocytes with erythrocytic roleaux, discrete left shift regenerative leucocytosis and reactive lymphocytes

in 18%. The culture from the nasal discharge resulted in a microbiota formed by fragments of Gram positive cocci, with isolation of negative coagulase *Staphylococcus* and Beta-hemolytic *Streptococcus*. The radiographic evaluation of the head in laterolateral and position with the mouth open revealed an increase of soft tissue density, destruction of nasal and paranasal sinuses, nasal turbinates and bone reabsorption of the maxilla (Figure 2). In the abdominal radiography, in laterolaterally positions, there was abdominal distension with evidence of splenomegaly and an amorph mass of undefined nature located in the spleen. Laterolateral radiographic evaluations of the torax did not show metastasis.

Due to its clinical condition, the animal died hours after admission at the clinic. A necropsy was performed, where there was an evident and complete obstruction of the left nasal passage caused by the tumor, with bilateral bone destruction of the maxilla involving the dental alveolous of the canine and premolar teeth. The neoplastic mass infiltrated itself through the cribiform plate, with small adherence to the encephalic mass on the left side (Figure 3 and 4). The spleen was increased in size, with metastasis, and there was no observation of metastasis in any other organ. The mass identified in the spleen was approximately 12 cm in diameter and weighed 1.6 kilograms (Figure 5).

In the aspiration cytology exam of the nasal mass, there was a sample made of subacute inflammatory infiltrate, with predominance of round cells of either centric or excentric nucleus and citoplasmatic inclusions. The histopathological analysis revealed the presence of round cells of centric and excentric nucleus, rough cromatin of cordonal aspect and a cytoplasm eventually vacuolized, mixed to a large number of typical and atypical mitotic figures and numerous neutrophiles, lymphocytes and macrophages, compatible with the morphology of a transmissible venereal tumor (Figure 6). Cells compatible with the TVT morphology were also found in the material collected from the mass located in the spleen and brain.

In this report, the identification of an animal with an intranasal transmissible venereal tumor is in accordance with the epidemiological data mentioned in the literature (ROGERS et al., 1998, MacEWEN, 2001), and, although it is a rare pathology of dogs, the increased incidence is due to their wandering way of life (ROGERS et al., 1998).

The clinical signs mentioned for Papazoglou et al. (2001) to coincide with the signs reported in this case, where the epistaxis and the nasal discharge were the first signs showed. However, it is noteworthy that most of the

clinical signs associated to the intranasal TVT are similar to signs of other tumors that occur in the same location. Clinical signs such as tumefaction of the facial region, sneezing, dyspnea, ocular discharge, bleeding through the oral cavity and convulsions may be present (MADEWELL e THEILEN, 1987, PAPAZOGLU et al., 2001).

The laboratory findings indicated leucocytosis with left shift, certainly caused by the secondary bacterial infection. It becomes difficult to indentify nasal tumors in its initial stage through radiographies (GINEL et al., 1995, LANA e WITHROW, 2001), where, in this case, the radiographic evaluation proved to be an effective method to identify the density increase in the soft tissues, bone lysis, alteration of the turbinates normal pattern and to visualize increase and deformity of the spleen.

To Nayak et al. (1987), the clinical history, physical examination, radiographic findings are very important to the diagnosis of this infection, although the definitive diagnosis is done by the cytological and histopathological evaluation. In this case, the cytological and histopathological evaluation highly contributed to the elucidation of the definitive diagnosis, as the lesions resulted in considerable bone destruction that, in this study, may be either due to the presence of neoplasm or to severe intranasal fungal or bacterial infections (RUDD e RICHARDSON, 1985).

Although the transmissible venereal tumor located in the nasal and paranasal sinuses shows a more favorable prognostic, compared to other tumors (OGILVIE et al., 1989, LANA e WITHROW, 2001), in this study, the prognostic of the this dog was certainly obscure, as there was destruction of the cribiform plate extended to the brain, explained by the presence of neurological signs such as dementia and disoriented pace.

The tumor found in the nasal cavity is primary in nature, since there was no finding of primary involvement of the external genitalia, and this type of neoplasia presents typical characteristics such as the need of direct contact for implantation of the tumoral cells. Although it is not common to find a metastasis associated to the TVT (ROGERS et al., 1998), in this case report, it was possible to observe the presence of an amorph mass in the spleen, suggestive of metastasis, certainly caused by migration of the neoplastic cells from its primary origin through the hematogenic route.

In this reported case it is interesting to emphasize that the transmissible venereal tumor must be considered as diferencial diagnosis in the cases of neoplasms of the nasal cavity, as it acquires characteristics such as being rare, destructive and with the potential of developing metastasis.



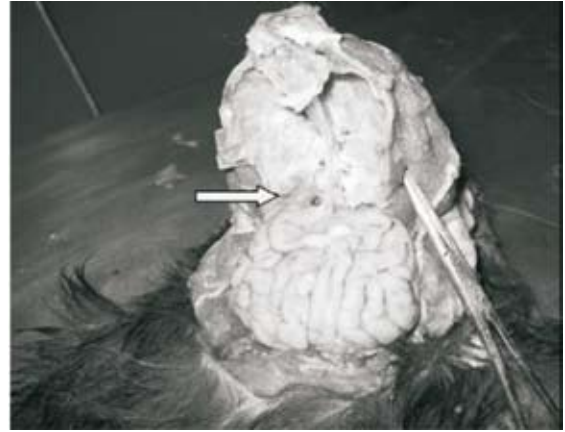
**Figure 1** – Photographic image of a dog with nasal TVT showing facial tumefaction with ulceration and bilateral mucous and purulent discharge.



**Figure 2** – Lateral radiography of a dog's cranium with nasal TVT. Notice the increase in the soft tissue density, lysis of the nasal and paranasal sinuses and dental dislocation.



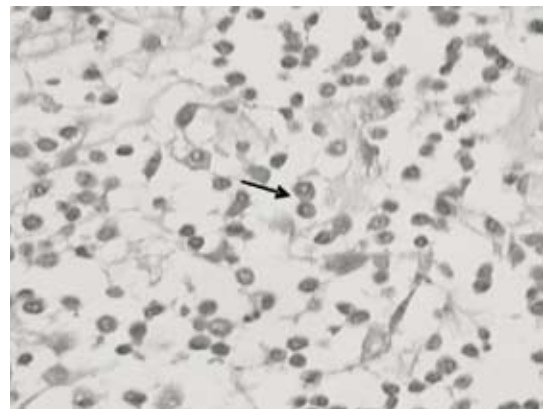
**Figure 3** – Photographic image of a dog with TVT evidencing the compromising of the bilateral nasal cavity and front portion of the head.



**Figure 4** – Photographic image of a dog with TVT revealing destruction of the plate cribiforme with compromising of the mass encefálica (arrow).



**Figure 5** – Photographic image of the spleen of a dog with metastasis of TVT, with presence of presence of amorphous mass and esplenomegaly.



**Figure 6** – Microphotograph evidencing presence of round cells of centric and excentric nucleus, rough cromatin of cordonal aspect and a cytoplasm eventually vacuolized, mixed to a large number of typical and atypical mitotic figures (arrow).

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