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Olgu Sunumu ***Case Report***

Morphoathological Description of an Extra Genital Canine Transmissible Venereal Tumor

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Abstract

The transmissible venereal tumor (TVT) is a contagious and sexually transmissible neoplasia of unknown origin. In natural conditions the tumor mainly affects the external genitalia of both male and female dogs. A 6-year old male German shepherd dog, weighing 16 kg was presented for evaluation of a mass on the nasal cavity which the owner had noticed 2 months ago. Clinical examination revealed multiple nodular ulcerated lesions of varying sizes from 1 to 3 cm in diameter over the nasal cavity. The tumor mass had a firm consistency, was hyperemic and ulcerated. Histopathological examination showed uniform-sized dense cells arranged in solid sheets and clusters interlaced by a little connective-tissue stroma. The cells were round and ovoid, with a moderate amount of cytoplasm that was either clear or finely granular and had a large nuclear/ cytoplasmic ratio. On the basis of the clinicopathological findings, this mass was diagnosed as a transmissible venereal tumor.

Introduction

The transmissible venereal tumor also known as infectious sarcoma, venereal granuloma, transmissible lymphosarcoma or Sticker tumor, is a contagious and sexually transmissible neoplasia of unknown origin and, in natural conditions, only affects dogs, that mainly affects the external genitalia of both male and female animals (Goldschmidt and Hendrick, 2002; Mukaratirwa and Gruys, 2004). According to the locations of the mass present, the tumor classified into two groups, genital TVT and extragenital TVT (Das and Das, 2000). Extragenital TVT is occurred by social contact, like sniffing or licking while genital TVT is transmitted via natural mating (Otomo et al., 1981). They often present in the penis, prepuce, or vulva as ulcerated masses and easily bleed in this area. In addition, it can also be found in other areas such as the nasal cavity, oral cavity, and other skin (subcutaneous) areas. Transmission of the tumor among dogs and other canids can be occurred via coitus, licking, biting, and sniffing of affected areas (Das and Das, 2000). The neoplasia has spread worldwide, but is prevalent in tropical and subtropical climates (Ferreira et al., 2000), mainly in countries with large populations of Mongrel Street dogs (Papazoglou et al., 2001).

TVTs are immunogenic tumors, and it has been demonstrated that the body's immune response of the host has a main role in progression and metastasis. Tumors may have a greater tendency to metastasize in young dogs, immunosuppressed dogs and dogs in poor condition Metastases have been reported in the nasal cavity, oral cavity, skin, sclera, brain, subcutaneous tissue, lymph nodes, tonsils, liver, spleen, peritoneum, and bone marrow of 5–17% of cases (Prasad et al., 2007; Santos et al., 2008). The present report describes a case of extra genital canine transmissible venereal tumor.

Case

A 6- years old male German shepherd dog, weighing 16 kg was presented to the Clinic. The dog was presented for evaluation of a mass on the nasal cavity which the owner had noticed 2 months ago. Clinical examination revealed multiple nodular ulcerated lesions of varying sizes from 1 to 3 cm in diameter over the nasal cavity. The tumor mass had a firm consistency, was hyperemic and ulcerated. Clinical evaluation of the

animal showed no abnormalities and tumors were not found anywhere else.

After macroscopical examinations, the mass was fixed in 10% formalin, processed routinely and embedded in paraffin. Paraffin blocks were sectioned at 5 µm and stained with haematoxylin and eosin (H&E).

Histopathological examination showed uniform-sized dense cells arranged in solid sheets and clusters interlaced by a little connective-tissue stroma (Figure 1). The cells were round and ovoid, with a moderate amount of cytoplasm that was either clear or finely granular and had a large nuclear/ cytoplasmic ratio (Figure 2). Nuclei was hyperchromatic and contained one or more prominent nucleoli. Presence of numerous mitotic figures was observed in some of the neoplastic cells (Figure 3). In some of areas infiltration of inflammatory cells such as lymphocytes were seen.

Based on the clinicopathological findings, transmissible venereal tumor was diagnosed.

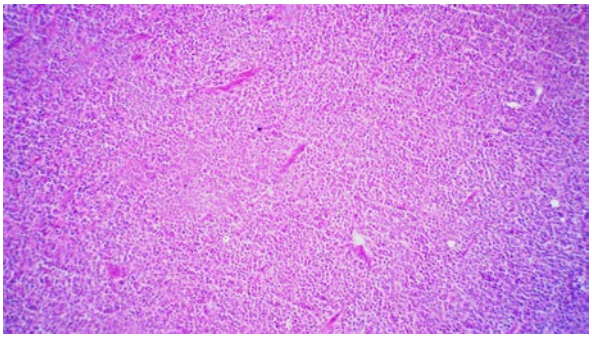

Figure 1. TVT. Uniform-sized dense cells are arranged in solid sheets and clusters interlaced by a little connective-tissue stroma (H&E, ×200).

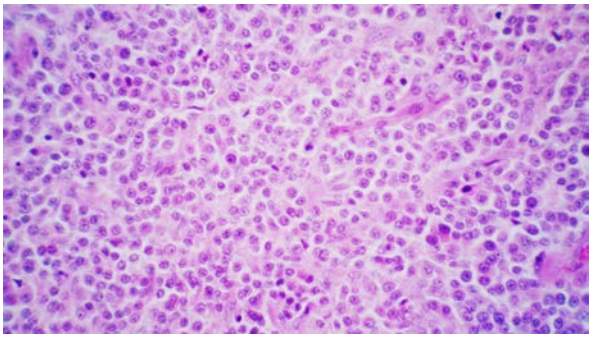

Figure 2. The cells are round and ovoid, with a moderate amount of cytoplasm and a large nuclear/ cytoplasmic ratio (H&E, ×800).

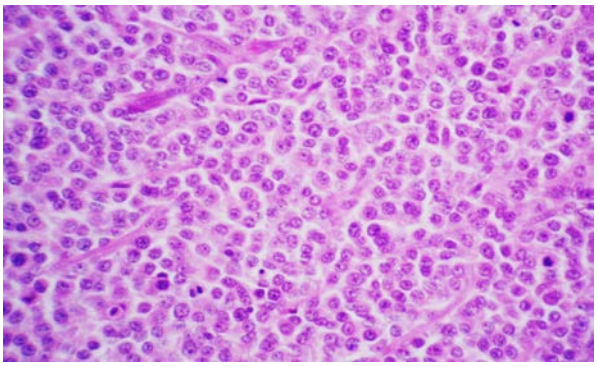

Figure 3. Nuclei of the neoplastic cells is hyper-chromatic and contained one or more prominent nucleoli. Numerous mitotic figures are observed in some of the neoplastic cells (H&E, ×800).

Discussion

Transmissible venereal tumors mainly affect the external genitalia and occasionally the internal genitalia of dogs. Due to the unique nature of transmission by sexual contact, the external genitalia of either sex are most commonly affected. Less commonly, the tumor may also be transmitted to the nasal or oral cavities, skin, and the rectum by sniffing or licking (Mukaratirwa and Gruys, 2004; Park et al., 2006). In this case, the tumor was determined in the nasal cavity that may be sniff or lick the other affected dog.

Macroscopically, the tumor may be highly fragile consistency, single or multiple, nodular or pedunculated, ranging from a small nodule varied from 0.5 to 10 cm (Goldschmidt & Hendrick, 2002). In this case, clinical examination revealed multiple nodular ulcerated lesions of varying sizes from 1 to 3 cm in diameter over the nasal cavity. The tumor mass had a firm consistency, was hyperemic and ulcerated.

The histopathlogical features in the case in the present study were similar to those described earlier in genital and extragenital TVT in dogs (Das and Das, 2000; Mukaratirwa and Gruys, 2004; Park et al., 2006; Temitope et al., 2010, Coskan et al., 2011; Behera et al., 2012).

The nature of mating can cause injuries to the delicate vaginal and penile mucosa, which enables efficient transplantation of the tumor cells between individuals (Cohen, 1985). However, other routes of transmission have also been described, including licking, sniffing, scratching and biting of affected areas (Behera et al., 2012). The nasal location of TVT in this case is thought to result from implantation of tumor cells in the nasal cavity because of nasal genital sniffing habits of

the dog. Transmission can also occur through dogs' normal social behavior when they lick, sniff, scratch, or bite at their own genitalia (autoimplantation) or if they lick the genitalia of an affected dog (heteroimplantation) (Das and Das, 2000).

Metastases of the tumors which commonly affect regional lymph nodes occur in less than 5% of cases (Das and Das, 2000). In this case regional lymph nodes were normal and no metastases were observed. In the present case the diagnosis was made early with histopathologic examination and the animal recovered uneventfully.

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