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Unusual transmissible venereal tumor in a dog

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Abstract

A Street male dog aged two years was presented with an unusual growth at scrotum which was treated for Transmissible Venereal Tumor (TVT) with vincristine sulfate at weekly interval for 3 weeks. The tumor mass reduced completely at 3th week. The dog became fit for next conception and no recurrence was noticed.

Keywords: Male dog, transmissible venereal tumor, vincristine sulfate

Introduction

Transmissible venereal tumor (TVT) still bears the name of infectious sarcoma venereal granuloma, transmissible lymphosarcoma or Sticker tumor ^[1]. TVT is a reticuloendothelial tumor of the dog, which is usually localized at genitalia, occasionally at the level of internal organs ^[2]. It is a contagious cancer that is transmitted along with viable cells and fails to cross the barriers of the major histocompatibility complex between dogs and between family members in the Canidae family such as foxes, coyotes and jackals ^[3]. TVT was first described by Novinsky in 1876, which showed that the tumor could be transplanted from one susceptible host to another by inoculation of tumor cells. The transmissible agent causing canine transmissible venereal tumor (CTVT) is thought to be the tumor cell itself. Numerous cases of TVT in the free dog populations of Romania have favored the spread of tumors and transmission of chemotherapy resistance from one dog to another. It usually responds very well to polychemotherapy, although there are areas with small populations which show satisfactory results to monochemotherapy ^[4].

Canine transmissible venereal sarcoma (CTVS) is usually a sexually transmitted neoplasm of the external genitalia of dogs. This tumour is unique in oncology because it was the first tumour to be transmitted experimentally, this being achieved by the Russian veterinarian Nowinsky in 1876. Canine transmissible venereal tumor (CTVT) is also known by various names such as stickers tumor, venereal granuloma, canine condyloma, transmissible sarcoma, transmissible lymphosarcoma, histiosarcoma. It is a tumor of the dog and other canids that mainly affects the external genitalia and is transmitted from animal to animal through sexual contacts but may also be passed on as the dog bites, sniffs or licks the tumor affected areas ^[5]. CTVT is a tumor, which has the highest percentage of incidence in canines and yet the cause of the tumor is obscure. It is unique tumor that can be transplanted across the major histocompatibility barrier by viable tumor cells.

Transmissible venereal tumor (TVT) still bears the name of infectious sarcoma venereal granuloma, transmissible lymphosarcoma or Sticker tumor ^[1]. TVT is a reticuloendothelial tumor of the dog, which is usually localized at genitalia, occasionally at other sites ^[2]. It is a naturally occurring contagious round cell tumor of dogs. It is the only known naturally occurring tumor that can be transplanted as an allograft across major histocompatibility barriers within the same species, and even to other members of the canine family, such as coyotes, foxes, and wolves ^[6]. Due to the unique nature of transmission by sexual contact, the external genitalia of either sex (vagina and vulva in female and penis and prepuce in males) are most commonly affected ^[4]. The present report describes a successful treatment of TVT in a male dog.

Case history and observation

A two year old street dog was presented with the history of tumorous growth and continuous bleeding from the penile region for the past one week Fig 1. The Dog was mated by a street bitch in breeding season in breeding season. The general clinical examination of the dog revealed a pale mucus membrane, body temperature of 38.4°C, respiration rate of 13/min.,

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and heart rate of 74/min. On external penile examination, in the penile region approximately 8 cm diameter outgrowth which was bleeding continuously. By gross examination of the dog the case was diagnosed as TVT and further it was confirmed by identifying the tumor cells in the impression smear made from the growth.



Fig. 1: Tumorous growth in penile region

Treatment and Discussion

The dog was administered with inj. Vincristine sulfate (Paracristine-1, 1 mg/ml, Parental drugs (India) Ltd.) @ 0.025 mg/kg (strict i/v along with normal saline) body weight. To control the secondary bacterial infection over the tumor mass it was administered with inj. Amoxicillin and clavulanic acid @ 5 mg/kg body weight. The antibiotic treatment was continued for one week. The dog was administered with the inj. Vincristine sulfate continuously for 3 weeks at weekly interval. There was a gradual reduction in the size of the tumor mass and on 3rd week it was completely regressed fig.2. There was no evidence of tumor mass by 3rd week. The dog have conceive another bitch and no transmission of the TVT.

Canine transmissible venereal tumors (TVT) are cauliflower-like, pedunculated, and nodular, papillary, or multilobulated in appearance (Feldman and Nelson, 1996). They range in size from a small nodule (5 mm) to a large mass (>10 cm). The surface of the tumor is often ulcerated, inflamed and bleeds easily. TVT may be solitary or multiple and are almost always located on the genitalia. They may be transplanted to adjacent skin and oral, nasal, or conjunctival mucosae. Sometimes the tumor may arise deep within the prepuce or vagina.



Fig 2: Reduction of tumorous growth and complete recovery

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