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Transmissible venereal tumour in a stray mongrel bitch: Impact of veterinary intervention on animal welfare, a case report

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Abstract

The stray dog menace is a public health problem prevailing in many parts of the world. The public usually panics and develops abhorrence on citing of ailing dogs. Especially the ones which are suffering from maggot wounds and open infected tumours due to the foul odour and the wandering behaviour of animals that are in pain. A case of wandering ailing mongrel bitch with pedunculated growth on the external genitalia was reported from the Kollam town region to the Animal Hospital and Shelter, PFA-Kollam Chapter. The animal was rescued and brought to the animal hospital and shelter. Clinical examination revealed a pale mucus membrane, normal rectal temperature, cachexia and a nodular, papillary multilobulated, cauliflower-like pedunculated proliferations on the genitalia. Exfoliative cytology of the lesion confirmed a transmissible venereal tumour. Animal was isolated and therapeutic management with chemotherapy and supportive therapy was initiated. Inj Vincristine Sulfate was administered intravenously, and vitamin supplements and enriched feeding was given. An uneventful recovery was noticed in the seventh week. An ovariohysterectomy was done before the release of the animal to the same place. The veterinary intervention had a great impact on the quality of the life and enhanced the welfare of the animal.

Keywords: Transmissible venereal, rabies, leptospirosis, echinococcosis, veterinary intervention

Introduction

In developing countries like India, stray dogs share common space with humans. Stray dogs render services such as reducing the accumulation of food waste, pest control and companionship to the public [8]. The stray dog menace is a public health problem prevailing in many parts of the world. They become aggressive, create a nuisance, and serve as reservoirs of several zoonotic infections like rabies, leptospirosis, echinococcosis etc. The public usually panics and develops abhorrence on citing of ailing dogs. Especially the ones which are suffering from maggot wounds and open infected tumours due to the foul odour and the wandering behaviour of animals in pain. The intense disgust further develops into cruel actions like injuring them with stone pellets, beating them with sticks and poisoning them to drive away or to kill them.

Transmissible venereal tumour (TVT) is otherwise known as sticker tumour, infectious sarcoma, venereal granuloma or transmissible lymphosarcoma. TVT is a benign reticuloendothelial tumour of the canines that affects the external genitalia and occasionally internal genitalia. Sporadic reports of TVT in other locations like muzzle, oral cavity and eye are reported. As the name suggests it gets transmitted between animals during the course of coitus and sexual behaviours of dogs like sniffing the genitalia of the bitches in heat [3]. The occurrence of TVT is more in sexually mature animals and is also reported in wild canids [5, 9]. The immune status of the animal has a role in the severity of the disease [4].

Diagnosis of TVT is based on clinical examination and cytology of the lesion. Treatments include surgical removal, radiation therapy, immunotherapy and chemotherapy. Surgical removal is widely used for small, localised TVTs, but there is a high chance of reoccurrence [11]. Chemotherapy is one of the most effective and practical treatments.

Materials and Methods

Case History: A case of ailing mongrel bitch with pedunculated growth on the external genitalia that was wandering in the Kollam town region was reported to the Animal Hospital and Shelter, PFA-Kollam Chapter.

The animal was rescued following standard procedures [1] and brought to the animal hospital and shelter. On further investigation, it was found that the animal was an inhabitant of the location for more than a year. For the past one month, an abnormal progressive growth in the genitalia was noticed with the condition of the animal deteriorating.

Clinical Observation

Clinical examination revealed a pale mucus membrane, normal rectal temperature (102.2^oF), normal heart rate (76 beats per minute) and respiratory rate (30 breaths per minute), cachexia and a nodular, papillary multilobulated, cauliflower-like pedunculated proliferations on the genitalia (Fig 1). Exfoliative cytology of the lesion confirmed a transmissible venereal tumour (Fig 2). Haematological and biochemical parameters were found within the normal range for the species (Table 1). The body weight of the animal was

measured using a modified digital weighing scale and bitch weighed eighteen kilograms.

Table 1: Haematological analysis

Parameters	
Hb (g/dl)	12.1
PCV (%)	32.2
TEC (10 ⁶ /cm)	3.94
TLC (10 ³ /cm)	13.8
Neutrophils %	68
Lymphocytes %	32
Monocytes%	0
Eosinophils%	0
Basophil%	0
Platelet count (10 ⁶ /cm)	290
BUN (mg/dl)	16.8
Creatinine (mg/dl)	0.5

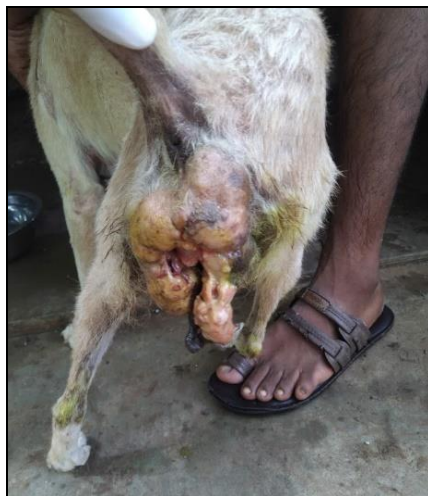


Fig 1: Pedunculated growth in the external genitalia



Fig 2: Exfoliative vaginal cytology

Treatment

The animal was isolated to prevent the transmission of tumours to other animals in the shelter. Therapeutic management was initiated with chemotherapy and supportive treatment. Inj. Vincristine Sulfate, at the dose rate of 0.025 mg/kg b.w. strict intravenous injection at weekly intervals for six consecutive weeks. Oral commercially available vitamin supplement (Syrup PET UP) 5 ml once daily. A balanced enriched diet was formulated with boiled rice, chicken and beef and once-a-day feeding was practised.

Results

An uneventful recovery was noticed by the seventh week (Fig. 3, 4). After complete recovery, the animal was subjected to ovariohysterectomy and Anti rabies vaccination (ARV) following standard procedures for the animal birth control programme (ABC) stipulated by the Animal Welfare Board of India [1]. Bitch was successfully relocated to its natural territory from which it was rescued. Further review revealed that residents were happy to accept the healthy bitch back into the locality.



Fig 3: Sixth-week



Fig 4: Seventh week

Discussion

Stray animal menace is one of the major problems of public health. Effective population control of stray animals through animal birth control programmes and proper waste disposal is essential. At the same time satisfying the welfare of these animals have to be considered as a public responsibility. Ailing animals are often subjected to violence to drive them away or to kill them. As they create panic and abhorrence among the public. The welfare of these animals is questionable. Rescue of these animals and timely veterinary intervention is necessary to assure the animal welfare. In this case study, it was found that a timely veterinary intervention had a great impact on the welfare of the animal. According to the guidelines of the Animal Welfare Board of India, the street dogs have to be released back into the original place from which they are captured ^[1]. A successful release of the bitch in its natural territory helps the animal to survive better expressing its natural behaviour.

Transmissible venereal tumour of canines has worldwide distribution and it was reported that animal birth control programmes bring down their prevalence in free-ranging animals ^[10]. Definitive diagnosis can be made by exfoliative cytology by detecting the typical round to slightly polyhedral cells with nuclear Pleomorphism, chromatin condensation, cytoplasmic vacuoles and a high nucleus-to-cytoplasmic ratio ^[6]. Chemotherapy is considered as the practical and effective treatment for TVT. Antimitotic agents like cyclophosphamide, methotrexate, vincristine, vinblastine or doxorubicin are used for chemotherapy with vincristine sulphate being the most frequently used drug ^[2, 7]. Vincristine sulphate is administered at a dose rate of 0.5 to 0.7 mg/m² of body surface area or 0.025 mg/kg as a strict intravenous injection weekly ^[2]. The involution of the lesions is slow, although it is significant at the beginning of the treatment.

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