

Management of Sertoli Cell Tumor and Gynecomastia in a Rabbit

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Abstract

Unilateral Sertoli cell tumor and gynecomastia were diagnosed in an adult buck. The tumor was composed of palpable unilateral subcutaneous mass. Close observations showed significant enlargement of nipples and caudal enlargement of subcutaneous masses. Bilateral orchiectomies and removal of tumor mass were performed. Normalization of gynecomastia was recorded within two months after surgery.

Keywords: Gynecomastia; rabbit; sertoli cell tumor

Introduction

Testicular neoplasms are not commonly found in rabbits (Banco *et al.*, 2010). The most prevalent are interstitial cell tumors (Zwicker and Killinger, 1985) followed by seminoma (Roccabianca *et al.*, 1999). Sertoli cell tumor occurs quite frequently in comparison to interstitial cell tumors (Doxsee *et al.*, 2006). Its rarely found in extra testicular site. Hormonally active causing signs of endocrine imbalance like hyperestrogenism, feminization, gynecomastia, alopecia, bone marrow suppression and atrophy of contra lateral testicle are encountered along with sertoli cell tumor (Kennedy *et al.*, 1998).

History and Clinical signs

A five year old New Zealand white rabbit weighing 1.8 kg was presented with history of large size, wide, soft subcutaneous mass at ventral abdomen adjacent to penis along with gynecomastia. No scrotum was noticed on left side but a small right testis was identified. Ultrasonography investigation revealed subcutaneous partly fluid filled mass with heterogenous echogenicity. An ultrasound guided fine needle aspiration of the mass was obtained. The cytology samples were inclusive due to hemodilution. Radiography shows no abnormality in this region along with thorax.

As neoplastic lesion in left testis was suspected, castration was suggested. Pre-operative blood

samples were collected for hematologic and biochemical analysis which were found within normal range. The rabbit was advised for bilateral orchiectomy under general anesthesia.

The rabbit was fasted for twelve hours prior to surgery. Anesthesia was done with administration of Xylazine hydrochloride @ 5 mg/kg followed 10 minutes later by Ketamine hydrochloride @ 50 mg/kg both intramuscularly (Satheshkumar, 2005). An endotracheal tube was placed to visualize the glottis. The rabbit was placed in dorsal recumbency and the site was properly shaved and disinfected. The mass was identified and an incision was made laterally parallel to subcutaneous mass after blocking the spermatic cord with 2% Lidocaine along with subcutaneous area of skin incision. The subcutaneous tissues were gently dissected to isolate the mass as no such adhesions were found. Epididymis and spermatic cord was clearly identified. Macroscopically it was enlarged undescended left testicle. Left testicle was removed after ligation of blood vessel with 3-0 Polyglactin 910 suture followed by suturing of subcutaneous tissue and skin. Routine orchiectomy was performed to remove right testicle. Both testes were sent for histological findings.

Post-operative care included intravenous fluid therapy with 20 ml of Ringer Lactate solution once daily, Inj. Cefotaxime @ 25 mg twice daily and Susp. Meloxicam (Melonex^a) 0.5 mg/kg PO BD for five days. The rabbit recovered completely without complications. The animal was examined every fifteen days to observe the gynecomastia condition. Based on anatomical location and histological features of neoplastic lesion, diagnosis of intratubular

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Sertoli cell tumor in rabbit



Fig. 1: Rabbit in dorsal recumbency for surgery



Fig. 2: Surgery in progress



Fig. 3: Excised tumor



Fig. 4: Recovered animal with decrease of gynecomastia

Sertoli cell tumor was made. There was a dramatic decrease of gynecomastia after 15 days following surgery. Normalization of gynecomastia was noticed two months after surgery. All observations were made independently by several observers.

Discussion

Though testicular neoplasms are infrequent in rabbits but interstitial cell tumors, seminoma (Banco *et al.*, 2017) and bilateral testicular tumors are found. Moreover neoplastic lesion of seminoma, metastasizing seminoma, granular cell tumor and testicular gonadoblastoma are also described in rabbits (Suzuki *et al.*, 2011). In our case, the rabbit showed suspected neoplastic lesion in left testis with gynecomastia. The management and treatment of

Sertoli cell tumor and gynecomastia in rabbit was approached in same way as of other companion species. The rabbit underwent orchietomy and histological examination reveals intratubular sertoli cell tumor. The presence of Sertoli cell tumor in rabbit was first reported by Ness (1998). Among domestic animals, dogs are frequently found with this condition in cryptorchid testis but it has been reported in other companion animals like stallion, ram, cat and bull (Agnew and MacLachlan, 2017) and in human (Sesterhenn *et al.*, 2004). Regarding testicular pathology similar kind of structures like call-exner bodies are also found in bovine and canine Sertoli cell tumors as in rabbits (Banco *et al.*, 2010).

Sertoli cell tumor is the only testicular tumor that generally produces hormonal changes with clinical effects. The hyperestrogenism syndrome that characterizes most Sertoli cell tumors can be associated with bone marrow atrophy and death. As the risk of harmful effect of Sertoli cell tumors was increasing with presence of gynecomastia, early castration and removal of testicular neoplasm were performed. In gynecomastia associated with testicular tumors increased production of estrogen, decreased testosterone to estrogen ratio, increased production of inhibin by tumor cells and combination of these occurs (MacLachlan, 2002). Testicular tumor should be considered as underlying cause in such cases of gynecomastia and as serum hormone levels were not assayed in our rabbit, hence castration is recommended (Mac Lachlan, 2002) for better survival.

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Veterinarians occupy hot seat in KBC -13



Dr. Neha Bathla

Dr. Neha Bathla, a Field Veterinarian from Champawatt, Uttarakhand won 12.50 lac INR cash prize after answering a volley of questions by Megastar host Shri Amitabh Bachchan on 24th Aug 2021 at popular quiz show 'Kaun Banega Crorepati' (KBC).

Dr. Neha is employed with Uttarakhand Animal Husbandry department and has also worked as a nodal officer during the Covid pandemic. During the show, Dr. Neha Bathla highlighted that the efforts of Veterinary doctors are un-recognised in the society. She stressed that Veterinary is very tough profession since we have to treat animals who can't even speak for themselves.



Dr. Ashwani Sinha

On 30th Sept. 2021, another Veterinarian Dr. Ashwani Kumar Sinha from Bastar, Chhattisgarh took home Rs 6.4 Lakh INR from the sets of KBC. Dr. Sinha is working as Commandant (Vet) of 28th Battalion of Sashastra Seema Bal (SSB) at Antagarh in Kanker district. Dr. Ashwani Sinha has trained dogs and horses in SSB.