CASE REPORT
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DIAGNOSIS AND SURGICAL TREATMENT OF RIGHT PARAMEDIAN HEPATOID GLAND TUMOUR IN DOG

P. Mohan[1]*, K. Elangavan,[2] G.J. Renukaradhya, [3]
Santosh A. Sajjan[4] and Sashidhar Ballari[5]

[1]Associate Professor and Head, [3]Assistant Professor, Department of Veterinary Gynaecology and Obstetrics, [4]Assistant Professor and Head, Department of Veterinary Public Health, [5]Assistant Professor and Head, Department of Veterinary Pathology, Veterinary College, Gadag, Karnataka 582102
Karnataka Veterinary, Animal and Fisheries Sciences University
[2]Assistant Professor, Department of Veterinary Surgery and Radiology, Veterinary College and Research Institute, Salem, Tamil Nadu, India -636112
Tamil Nadu Veterinary and Animal Sciences University

Corresponding author: drmohantnr@gmail.com*

ABSTRACT

A male dog aged 9 years was presented to the Department of Veterinary Gynecology and Obstetrics, Veterinary College Gadag, with the history of a hard mass on the right paramedian side of the penis, measuring about 5cm which was noticed by the owner for the past three months. Surgical treatment was done under general anesthesia. Surgical excision of the tumor was done under pre-anesthetic drug Inj. Atropine @0.04mg/kg b.wt., and induction of anaesthesia by Inj. Xylazine @1mg/kg b.wt. and Inj. Ketamine 10mg/kg b.wt. I/M. A mixture of ketamine and diazepam at 1:1 ratio was used for maintenance intravenously. Complete excision of the tumor mass was performed and appropriate wound care led to an uneventful recovery. The histopathological findings revealed cells with a moderate degree of anisocytosis and multifocal infiltration of inflammatory cells, predominantly neutrophils and the mass was identified as a hepatoid gland adenocarcinoma. Post-operative treatment with antibiotics tab. cefotaxim and tab. Poochrex® aided wound healing.

Keywords: Preputial growth, Paramedian growth, Hepatoid gland adenocarcinoma, Tumor, Dog

INTRODUCTION

Neoplasia means ‘new growth’. A neoplasm is a growth of new cells that proliferate without control, serves no useful function and has no orderly arrangement. (Vegad, 2007). Hepatoid gland adenocarcinoma (HGA) is a malignant tumor seen in the perianal region in dogs,

mostly affecting sexually intact male dogs between 7 and 14 years of age (Simeonov and Radostin, 2008). These glands occur only in Canidae and are referred to as hepatoid glands because morphologically the cells resemble hepatocytes. This report presents a clinical and pathological finding of HGA and its surgical correction in an adult male dog. Dominant skin tumor origin was epithelial with 49.30 per cent, while tumors of mesenchymal origin were 45.30 per cent and those of melanocytic origin were 5.30 per cent of all skin tumors and tumor-like lesions in dogs. The general sex distribution of tumours in dogs was 56.40 per cent in male dogs and 43.60 per cent in female dogs (Sharif, 2006).

CASE HISTORY AND OBSERVATION

A male dog aged nine years was presented to the Department of Veterinary Gynecology and Obstetrics, Veterinary College Gadag, with the history of a hard mass on the right paramedian side of the penis. On observation, it was an outward growth and on palpation, it was found to be a hard-irregular mass, covered by skin, measuring 5cm in diameter. The animal's vitals, food intake and defecation were normal. Blood was collected in EDTA and serum activator blood collection tubes for hematological and biochemical tests, the values are given in Table-1. Radiography and hormone assay were not done due to financial constraints expressed by the owner.

Fig.1. Exposed paramedian mass

Fig. 2. Animal prepared for surgery

TREATMENT AND DISCUSSION

As preemptive analgesia, the animal was administered with Inj. Meloxicam at dose rate of 0.2mg/kg body weight and antibiotic Inj. Cefotaxime at dose rate of 20mg/kg before commencement of surgery. Inj. Atropine at dose rate of 0.04mg/kg was injected as pre anaesthetic. A mixture of Inj. Xylazine at dose rate of 1mg/kg and Inj. Ketamine at dose rate of10 mg/kg body weight was administered intramuscularly for induction of anaesthesia. For maintenance of anaesthesia, a mixture of ketamine and diazepam, in the ratio of 1:1

Table 1. Hematological and Biochemical Parameters

Serum Parameters	Values	CBC parameters	Values
SGOT/Aspartate aminotransferase (AST)	22.0 U/L	RBC	5.81 million/mm^3
Alkaline Phosphatase (ALP)	69.0 U/L	Hemoglobin	11.7 g/dL
SGPT/ Alanine aminotransferase (ALT)	41.0 U/L	WBC	18.8 x 10^3/mm^3
Total protein	8.2 g/dL	Neutrophils	71%
Albumin	2.6 g/dL	Lymphocytes	24%
Globulin	5.6 g/dL	Monocytes	5%
BUN	8.41 mg/dL	PCV	34.5%
Creatinine	1.04 mg/dL	Platelet	232 x 10^3/mm^3

Fig. 3: Appearance of mass

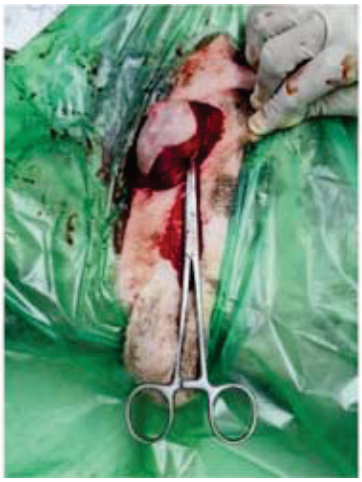

Fig. 4: Elliptical incision made over the mass

Fig. 5: Tumour mass before the excision

Fig.6: Surgical site after the excision

Fig.7 (a) : Commencement of suturing procedure

Fig.7 (b): Completion of skin suturing

was used intravenously.

The animal was positioned in dorsal recumbency and the site was prepared aseptically for surgery. The mass was held between the thumb and index finger of the left hand and an elliptical incision was made on the skin over the swelling giving sufficient space for skin apposition and mass was excised. The bleeding points were controlled using artery forceps and ligated using Ethicon Inc. Vicryl™ (polyglactin 910, size 2-0). Dead space was closed using Ethicon Inc. Vicryl™ (polyglactin 910, size 2-0). Skin was sutured with Ethicon Inc. Ethilon® (polyamide 6, size1) with cross mattress pattern.

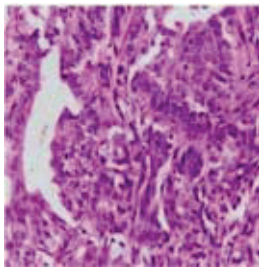

Fig. 8: Histopathology of paramedian growth (400X)

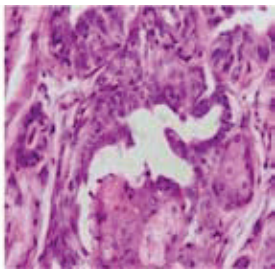

Fig. 9: Histopathology of testicle (macroscopically appearing normal), showing testicular degeneration (400X)

Antibiotic Tablet Taxim-O® 200 @ 10mg/kg body weight twice daily was given for a period of 7 days. Tablet Poochrex® Panav Biotech, Delhi, 110015 (Content- fungal and bacterial protease, *amla* extract, rutin, velarium root and magnesium) was given twice daily for 7 days to manage post-surgical pain. The wound was dressed once every two days and by 14 days, the suture was removed. The site healed uneventfully and the animal recovered well. After one month of surgery, follow-up showed no report of complications.

Fig.10: Site of incision 10 days post-surgery

The histopathological findings revealed cells with moderate degree of anisocytosis (Fig. 8) and multifocal infiltration of inflammatory cells predominantly neutrophils (Fig. 9) and found to be hepatoid gland adenocarcinoma. Histopathological examination revealed large sheets of poorly differentiated neoplastic cell population composed of cells organized in solid nests supported by fibrovascular stroma. The neoplastic cells

exhibited indistinct cell borders, round vesicular nuclei and multiple nucleoli. Occasionally, there were areas of sebaceous differentiation and metaplasia was noticed. Moderate anisocytosis, anisokaryosis and mitotic figures were noticed. This was found to be Hepatoid gland adenocarcinoma (poorly differentiated), (Fig.8). Castration was performed and macroscopically testicle that was surgically removed from the scrotal pouch appeared normal in size, appearance and surfaces; however, histopathology revealed degeneration of testis (Fig.9).

SUMMARY

Hepatoid gland adenocarcinomas (HGA) are malignant tumours arising from the circum anal glands, which are modified sebaceous glands (Venugopal *et al.,* 2014). However, in our case, the growth was observed at the right paramedian side of the penis. HGA accounts for 3 to 7 percent of all perianal neoplasm in dogs, mostly affecting sexually intact male dogs between seven and 14 years of age. (Simeonov and Radostin, 2008). Although not perianal, the case was presented in a dog, aged nine years old. It was reported by some other authors that, on gross examination, the mass was irregular, covered partially by skin and 6 cm x 5.5cm x 2.5 cm in dimension and appeared pale on cross section (Simon *et al.,*2017). The mass in the present case was covered with skin and measured5cm in diameter. Castration is the treatment of choice for hepatoid adenoma, as these tumours are hormone-dependent, and the vast majority of these tumours will regress following castration. Chemotherapy is recommended in addition to surgery because of high metastatic rate of these tumours. Radiation therapy can also be used to treat perianal adenocarcinoma, especially when surgery is not possible or there is residual cancer left after surgery. However, in our case the mass was surgically excised and removed.

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