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## Hemangioma in a carneau pigeon (*Columba livia domestica*): Case report

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### Abstract

An adult Carneau White Pigeon with a large mass (swelling) on its right shank (proximal region) was referred to the Surgery and Radiology unit of the Veterinary Teaching Hospital University of Maiduguri. A plain radiograph of the affected limb revealed a circumscribed noninvasive mass. Histopathology revealed hemangioma. Hemangioma rarely occurs in pigeon compared to other bird species. Differential leukocyte count showed slightly elevated lymphocytes level. Surgical intervention using local anesthesia (Bupivacaine) was carried out. Skin was sutured using surgical gut yielding a desirable result, recovery was fast and uneventful.

**Keywords:** carneau white pigeon, hemangioma, bupivacaine, chromic catgut

### Introduction

Hemangiomas are benign and solitary tumors of vascular origin and they comprise of vascular endothelial cells and small vessels in the dermis and subcutis (Grant *et al.*, 1988; Kim *et al.*, 2005) [1, 2]. They can occur in animals as well as birds. Morphologically, they are classified as cavernous hemangioma, capillary hemangioma, hemangioendothelioma and hemangioendotheliosarcoma (Zhang *et al.*, 2009) [9]. There are a number of reports of vascular tumors in chickens and cutaneous hemangioma is considered the most common especially in the broiler chicken (Nieberie and Cohrs 1952) [5]. Apart from the skin, they may also occur in other visceral organs like the spleen (Reece 1996) [7]. The rate at which a hemangioma enlarges cannot be predicted despite extensive studies on its lesions (Marler and Mulliken, 2005). This case report describes a case of hemangioma in a Carneau white pigeon.

### Case management

#### History

A one and half-year old male Carneau white pigeon was presented to the surgery unit of the University of Maiduguri Veterinary Teaching Hospital with a chief complaint of an abnormal swelling on the right shank (Proximal region). The enlarged mass on the right limb of this pigeon imparted a lot of weight thereby making the bird unable to fly. Surgical management is imperative.

#### Physical/clinical investigations

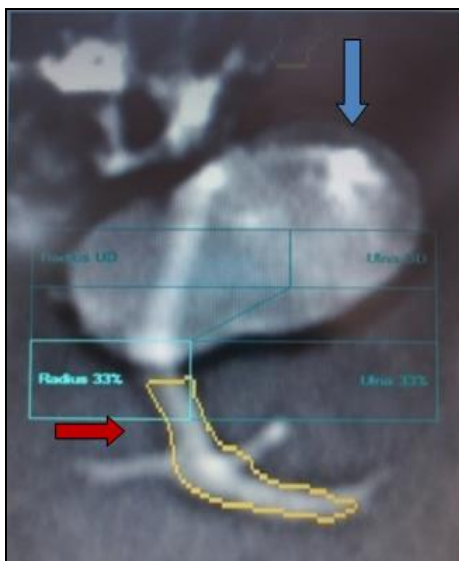
Physical examination (Figure 1) revealed a very large mass on the right limb which was firm, nodular and ovoid measuring 8.5 cm on its long axis. The mass was ulcerated on its medial side covered with a dried necrotic scab. A plain radiograph of the right limb was carried out using a Dual energy X-ray absorptiometry (Dexa) machine (DEMETECH USA). This machine uses Dual x-ray and Laser measurement to measure bone density utilizing a small amount of radiation. Radiography revealed a circumscribed radio-opaque non-invasive mass (Figure 2). Hematological evaluation showed a packed cell volume (PCV) of 50.1% (Normal range 32.0%-55.0%). Differential leukocyte profile showed slightly elevated lymphocytes (lymphocytosis) 59.2% (Normal range 32.00%-58.00%) with normal monocyte count of 18.09% (5.00%-19.00%).



**Fig 1:** Showing a firm, nodular, ovoid and ulcerated mass (arrow)



**Fig 3:** Showed prominent blood vessels clamped with hemostatic forceps



**Fig 2:** Lateral view (Dexa scan) of the tibia (Red arrow) and coracoid process (blue arrow)



**Fig 4:** Showed the mass was removed weighting 196.3g



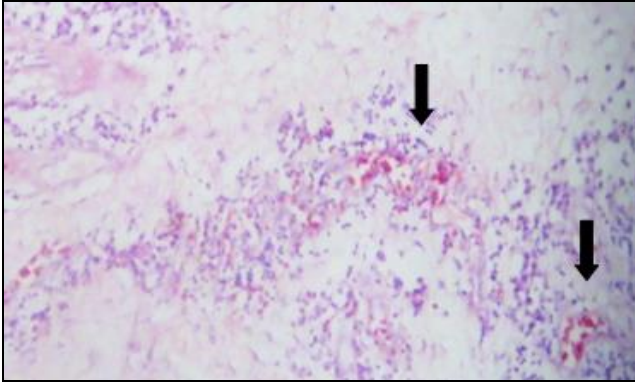
**Fig 5:** Showing the bird one month after surgery

**Surgical management**

The patient was gently and properly restrained on dorsal recumbency. The feathers from the thigh down to the tarsometatarsus were aseptically and gently removed. Regional anesthesia was achieved using 0.5% Bupivacaine (Bulwell® Wellona Pharma, Surat India) at 2mg/kg. The skin and subcutaneous tissue were bluntly undermined with Metzenbaum scissors. The prominent blood vessels were carefully clamped with hemostatic forceps (Figure 3). The mass was gently dissected and removed weighting 196.3g (Figure 4). The mass was preserved in 10% formalin and sent for histopathology. The skin and the subcutaneous tissue were sutured using simple interrupted suture pattern with chromic catgut size 2/0 (OGOTEX Shenzhen Runch Ind. Corp. China). Post-operative medication include meloxicam 0.50mg/kg orally for the first 24 hours and Lyncomycin HCL via drinking water for 3 days at 25mg/L and multivitamin injection (Vitaflash® Kepro, Holland) at 10mg/kg IM for 5 days. This was followed by daily wound dressing with povidone iodine solution (USP 10% SIRMAL, India). Healing was achieved at 14 days post-surgery. The bird showed uneventful recovery with replacement of feathers around the affected limb one month after surgery (Figure 5).

**Histopathological findings**

Histopathology revealed endothelial cells with poorly delineated and haphazardly arranged vascular channels containing avian red blood cells (Figure 6).



**Fig 6:** Showed (black arrows) endothelial cells with poorly delineated and haphazardly arranged vascular channels containing avian RBC. H/E Stain X100

### Discussion

Surgical intervention of hemangioma in a white carneau pigeon was successful with a good healing rate at 14 days after surgery. The pigeon regained its normal gait as healing progresses and resumed flight unhindered. Hemangiomas are more commonly reported in budgerigar (*Melopsittacus undulatus*) than in other birds and usually occur on the skin or spleen (Leach and Reece, 1992) [6]. Splenic and cutaneous hemangiomas have also been reported in African grey parrots (*Psittacus erithacus*) and an Indian ring-necked parakeet (*Psittacula krameri*) Reece, 1992 [6]. Although hemangiosarcomas are reportedly uncommon, they were seen as often as hemangiomas. Other sites at which hemangiosarcomas have been described include the wings, legs, dorsum of the neck, myocardium, abdominal viscera, and the diaphysis of long bones, where they have aggressive osteolytic radiographic appearances (Turrel *et al.*, 1987). In this case, a non-invasive form of hemangioma of the tibia was evident based on radiography. Healing of the affected limb was quite rapid as restriction measures were put in place to limit unnecessary wandering by the pigeon around the compound for the first 7 days post-surgery.

### Conclusion

Surgical management as well as a good postoperative care has proved to facilitate a better healing rate of an excised hemangioma in Carneau Pigeon.

### Conflict of interest

The authors have no conflict of interest to declare.

### Acknowledgment

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