

Article

Surgical management of aural hematoma in dog

Md. Karim Uddin¹, M. M. Mafizul Islam², Md. Zakir Hassan^{3*}, Md. Mamunur Rahman⁴, Md. Rafiqul islam⁵,
Md Fazlul Hoque⁶ and Bhajan Chandra Das⁷

¹Infectious Disease Division, International Center for Diarrheal Disease Research, Bangladesh

²Department of Microbiology, Hajee Mohammad Danesh Science and Technology University, Dinajpur, Bangladesh

³Animal Health Research Division, Bangladesh Livestock Research Institute, Savar, Dhaka, Bangladesh

⁴Conservation and Improvement of Native Sheep through Community & Commercial Farming Project, Bangladesh Livestock Research Institute, Savar, Dhaka, Bangladesh

⁵Livestock Division, Bangladesh Agricultural Research Council, Dhaka, Bangladesh

⁶Department of Medicine, Surgery and Obstetrics, Hajee Mohammad Danesh Science and Technology University, Dinajpur, Bangladesh

⁷Department of Medicine & Surgery, Chittagong Veterinary and Animal Sciences University, Bangladesh

*Corresponding author: Md. Zakir Hassan, Scientific Officer, Animal Health Research Division, Bangladesh Livestock Research Institute, Savar, Dhaka, Bangladesh. Phone: +8801737840328; E-mail: zhtitas@gmail.com

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Abstract: The study was conducted at S A Quadery Teaching Veterinary Hospital (SAQTVH) in Chittagong Veterinary and Animal Sciences University (CVASU), Bangladesh from January, 2014 to June 2014 to conduct about the surgical management of aural hematoma in dog. A total number of 11 dogs were used for surgical management based on history and presenting clinical sings. A history of scratching of right ear since one month ago and swollen abnormal blood filled space under the skin of the ear flap of the dog, no history of external trauma, but intense head-shaking and abrupt increase in the size of the ear flap was noticed by owner of the dog. A thorough examination of the aural canal is carried out under general anesthetic to determine any underlying cause. A fusiform incision made into the skin of the inner pinna with a purse-string suture placed around the incision for closure. To compress the dead space that results from drainage of the hematoma including through and through sutures, or compressing the ear with various materials. The disease was predominant in male (54.54%) than female (45.45%). Local breed were more prone (90.90%) to this disease. The method of operation is considered to be useful as treatment in the field level.

Keywords: aural hematoma; dog; surgical management

1. Introduction

Aural hematomas are the most common physical injury of the pinna, and they are most apparent on the pinna's concave surface. When Pets vigorously shake their heads or scratch their ears, trauma to the ears causes the blood vessels and capillaries in the pinna to rupture (Slatter, 2003). When these vessels break, blood pools in the space between the skin and cartilage, creating a hematoma. This condition is usually unilateral, but it can be bilateral. Hematomas should be drained as soon as possible. If they are left untreated, fibrin formation can occur, leading to fibrosis, contraction and thickening, potentially leaving the ear with a deformed cauliflower-like appearance (Medleau and Hnilica, 2006). If treatment is delayed, surgical intervention may be more difficult and scars will be more likely to form. There are various methods of treatment for the aural hematoma include Simple aspiration is the most conservative treatment and relieves acute pain, but recurrence is common. Surgical drainage decreases procedure. This method is best method and it includes Silastic drain placement,

Teat cannula placement, closed suction catheter system, Incisional drainage, Carbon dioxide (CO₂) and laser procedure. The purpose of present work was to identify the surgical procedure which applied to the right time to give the best results and to preserve cosmetics and aesthetic aspects specific to affected breed, by avoiding the unwanted complications such as wound dehiscence and the appearance of mutilated coloboma.

2. Materials and Method

2.1. Clinical Observation

The study was conducted at S A Quadery Teaching Veterinary Hospital (SAQTVH) in Chittagong Veterinary and Animal Sciences University (CVASU), Bangladesh from January, 2014 to June 2014 to conduct about the surgical management of aural hematoma in Dog. A total number of 11 dogs were surgery based on history and presenting clinical signs. A history of scratching of right ear since one month ago and swollen abnormal blood filled space under the skin of the ear flap of the dog, no history of external trauma, but intense head-shaking and abrupt increase in the size of the ear flap was noticed by owner of the dog. On physical examination oral and conjunctival mucosa was normal, rectal temperature: 101⁰F, heart rate: 90 beats/min, respiratory rate: 21 /min, capillary refill time about <2 s. The swollen right ear was warm to touch and pet was feeling pain on palpation. Based above parameters it was diagnosed as the aural hematoma of right ear pinna. Pre surgical hemato-biochemical parameters were within normal range.

2.2. Anesthesia

A thorough examination of the aural canal was carried out under general anaesthetic to determine any underlying cause. A treatment plan was made for dealing with any concurrent otitis externa. Initially we used acepromazine i.m. 1mg/kg, followed by Ketamine at 10 mg / kg and after 10 minutes of acepromazine administration.

2.3. Presurgical approach

The inner surface of the pinna was prepared for surgery by standard methods, using an aperture drape to expose the surface of the inner pinna. A gauze swab was placed at the entrance to the aural canal to prevent hematoma fluid from draining into the external ear. We first applied of tincture of iodine solution and then wiped the pinna with dry sterile swab to remove excess solution and eventual foreign materials.

2.4. Surgical management

Many surgical methods had been devised since the first technique was reported making an S-shaped incision over the surface, followed by skin closure with through and through stainless steel sutures of the hematoma. Among various shapes for the incision a fusiform incision made into the skin of the inner pinna with a purse-string suture placed around the incision for closure. To compress the dead space that results from drainage of the hematoma including through and through sutures, or compressing the ear with various materials. Materials that had been used include cotton wool and paper clips, tongue depressors, sponge rubber applied to the hematoma site and the ear glued to the head, staples, X-ray film and foam, cardboard (Figure 1).

2.5. Post-operative care

Bandaging the ear helped to prevent pets from damaging the surgical site either by shaking their heads or trying to scratch the site. Using the bandaging technique will help ensure postoperative success. It was important to avoid incorporating the normal ear in the bandage, and it was best to leave the hematoma site and ear canal opening exposed. The bandage was checked periodically as the patient awakens from anesthesia to ensure it was not too tight or restricting airflow through the larynx or trachea. The owner should also check the bandage at home at least twice daily to ensure it remains loose and is not too soiled. Owner was instructed to return to the hospital to have the bandage changed when it gets soiled or at least every three days. Bandaging was continued until granulation tissue is present at the surgical sites, drainage is minimal and the patient is no longer shaking his head. Owner informed about how to keep the incision clean and free of clots and debris. Owners were trained on applying diluted chlorhexidine or sterile saline to gauze sponge and clean the surgical site as well as to clean the site daily or more often, if needed. A collar was used to prevent the patient from damaging the surgical site or bandage. Surgical sutures removed 14 days later.

3. Results and Discussion

The clinical examination of the ear was found an increased receptivity or pain, the animals reacted significantly to topical treatment of the suture and pain persist in most cases until day 3-5 after the effect of age, sex and

breed of animal on the occurrence of aural hematoma as presented in Tables 1, 2 and 3. In this study, the disease was predominantly (63.63%) occurred in dogs about 4 years of age or above that shown in Table 1. The male animals were more vulnerable to the disease (54.54%) than female (45.45%) shown in Table 2. These findings support the earlier investigation of canine aural hematoma (Kagan, 1983). The reasons for the frequent occurrence of the disease in the age of 4 or above 4 year are not clear. Out of total 11 diseased animals, 10 were local dog (90.90%) and one was foreign dog (9.09%) which shown in Table 3. From the present study, it may be said that local dog were more prone to be affected with aural hematoma. This finding agrees with the findings of earlier workers (Kagan, 1983). In the present study, 63.63% of the cysts were located in the right ear and 36.36% in the left ear. Surgery, then pain disappeared and started itching, accompanied by a scratching tendency within 3 days postoperatively. Oedema and serous secretion endure until 3rd day postoperative, on day 5 to a scab was present, and on day 7 the scab was well consolidated and when trying for lifting it, remained a simply denuded surface, with slight bleeding. At 7 days after surgery, ear position is usual. Surgical treatment of ear hematoma was proved more successful and all the operated ear were quickly healed and return to their normal condition within 2 weeks. There were no incidence of hematoma recurrence noticed and all the ear well erected comparing with untreated cases which mentioned by (Joyce, 2000) as said that untreated cases was associated with scaring bluish and deformity. In addition to that other worker like (Harari, 2004; Joyce, 2000; Kagan, 1983) said that the large untreated hematoma needed longer time for healing. There was no postoperative surgical infection or other complications regarding wound dehiscence. However with this procedure of surgery the prognosis was excellent and swift this finding concurs with (Blättler *et al.*, 2007; Garbutt, 1956; Griffin, 1994; Joyce and Day, 1997; Paterson and Tobias, 2013) as they believed that surgical treatment of Aural hematoma was rapid and usually require 2-3 weeks.

Table 1. Effect of age on aural hematoma.

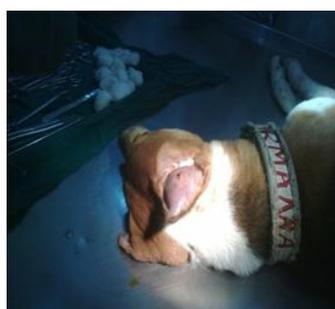
Parameters	No. of animal affected	Percentage of occurrence
Up to 1 year	1	9.09
Between 1-4 years	3	27.27
4 years or above	7	63.63

Table 2. Effect of sex on aural hematoma.

Parameters	No. of animal affected	Percentage of occurrence
Male	6	54.54
Female	5	45.45

Table 3. Effect of breed on aural hematoma.

Parameters	No. of animal affected	Percentage of occurrence
Local Breed	6	54.54
Foreign Breed	5	45.45



Before operation



After operation



After healing

Figure 1. Showing the surgical management of aural hematoma in dog.

4. Conclusions

Dog is the most common pet animal in Bangladesh usually local dog. Aural hematomas are a common problem of local dog that is reappears, if they are managed properly and the underlying disease is treated efficiently. The

best way to avoid development of an aural hematoma is to provide on attention to any condition that causes ear irritation. And in positive case surgical management is the best way to control of aural hematomas.

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Conflict of interest

None to declare.

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