International Journal of Science, Environment and Technology, Vol. 6, No 3, 2017, 2041 – 2046

ISSN 2278-3687 (O)
2277-663X (P)

Clinical Article

AURAL HAEMATOMA (OTHAEMATOMA) AND ITS SUCCESSFUL SURGICAL MANAGEMENT IN TWO CROSSBRED DOGS

Rukmani Dewangan*, Raju Sharda, M. O. Kalim, Nutan Panchkhande, Dhaleshwari Sahu and Shiv Kumar Sidar

Department of Veterinary Surgery and Radiology
College of Veterinary Science & A.H., Anjora, Durg (C.G.)
E-mail: dewanganrukmani@gmail.com (**Corresponding Author*)

Abstract: Two crossbred dogs aged 4 and 5 years were brought to the Department of Veterinary Surgery and Radiology with complaint of swollen ear flap. On physical examination soft fluctuating swelling was noticed on medial side of ear. On auriculocentesis, blood tinged fluid was drawn. Hence, cases was diagnosed as othaematoma or aural haematoma and decided for surgical management. Under general anaesthesia an elliptical incision was made over swelling. After draining the blood tinged fluid, all clots and debris were curetted and cavity was thoroughly irrigated with povidone iodine solution. Series of through and through horizontal interrupted mattress sutures were placed parallel to the line of incision. The pinna was dressed with povidone iodine solution and ointment along with protective pressure bandage of two card board of ear size and ear was placed in dorsum of neck. Postoperatively, a course of antibiotic (Inj. Intacef 500 mg i/m) for 5 days, Inj. Dexona 1ml i/m and Inj. Meloxicam 1ml i/m for 3 days were administered. Sutures were removed on 10^{th} post-operative day. The animal showed uneventful recovery and no complications were observed.

Keywords: Aural haematoma, Crossbred dog, Ear flap, Pinna, Othaematoma

Introduction

Othaematoma or aural haematoma is the most common physical injury of the pinna and is usually caused by self inflicted trauma which is mostly reported in pendulous ear dogs like Labrador, Cookel spaniel and Basset hound but is also seen in the erect-eared breeds like German shepherd and some breed of Spits. Othaematoma is the accumulation of blood or serum within the cartilage of the earflap which presents as fluctuant, fluid-filled swelling on the concave surface of one or both earflap (Fossum *et al*., 2007). The swelling may involve the entire ear flap or it may only involve one area. It is the most common physical injury of the pinna with irritation from ear mites or ticks, fly bite, otodectic mange and otitis as inciting causes (Henderson and Horne, 2003). The earflap is composed of a two layers of skin surrounding a layer of cartilage. The cartilage gives the earflap its shape. Blood vessels go from side-to-side by passing through the cartilage. Othaematomas usually occur as a result of

*Received May 19, 2017 * Published June 2, 2017 * www.ijset.net*

irritation to some part of the ear. When something irritates the ear, the dog responds by scratching the ear or shaking its head. There are several delicate blood vessels between the inner cartilage core of the ear flap and the skin. Excessive shaking or scratching can cause rupture of these blood vessels and capillaries resulting in bleeding. This causes the ear to fill up with blood tinged serosanguineous fluid in the space between the skin and cartilage and forms a "haematoma", causing the ear flap to become thickened and initially soft. The bleeding continues until the pressure created by the pooling blood equalizes with the pressure from the arteries themselves. Recurrence of the condition is common if the underlying problem is not resolved. Therefore, haematomas should be drained as soon as possible. If they are left untreated, then haematoma mature with fibrin formation leading to fibrosis on the walls of haematoma, contraction and thickening of walls potentially assuming a curled-up conformation often called “cauliflower ear (Medleau and Hnilica, 2006). The purpose of surgery is to remove the blood clot and to press the layers of the auricle together to eliminate dead space, recurrence of the haematoma and preserve phenotypic appearance of affected dogs. There are various surgical techniques available for the aural haemotoma include needle aspiration method is the most conservative treatment and relieves acute pain, but recurrence is common and other includes silastic drain placement, teat cannula placement, closed suction catheter system, incisional drainage, punch biopsy and carbon dioxide (CO2) laser procedure. The present paper reports aural haematoma (othaematoma) and its successful surgical management in two crossbred dogs.

Material and methods

Case-1

A 5 year crossbred dog was brought to the Department of Veterinary Surgery and Radiology with complaint of swelling on left ear flap (Figure 1). Earlier many attempts were made by local veterinarians to relieve the animal from othaematoma as it was aspirated with a syringe and needle. On physical examination, fluctuating swelling was noticed at medial side of ear and the ear flap was thickened. The animal was holding the head to one side and shaking or pawing at the affected ear vigorously.

Case-2

A 4 year crossbred dog was brought to the Department of Veterinary Surgery and Radiology with history of scratching of left ear since two weeks and swollen ear flap (Figure 2) since 5 days, no history of external trauma, but intense head-shaking and sudden increase in the size of the ear flap was noticed by owner. On physical examination, soft fluctuating swelling was noticed on medial side of ear having doughy consistency.

In both cases, on auriculocentesis with fine needle aspiration, blood tinged fluid was drawn. Hence, cases was diagnosed as aural haematoma and decided for surgical management.

Surgical Treatment

The dogs were anaesthetized with Atropine sulphate @ 0.02 mg /kg i/m, Xylazine @ 1mg/kg i/m and Ketamine @ 5 mg/kg i/v. and earflaps were aseptically prepared with povidone iodine for surgery Then animal was placed in lateral recumbency with affected ear upper side and cotton swab was placed at external auditory meatus to prevent haematoma draining into ear canal. Surgical management of both cases was done as per Kumar (2005). Elliptical incision was given on the concave side on the most distal aspect of the haematoma using a Bard-Parker scalpel handle with No. 11 blade until the blood tinged serosanguineous fluid was drained completely. Then with digital compression drainage of all the accumulated blood or serum was done. With gentle use of a curator all the blood clots, fibrin deposits and debris were removed (Figure 3). The fibroangioblastic tissue was removed from the inner surface of the cartilage without causing additional bleeding and the cavity flushed with normal saline. After this, cavity was thoroughly irrigated with povidone iodine solution and finally affected part was scarified with BP blade. About 1-2 mm thick skin flap was removed from the edges of the incision to create a gap between the edges of skin. Series of through and through horizontal interrupted mattress sutures were applied parallel to the incision line (Figure 4) through entire thickness of ear flap on both side of the incision to cover entire pinna using silk 2/0 with knots on the convex surface of the ear. However, while tying the knot a uniform pressure were maintained on the suture with help of thumb in order to make the suture sufficiently tied and the skin at this point straight with no wrinkle formation. The incised cutaneous edges were left unopposed for continued drainage. Then operated pinna was totally dressed with povidone iodine solution and ointment. For bandaging the operated ear, two piece of card board were prepared in the shape and size of pinna. The inner one was lesser by 1-2 cm. from the ear edge. The cards board pieces were first wrapped with cotton and cotton bandage and were placed one piece on each side of operated ear pinna. Now the operated ear in between the pieces was wrapped together as compression bandage keeping the ear in erect position with layers of adhesive tape (Figure 5). A tight protective pressure and absorbent bandage was applied over the ear and the ear was placed in dorsum of neck to prevent slipping of the bandage (Figure 6). Dextrose saline 5% (500 ml) was administered continuously during operation. Postoperatively, a course of antibiotic (Inj. Intacef 500 mg i/m) for 5 days, Inj. Dexona 1ml i/m and Inj. Meloxicam 1ml i/m for 3 days were

administered. Bandage was changed every three days after antiseptic wound dressing of the operative site with povidone iodine solution and ointment. It was advised to keep the animal in a clean place and not allowed to rub its head. Sutures were removed by 10^{th} post-operative day. Bandaging was continued for 6 more days till the operated ear returned to its normal condition. The animal showed uneventful recovery and no complications were observed.

Discussion

Incidence of aural haematoma depending upon etiological factor showed ectoparasitic infestation as a main cause followed by otitis externa. In the present cases, incidence of aural haematoma was due to excessive pawing and rubbing of head against the ground due to irritation caused by presence of ectoparasite on body, thereby causing injury to blood vessels of ear resulting into development of haematoma. This further causes discomfort to the animal, due to which head shaking and pawing of ear increases, resulting in further injury and accumulation of fluid in full earflap. Several techniques have been reported in literature for management of aural haematoma. The preferred method of treatment involves surgical correction of the haematoma. The actual surgical technique varies with the individual circumstances and veterinarian's preference, but always involves the same basic steps. First, the skin over the haematoma is surgically incised to drain the blood and remove any blood clots. Next, the empty space (called "dead space") is obliterated by placing numerous sutures through the ear, which will promote controlled scar tissue formation, reattaching the cartilage to the skin and helping prevent future recurrence. Fossum *et al.*(2007) reported a treatment method in which following a full length incision of the haematoma, several simple interrupted sutures are placed through the concave surface of the pinna and the underlying cartilage parallel to the line of incision and the major vessels to obliterate the dead space. A light protective bandage is placed over the ear and the ear is supported over the head. Bandage and sutures are removed in 10-14 days. Application of bandage is beneficial for treating aural haematoma because it protect the ear from self trauma and keeps tissues in apposition (Fossum *et al.*, 2007). The aim of the operation is to hold both sides of the ear cartilage together for long enough that further bleeding into the ear flap is prevented, and also to allow both sides to “stick” together permanently preventing reoccurrence. The present cases were successfully treated surgically by providing incisional drainage by placing several rows of horizontal mattress suture parallel to the line of incision which could help in obliterating the pocket or dead space and brings the two separated layer of pinna together. These sutures produce pressure on area helped in reducing haematoma formation as well

wrinkling of skin. Sutures were applied to avoid pocket formation in which fluids can accumulate (Swaim and Bradley, 1996). Compression bandage was applied along with card board pieces which could prevent reaccumulation of serum and blood. These also acted as a guard to protect the ear from scratching with paws which may cause further damage, adhesive tape could help in keeping ear erected and ear was immobilized against dorsum of head. This facilitates proper drainage and to prevent head shaking which may disrupt suture line, there for healing take place. The animals had an uneventful recovery and no complications were observed.

References

[1] Fossum, T.W., Cheryl, S.H., Johnson, A.L. Schulz, K.S., Seim, H.B., Willard, M.D., Bahr, A. and Carroll, G.L. (2007). Aural hematomas and Traumatic lesions of the pinna. In Textbook of Small Animal Surgery 3rd Edition: Eds., Theresa Welch Fossum: Elsevier science, Morsby Inc Publishers, pp: 307-312.

[2] Medleau, L. and Hnilica, K.A. (2006). Small animal dermatology: A color atlas and therapeutic guide. 2nd ed. Philadelphia, Saunders W.B. Publishers

[3] Henderson, R.A. and Horne, R. (2003). Pinna. In: Slatter Douglas, Textbook of small animal surgery. 3rd ed. Philadelphia, Saunders W.B. Publishers, pp-1737-1741.

[4] Kumar, Amresh (2005). Operation for aural haematoma. Veterinary surgical technique. 2nd Edn., Vikas publishing House Pvt Ltd, New Delhi. pp.: 208- 209.

[5] Swaim, S.F. and Bardley, D.M. (1996). Evaluation of closed suction drainage for treating auricular haematomas. *J. Am. Anim. Hospital Assoc*. 32:36-43.

Figure 1. Swelling on left ear flap of case 1

Figure 2. Swelling on left ear flap of case 2

Figure 3. Curetting of all the blood clots and fibrin deposits

Figure 4. An Interrupted horizontal mattress sutures were applied parallel to the incision line

Figure- 5 Compression bandage of the earflap with adhesive tape

Figure - 6 Earflap was placed in dorsum of neck of dog with protective bandage