COMPARATIVE EVALUATION CONVENTIONAL METHOD AND CYANOACRYLATE ADHESIVE TECHNIQUE FOR THE TREATMENT OF AURAL HAEMATOMA IN DOGS

Pallavi Gawande¹, M.S. Dhakate², B.M. Gahlod and Mrunal Kamble³
¹M.V.Sc. Student, ²Professor & Head, ³Assistant Professor; Department of Surgery & Radiology; Nagpur Veterinary College, MAFSU, Nagpur (MHS.).
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Twelve dogs having aural haematoma were presented at Referral Clinics and Advanced Diagnostic Center, Nagpur Veterinary College, Nagpur, during the period of last eight months; were subjected to the surgical management adopting the traditional Macqueen’s technique in six dogs and the other six dogs by use of cyanoacrylate adhesive, randomly. In the second technique after draining the hematoma and removing the complete blood and fibrin clots through a nick incision, the hematoma cavity was flushed with povidine iodine and apply the cyanoacrylate adhesive into the ear. Bandage was applied, which was removed after three days and repetition for 10-15 days. The cavity was observed to be closed with no fluid accumulation and the ear pinna was also erect in all the six cases. The recurrence was not observed in follow up period of six months and the fibrosis was minimal.

Keywords: Cyanoacrylate adhesive, Aural haematoma, Conventional method, Dog.

Aural haematoma is one of the most common problems encountered in dogs (Harvey, 2001). Scarring and shriveling of the pinna may cause obstruction of the external orifice of the canal and thus induce chronic otitis externa. Aural haematoma occurs in dog is due to self inflicted trauma to the ear. Head shaking or scratching of ear are secondary to acute or chronic inflammation of ear canal, parasites such as ear mites or ticks, allergy and foreign bodies in or near the ear canal (Archibald, 1974). Treatment varies from simple needle aspiration of the haematoma to excision of aural tissue over the haematoma combined with interrupted vertical mattress sutures with monofilament nylon passing through and through the skin of the pinna for the obliteration of the dead space caused due to haematoma (Kagan, 1983). Skin stapling is the fastest method of closure for long skin incision. Stapling may be economically feasible when the reduced cost of anesthesia and surgical time.

Materials and Methods

The study was conducted on 12 clinical cases of aural haematoma in dogs of either sexes suffering from aural haematoma, were presented during the period of last eight months at Referral Clinics and Advanced Diagnostic Center, Nagpur Veterinary College, Nagpur; were subjected to the surgical management adopting the traditional Macqueen’s technique in six dogs and the other six dogs by use of cyanoacrylate adhesive, randomly. All time animal was secured in lateral recumbency keeping the affected ear upside. All aseptic precaution were taken for surgery. Every time the dog was anaesthetized intravenously with combination of Inj. Ketamine hydrochloride @ 5mg/kg body weight I/V and Inj. Diazepam @ 2 mg/kg body weight I/V till the achievement of dissociative anaesthesia. The six dogs affected with aural haematoma were treated with routine conventional method (Macqueen’s Technique) and the other six dogs were treated with the use of n-butyl-2 cyanoacrylate adhesive glue. The conventional suturing method was done in six dogs i.e. application of through and through interrupted mattress sutures with monofilament nylon at a distance of one cm over the line of incision (Fig. 1) and in other six dogs, the surgical drainage of the haematoma was same as that of six dogs treated by conventional method. After drying with sterilized cotton gauze the pocket was painted with n-butyl-2 cyanoacrylate adhesive glue in thin layer, in the direction from inner border of haematoma towards the incision line. Then the ear was quickly pressed in same direction of glue applied and also incision line was glued (Fig. 2). The bandaging procedure was repeated for first three days and subsequently on every alternate days.
bandage was changed. Postoperatively a course of antibiotic i.e. Amoxycillin+ Cloxacillin @ 10 mg/kg body weight by intramuscular for 5 days and Meloxicam 1 mg/kg body weight and Inj. Tribivet 1 mg/kg B. W. by intra muscular for three consecutive days was given to all the dogs.

![Fig. 1. Showing applied conventional suturing on concave surface of ear](image1)

![Fig. 2. Showing the operated pinna with the use of cyanoacrylate glue](image2)

**Results and Discussion**

The cavity was observed to be closed with no fluid accumulation and the ear pinna was also erect in all the six cases. The recurrence was not observed in follow up period of six months and the fibrosis was minimal. The use of n-butyl-2 cyanoacrylate adhesive glue technique required very less surgical time for obliteration of the dead space created by aural haematoma (16.83 ±1.05 min.) as compared to conventional suturing (40.83±4.73 min.). The time required for complete healing of the surgical wound was very less in use of n-butyl-2 cyanoacrylate adhesive glue (12 days) as against 20 days in conventional method and less infective postoperative period. In six dogs on 1<sup>st</sup> and 3<sup>rd</sup> postoperative day maximum isolates were recorded in all cases whereas on 7<sup>th</sup> and 14<sup>th</sup> postoperative days the isolates were recorded in only 2 cases. In other six dogs 1<sup>st</sup> postoperative day maximum isolates were detected which were mostly Gram negative organisms subsequently these isolates were reduced and complete healing was observed on 12<sup>th</sup> day postoperatively with no isolates. The mean time required for obliteration of dead space are in accordance with Andrade et al. (2001), who had also reported that the gluing was significantly time saving procedure than the suturing. In six dogs, the healing time was 20 days while in other six dogs, it was 12 days. The time required for healing was significantly higher in six dogs as compared to other six dogs. Thus it was concluded that the time required for healing was less in use of n-butyl-2 cyanoacrylate adhesive glue technique than the conventional method. In the treatment of canine aural haematoma it was concluded that the use of n-butyl-2 cyanoacrylate adhesive glue technique is better than the conventional suturing method, as in conventional method there use to be trauma by needle prick and suture material also.

**References**


