

EVALUATION OF PARTIAL THICKNESS SUTURE TECHNIQUE FOR THE REPAIR OF AURAL HAEMATOMA IN DOGS

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Aural haematoma is often encountered in dogs and is usually formed in its concave aspect, but in rare cases in the convex aspect, and more rarely in both places. The etiology is not clear and the most accepted theory is that the haematomas develop as a result of ruptured blood vessels within the pinna following otic inflammation, which causes the animal to scratch or shake its head excessively (Angarano, 1988). Recent reports suggested that the disease has autoimmune pathogenesis (Kuwahara, 1986, Joyce and Day, 1997). Both the surgical and non-surgical management of auricular haematoma had been reported (Matera and Vega, 1965; Barnes, 1975; Weber, 1979; Kagan, 1983; Haagen 1983; Cechner, 1990). Surgical methods of treatment claimed to be more effective than non-surgical methods. The present study was undertaken with the objective to evolve a surgical technique to avoid the complications like post operative puckering and drooping of pinna in erect eared breeds of dogs.

Materials and Methods

The study was carried out in twelve selected clinical cases of aural haematoma in dogs of different breeds, of either sex, presented to the clinic. The animals were divided into two groups, viz, Group I and Group II each consisted six animals. In Group I, surgical drainage was carried out and the dead space was obliterated by a series of through-and-through (full thickness) interrupted mattress sutures placed parallel to the incision, in one to four rows depending upon the size of haematoma, piercing through the skin of convex surface of pinna, cartilage and the skin of the concave surface of the pinna and returned to the convex surface by taking a bite 5mm away and sutures were fixed by granny knots using braided silk (1/0). The sutures were tied just

enough to appose the cartilage and skin. The incised cutaneous edges were left unapposed (Fig 1-3).

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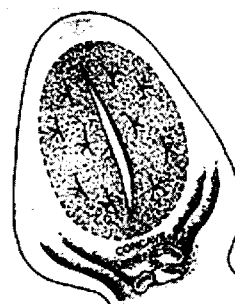


Fig.4 Concave surface of the pinna with partial thickness sutures (Group II) (Diagrammatic representation)

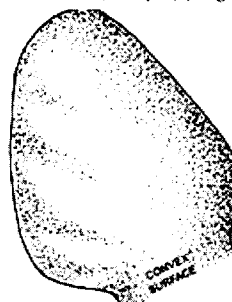


Fig.5 Convex surface of the pinna with partial thickness suture (Group II) (Diagrammatic representation)

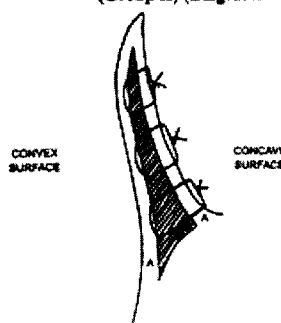


Fig.6 Longitudinal section of pinna with partial thickness sutures (Group II) (Diagrammatic representation)
A. Skin B. Cartilage

In Group II, surgical drainage was carried out and the dead space was obliterated by a series of partial thickness interrupted mattress sutures placing parallel to the incision, starting from the concave surface of the pinna piercing through the skin and cartilage including the sub dermal tissue and returning to the concave surface by taking a 'U' shaped bite and the sutures were fixed by square knots using braided silk (1/0). The sutures were tied just enough to appose the cartilage and skin. The incised cutaneous edges were left unapposed (Fig.4-6).

In both the groups, after the operation the cotton packing from the ear canal was removed and the canal was cleaned. Additional compression of the sutured pinna was achieved by a roll of sterile gauze bandage placed in contact with the inner surface of the ear. The bandage roll was held in position with adhesive tape, wound around the pinna.

Results and Discussion

Post operatively shaking of the head, scratching and self mutilation of wound were reported in a few animals of Group I and Group II and carriage of affected ear was drooped in all the twelve dogs. But the post operative drooping of the ear in the erect eared breeds, where partial thickness suture technique was adopted, the degree of drooping was less. According to Fox and Woody (1986) ear banding is a disadvantage in the post operative management of surgical disease of ear because the patient rarely tolerates it. Kagan (1983) also reported that the dogs were uncooperative patients and often attempted to remove the bandage. But in the

present study, most of the animals retained the bandage. Swaim and Bradley (1996) reported recurrence of haematoma following treatment with closed suction drainage technique. But in the present study, there was no accumulation of blood or exudates in any of the animals, which could be attributed to the open drainage provided by way of non-suturing of the incised wound edges and the bandaging technique adopted.

In Group I dogs, puckering of the affected pinna was noticed in four dogs by the ninth day and was marked in all the dogs by one month. In Group II dogs, after one month of examination of the ear, which was affected with haematoma, revealed perfect healing without any puckering or distortion of pinna (Fig. 7 and 8). Bojrab *et al.* (1990) reported post operative complications like thickening, wrinkle and cauliflower like appearance of pinna and the cause was attributed to scar formation on the surface of the ear. In partial thickness technique, the outside skin of the pinna was not fully included and hence scar formation was absent which may be the reason for absence of puckering. In addition post operative bandaging technique adopted might have given additional compression to prevent disfiguring of the pinna as stated by Lacroix (1952).

From the present study it was observed that for the treatment of aural haematoma partial thickness suture technique was found more advantageous than full thickness suture technique because the former prevented puckering and thickening of the pinna and the degree of post operative drooping of the pinna in erect-eared breeds was less compared to full thickness suturing technique.

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