EVALUATION OF CYANOACRYLATE AS AN ALTERNATE TO SKIN SUTURES IN DOGS

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ABSTRACT

Wound closing and healing depends upon sutures and suture materials. Generally sutures cause discomfort to an animal and leave scar formation. Tissue adhesive has been used as an alternate to traditional sutures in lab animals. The current study was done to evaluate the efficacy of n-butyl cyanoacrylate tissue adhesive as an alternate to silk sutures in skin wound closing.

Twenty-four male and female dogs were used in this study. Six of each gender were treated with silk sutures or cyanoacrylate tissue adhesive to close a ventral midline laparotomy incision in females and a prescrotal incision in males. Animals treated with silk sutures showed mild signs of inflammation (e.g., redness, pain, swelling) while none of the animals treated with n-butyl cyanoacrylate tissue adhesive showed any sign of inflammation during the course of study. Wounds treated with tissue adhesive had higher amounts of collagen and elastin fibers when examined histologically on the 14th postoperative day as compared to the wounds treated with silk sutures. This indicated that the tissue adhesive caused less scar formation at the site of surgery. Thus we conclude that n-butyl cyanoacrylate tissue adhesive provides better healing and is economical and less time consuming than conventional silk sutures.