



**STUDY OF COSMETIC OUTCOME OF CYANOACRYLATE TISSUE ADHESIVE GLUE AND SKIN SUTURES IN INCISIONS IN INGUINAL REGION**

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**ABSTRACT**

The use of cyanoacrylate tissue adhesive for closure of skin has been reported. The fact, that it is needle-less, suture-less closure, is quite appealing to the patient. In present retrospective study, cyanoacrylate was used in skin closure of wound of operated cases of open inguinal surgeries. Tissue adhesive glue is found to be superior and safe as compared to suture in terms of cosmesis for wound closure and postoperative surgical complications. Time required for the wound closure is less with application of cyanoacrylate glue than suture material. Hence The Retrospective study of 60 patients is carried out on cosmetic outcome of cyanoacrylate tissue adhesive glue and skin sutures in incisions in Inguinal region.

**KEYWORDS : Cyanoacrylate, Adhesive, Suture, glue**

**INTRODUCTION**

Every surgeon wants cosmetically acceptable scars along with optimal healing. Good tissue union and cosmetically acceptable scars are vital for ideal surgical practice. A basic need for skin closure is a good approximation. Apart from cosmetically good scars, it is also necessary that the skin closure technique should be technically easy, speedy, economical and acceptable. Although the skill and technique of the surgeon is important, so is the choice of wound closure material.<sup>[1,2]</sup> Many factors are involved in the choice of the skin closure such as surgical expertise, available materials, the type and place of the wound and patient age and health.<sup>[3]</sup>

In addition, suture wound approximation is time consuming. To overcome this drawback, various other methods like staples, tapes and glue have evolved.<sup>[6]</sup> Stapling, though a sophisticated means of approximation, does not enjoy popularity due to expenses involved and non - viability. Skin tapes on the other hand do not effectively the edges of wound and they readily loosen when wet by blood or serum. Along with this there are also incidences of skin blistering.<sup>[4,5]</sup>

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Figure 1: application of Cyanoacrylate glue over wound

1. To study cosmetic outcome of cyanoacrylate tissue adhesive glue and skin sutures in incisions in Inguinal region.
2. To study time required for closure of incisions.
3. Study of complications of wound closure method.

**MATERIAL & METHODOLOGY:**

This is a retrospective study of 60 cases of patients who were operated for Inguinal region surgeries. All patients were admitted in tertiary care hospital, Surat Civil Hospital during period of may 2021 to August 2022.

All Case Papers are available at medical record department of the hospital. With due permission of medical superintendent case papers has been made available for chart review.

1. Cyanoacrylate glue was applied after achieving complete haemostasis. The ends of skin incision were held with skin hooks and approximation of wound edges was achieved manually by fingers or forceps.
2. The glue was applied directly over the edges in droplet forms taking care not to apply adhesive between wound edges.
3. The applied film extended to at least 5 mm on either side of the healthy skin around the wound area.
4. The wound was held till it will dry to allow complete polymerization as indicated by pacification of the glue.
5. Time was measured from start of skin closure till its completion. Clear and dry dressing was applied and maintained in position for 5 days after closure.
6. Resultant scar for assessment of cosmetic outcome was seen in both the groups when the patients came for follow up after 8 days and then on 15 days and on 30 days.
7. Skin suturing was done using monofilament non absorbable mattress or simple suturing (2-0) and sterile dressing is done. Sutures was removed after 8th postoperative days.
8. For cosmesis comparison between suturing method and cyanoacrylate was done on the basis of scar width.

**Data Analysis:**

Table 1: Cosmetic Outcome of the Wound

**AIM:**

COSMESIS	WOUND CLOSURE		TOTAL n/%
	GLUE n/%	SUTURE n/%	
POOR	0 (0)	4 (13.4)	4 (6.6)
FAIR	4 (13.4)	22 (73.2)	26 (43.3)
GOOD	26 (86.6)	4 (13.4)	30 (50)
TOTAL	30 (50)	30 (50)	60 (100)

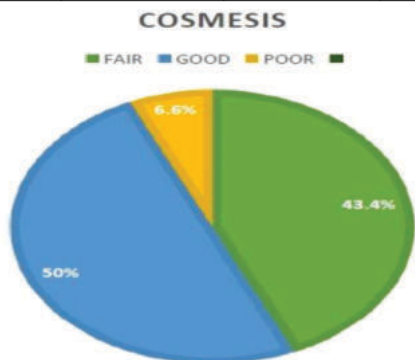


Figure 2: shows cosmetic outcome of the wound.

In present study out of 60 cases 30 (50%) cases were cosmetically good out of which cyanoacrylate glue was used in 26 (86.6%) cases while suturing done in 4 (13.4%) cases. Out of 60 cases 26 (43.4%) cases were cosmetically fair out of which cyanoacrylate glue was used in 4 (13.4%) cases and suturing done in 22 (73.2%) cases. Out of 60 cases 4 (6.6%) cases were cosmetically poor out of which there were no cases with poor cosmesis in which cyanoacrylate was used and suturing done in 4 (13.4%) cases.

**Case Study**

In the present study, Total 60 cases of patients who were operated for Inguinal region surgeries were included in the study. The Retrospective study is carried out on cosmetic outcome of cyanoacrylate tissue adhesive glue and skin sutures in incisions in Inguinal region. Comparison of scar of cyanoacrylate glue & skin sutures was done at period of (7 days & 30 days ) post -operative period during follow up.

**Study Design:**

Retrospective data analytical study.

**Inclusion Criteria:**

1. Surgeries in Inguinal region - Inguinal hernia
2. Both Male and female
3. Age group 18 to 60 years
4. Patient admitted in tertiary healthcare centre, south Gujarat.

**Exclusion Criteria:**

1. Patient with Diabetes mellitus, Tuberculosis
2. Hypertension, HIV
3. Clean contaminated, contaminated wound
4. Surgeries done in emergency

**Sample Size:**

Total 60 cases of patients who were operated for Inguinal region surgeries were included in the study.

**CONCLUSIONS**

Tissue adhesive glue is found to be superior and safe as compared to suture in terms of time required for wound closure and postoperative surgical complications. Time required for the wound closure is less with application of cyanoacrylate glue than suture material. Incidence of wound infection was found to be less when wound closure done by cyanoacrylate glue in comparison to suturing. A single linear scar was obtained using cyanoacrylate glue which is cosmetically better than suture scar. Incidence of wound dehiscence is more in cases of application of cyanoacrylate glue than suturing. All

above observed results are on small number of case group, hence for definitive result large number of case group is required.

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