



A COMPARISON OF SKIN ADHESIVE VERSUS SUBCUTICULAR SUTURES FOR WOUND CLOSURE IN PAEDIATRIC LAPAROSCOPIC SURGERY



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Introduction & Aim

There is no “Gold Standard” wound closure method in paediatric laparoscopic surgery[1]. Cyanoacrylate skin adhesive is an alternative to subcuticular suturing[2]. Our study aimed to compare the effectiveness of skin adhesive to routine subcuticular sutures in paediatric laparoscopic wound closure. We also compared parental satisfaction in both groups.

Methods

We reviewed all children aged <12 years who had laparoscopic surgery from February 2019-January 2020. Data collected included demographic characteristics, intra-operative diagnosis and procedure, post-operative recovery information and wound complications. We assessed parental satisfaction via telephone interview based on Likert scale assessment of wound appearance. We categorized wounds as follows: Class I-Clean, II-clean contaminated, III-contaminated, IV-dirty. Categorical variables were analysed using chi-squared tests with $p < 0.05$ considered significant.

Results

There were 117 eligible subjects. Seven (7) subjects were excluded due to conversion to open surgery. Median age at time of surgery was 1 year (0-12 years). Seventy-six (69.1%) subjects were male. Sixty-six subjects (66) received skin adhesive and forty-four (44) subjects received sutures. Five (5) from the skin adhesive group and one (1) from the suture group had wound complications. There were no significant differences in wound complications or in parental satisfaction for either method. Surgical wound class II, and III showed a significant risk of post-operative surgical site infection, $p=0.021$ (Table).

Complications	Wound Classification			p-value
	Clean (n=85) n (%)	Clean Contaminated (n=18) n (%)	Contaminated (n=7) n (%)	
Surgical Site Infection	2 (2.4)	1 (5.6)	2 (29.0)	0.021
Dehiscence	1 (1.2)	0 (0.0)	0 (0.0)	1.000

Conclusion

Skin adhesive and sutures both have a low incidence of wound complications in paediatric laparoscopic wound closure. This study showed high parental satisfaction for both techniques. In conclusion, skin adhesive is a feasible and effective alternative for the closure of laparoscopic wounds.

References

- [1] Sebesta, M. J., & Bishoff, J. T. (2004). Octylcyanoacrylate skin closure in laparoscopy. *JLS : Journal of the Society of Laparoendoscopic Surgeons*, 8(1), 9-14
- [2] Dowson, C. C., Gilliam, A. D., Speake, W. J., Lobo, D. N., & Beckingham, I. J. (2006). A Prospective, Randomized Controlled Trial Comparing n-Butyl Cyanoacrylate Tissue Adhesive (LiquiBand) With Sutures for Skin Closure After Laparoscopic General Surgical Procedures. *Surgical Laparoscopy Endoscopy & Percutaneous Techniques*, 16(3).