

Pilot study assessing the efficacy of a novel topical adhesive for dermatologic excisional wound closure

Ryan M. Svoboda, MD MS¹, Joshua D. Zuckerman, MD², Darrell S. Rigel, MD MS^{3*}

¹National Society for Cutaneous Medicine, New York, NY ²Schweiger Dermatology, New York, NY ³Ronald O. Perelman Dept. of Dermatology, NYU Medical Center, New York, NY

Background

- The topical adhesive, 2-octyl cyanoacrylate, has been used as an alternative to suture or staple closure of the skin in a variety of procedures
- While the use of adhesive carries potential benefits in terms of ease of application, prior reports of allergic contact dermatitis and burns from exothermic reactions have presented a potential barrier to usage

Objective

- To investigate the feasibility of using a novel formulation of 2-octyl cyanoacrylate (Actabond-Bergen Medical Products, Inc., Morris Plains, NJ) for skin closure after surgical excision of cutaneous lesions

Methods

- The results of office-based cutaneous surgical excisions using a novel formulation of 2-octyl cyanoacrylate for skin closure were examined in 9 consecutive patients (10 lesions)
- Surgical sites were photographed:
 - Pre-operatively
 - Intraoperatively (open wound, prior to adhesive application, following adhesive application)
 - Two-weeks post-operatively
- At follow-up, patient satisfaction was assessed and all incisions were examined for:
 - Cosmetic result
 - Signs of infection

Clinical Characteristics of Included Lesions

Lesion #	Age	Gender	Pathology	Location
1	41	Male	Dysplastic Nevus	Chest
2	32	Male	Epidermoid Cyst	Shoulder
3	53	Female	Squamous Cell Carcinoma	Forearm
4	54	Female	Epidermoid Cyst	Shoulder
5	68	Male	Lipoma	Forearm
6	25	Male	Dysplastic Nevus	Back
7	27	Male	Dysplastic Nevus	Back
8	31	Female	Epidermoid Cyst	Shoulder
9	68	Male	Lipoma	Forearm
10	47	Female	Lipoma	Thigh

Results

Representative Photographs of Surgical Excisions Utilizing Novel Formulation of 2-octyl cyanoacrylate for Skin Closure

Squamous Cell Carcinoma—Thigh



Lipoma—Forearm



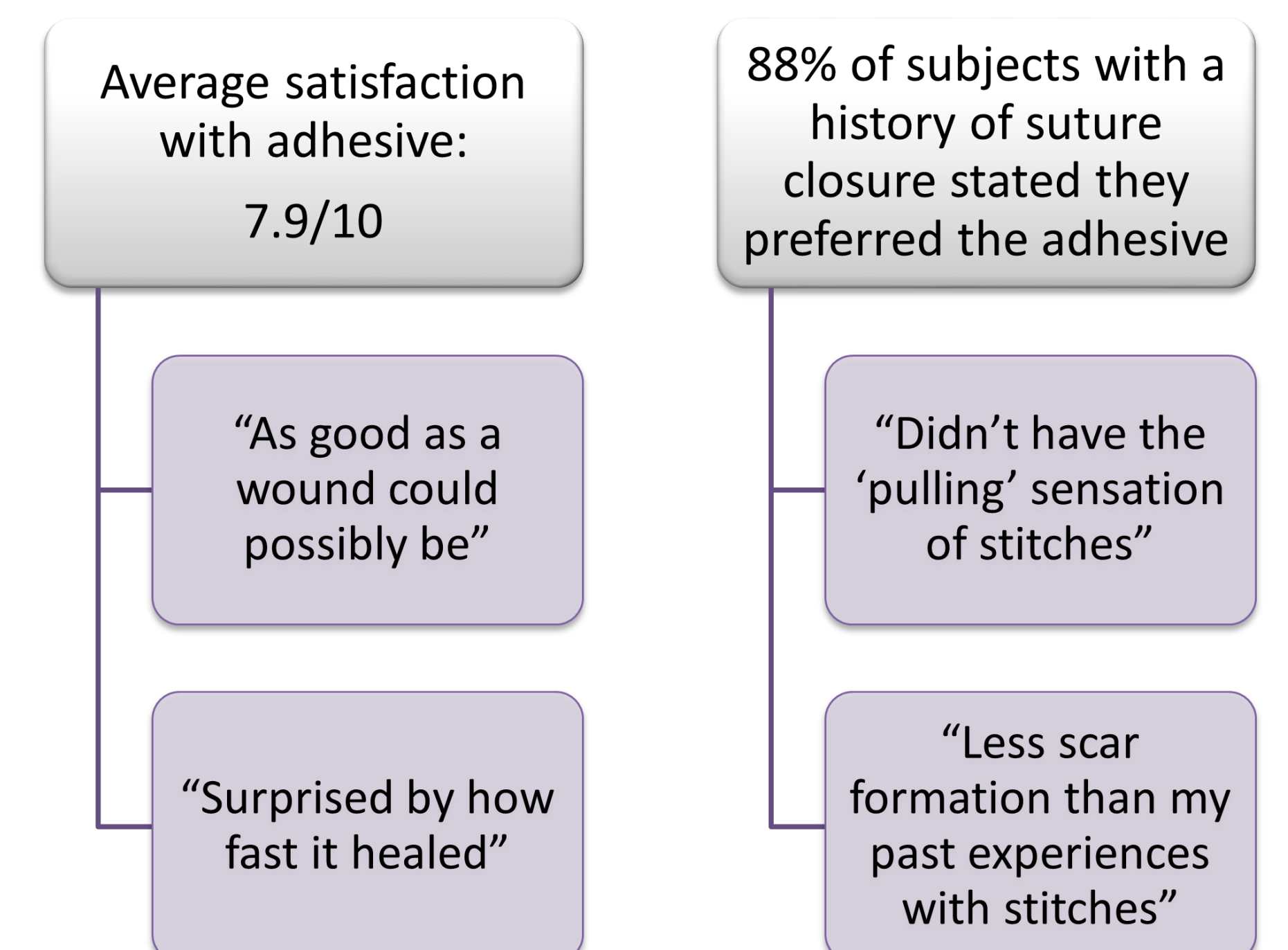
Local Complications in Nine* Incisions Closed with Novel Formulation of 2-octyl cyanoacrylate

Complication	Skin-Edge Separation	Erythema	Infection	Suture Tracts
Proportion of subjects	1/9 **	0/9	0/9	0/9

Minor Tissue Hypertrophy	Contact Dermatitis	Hyperthermic Reaction
1/9	0/9	0/9

*1 patient lost to follow-up
 **< 1mm skin edge separation, treated conservatively

Patient Satisfaction with Novel Formulation of 2-octyl cyanoacrylate



Limitations

- Small sample size in this pilot series
- No comparison group
- One patient treated with adhesive was lost to follow-up

Conclusions

- A novel formulation of 2-octyl cyanoacrylate appears to be a feasible alternative to the use of sutures for skin closure following in-office dermatologic excision
- Although allergic exothermic reactions were of concern with prior formulations of 2-octyl cyanoacrylate, none were noted in this pilot series
- Larger studies are needed to determine potential advantages of this closure method

*Disclosures: This study was financially supported in part by a grant from Bergen Medical Products, Inc.