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ORIGINAL ARTICLE

A STUDY ON PAIN RELIEF WITH COLLAGEN DRESSINGS IN SUPERFICIAL ABRASIONS

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ABSTRACT: BACKGROUND: Pain is one of the most distressing sensations experienced by a person. Abrasion is considered as one of the most painful conditions which have a tendency towards slow healing causing scarring. Collagen is one of the backbone products in wound healing. Collagen is now available as a temporary dressing modality with a claim to help in healing wounds. In the light of the above effect of collagen dressings in alleviating pain in superficial abrasions was studied. **AIMS:** To study if collagen dressings were useful in alleviating pain in superficial abrasions. **METHODS AND MATERIALS:** This was a prospective study done between over a period from between June 2012 to May 2013 on patients who presented with superficial abrasions'. We compared total of 46 patients who met the set criteria, 23 patients with collagen dressing with 23 patients with conventional daily povidine –iodine dressings, and the data collected was analyzed with percentage frequency. **RESULTS:** There was a significant difference in the pain perception between the test collagen group and the conventional betadine dressing groups with a p value <0.002. **CONCLUSION:** Collagen does help to alleviate pain in superficial abrasions; also as its application is once in 5-7 days, the agony caused by the conventional change of dressing is reduced to a significant extent. In view of the above, it is recommended that collagen is useful and must be used in treatment of superficial abrasions.
KEY WORDS: Collagen.

INTRODUCTION: Pain is one of the most distressing sensations experienced by a person. Acute skin trauma resulting in an abrasion is considered as one of the most painful conditions which have a tendency towards slow healing causing scarring. Collagen is one of the backbone products in wound healing. Collagen is now available as a temporary dressing modality with a claim to help in healing wounds. In the light of the above effect of collagen dressings in alleviating pain in superficial abrasions was studied.

METHODS AND METHODS: This was a prospective study done between over a period from between June 2012 to May 2013 on patients who presented with superficial abrasions'. We compared total of 46 patients who met the set criteria.

Inclusion criteria: - Abrasions with duration less than 2 days.
Exclusion criteria: - Presence of infection at the time of presentation
-Wounds which had either exposed bone, tendon or joint

23 patients in the test group collagen- received dressings with collagen which were changed every 7 days till the abrasion healed. 23 patients in the control group - received dressings in a

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conventional way daily with povidine –iodine, and the data collected was analyzed with percentage frequency. Pain was assessed using Visual Analogue Scale of Zero to Ten.

RESULTS: In our study we enrolled 50 consenting patients who had superficial abarasions. Of the 50 patients 4 were excluded from the final study as they did not want to continue or wanted change of treatment. Hence the final study included 46 patients. The study was single blinded. The observer who questioned about pain did not know which dressing was used.

There was a significant difference in the pain perception between the test collagen group and the conventional betadine dressing groups with a p value <0.0002.

Mean pain score duration	Collagen	Conventional
Day-1	2.5	8.5
Day-2	2	8.5
Day-3	1	8.5
Day-4	1	8
Day-5	1	7.5
Day-6	1	6
Day-7	0.5	6
Day-8	0	5
Day-9	0	5
Day-10	0	3
Day-11	0	1.5

Table 1: Mean pain score duration

Duration	Collagen	Conventional
7 days	18	10
8-14 days	5	12
>14 days	0	1

Table 2: Duration Taken For Wound Healing

Etiology of abrasions studied	Collagen	Conventional
Sports trauma	9	8
Household trauma	5	6
Vehicular accidents	6	5
Pedestrians accidents	3	4

Table 3: Etiology of abrasions studied in each group

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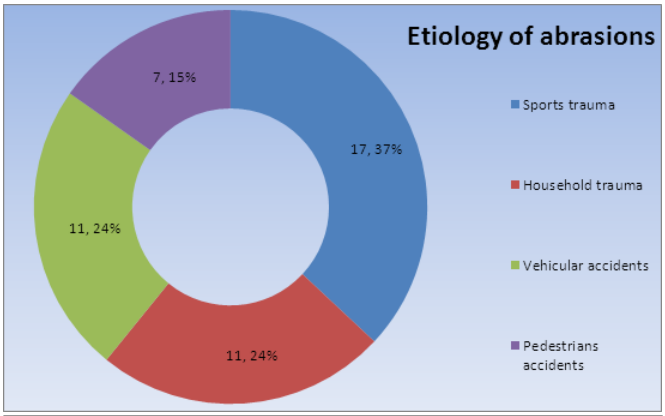

Graph 1: Overall etiology of abrasions studied

DISCUSSION: Pain is one of the most distressing sensations and a major issue for patients suffering from many different wound types[1].An ideal dressing not only helps in healing aspects of the wound also helps to reduce pain, hence choosing a dressing plays an important role in wound healing[2]. An adequate dressing helps to minimize the inflammatory response, speed healing and minimize scarring[3]. In 1962, winter determined that wounds kept moist heal better than those exposed to air[4]. The biological dressing materials show better adherence than non-biological material and studies have shown that dressing material, which adhered well to the wound, helped to reduce pain, limit infection and consequently optimize the rate of healing. Therefore wound healing is better in wounds that are covered with biological materials rather than left exposed or dressed with non- biologic materials[4]. Currently the wound coverings available are divided into 2 categories: permanent coverings and temporary coverings, collagen is a temporary wound dressing which helps to promote wound healing [5, 6]. In 1978 Gupta et al established the safety and efficacy of collagen in animals and used them in treating human burn wounds.[7, 8].

Study	year	Results of their study
Yao C et al[9]	2006	Collagen shortened complete healing time and improved the healing quality of chronic traumatic ulcers
Sai et al[10]	2000	Collagen enhances wound healing and cosmetically better
Holmes C[11]	2013	Collagen- based wound dressings can be an effective tool in the healing of diabetic foot wounds

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CONCLUSION: Collagen does help to alleviate pain in superficial abrasions, also as its application is once in 5-7 days. The agony caused by the conventional change of dressing is reduced to a significant extent. In view of the above, it is recommended that collagen is useful and must be used in treatment of superficial abrasions.

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