

Role of Duoderm (Hydrocolloid) Dressings in Bed Sores

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ABSTRACT

Objective: To study the role of Duoderm (hydrocolloid) dressings in bed sores study

Study Design: Observational and Experimental Study

Place and Duration of Study: This study was conducted at the Department of Surgery and Medicine, Sialkot Medical College, Sialkot from March 2019 to March, 2020.

Materials and Methods: One hundred patients of bed sore were included in this study to study the role of duoderm (hydrocolloid) dressing in this study. Demographic data was recorded in designed proforma. The history and examination was conducted on all the patients. Laboratory investigations for hepatitis C and complete blood examination was also conducted. The informed written consent was priorly taken in every case. The permission of ethical committee was also considered in this study. The data was analyzed for results on SPSS version 10.

Results: The incidence of bed sore was maximum at the age of 50-60 years and minimum at the age of 20-30 year. Response to Duoderm application was maximum in polio patients and minimum in diabetic and spinal injury patients.

Conclusion: Patient Response to Duoderm was quickest in upper class and in middle and lower class was comparatively low.

Key Words: Duoderm (hydrocolloid), dressing, bed sores

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INTRODUCTION

The mending of constant injuries assumes control more than about two months, also with the consideration given to the wound¹; such injuries influence around One percent of the populace (four-five percent more than eighty years)² with a visualization of not-recuperating at twenty percent at two years, eight percent at five years and yearly repeat in six - fifteen percent³.

Mending below a particular ordered grouping, with 3 related & covering stages (fiery, renovating) & includes many different cell & biochemical occasions, with the communication in the phones, the outside the cell grid, & plasma proteins facilitated by cytokines & development sides, in a constant change, & progressive procedure. Its succession, when intruded, advances the inveterate of the wound⁴.

Among the interminable injuries with overall significance, one observes the weight breakage of wound (PU), characterized it is a restricted physical

issue to the skin as well as basic tissue for the most part over a hard noticeable quality, because of weight, or weight in blend with shear⁵. They influence a great many individuals around the globe at the various degrees of human services, with the grown-up and more seasoned grown-up populace sticking out. In the United States of America (USA), every year, roughly three million individuals create PU. Of these, more than Sixty thousand bite the dust every year because of the entanglements brought about by the injury's existing⁶.

Academic predominance & frequency of Pressure ulcer demonstrate disturbing rates. Works attempted in the United States of America show that the commonness changes from ten to sixteen percent in basic situations & from zero to twenty-nine in home consideration; with frequencies from 0.4 to thirty eight percent and from zero to seventeen percent individually⁷. In Brazil, there are, up 'til now, no examinations introducing the national paces of the event of this sore, be that as it may, works attempted in various pieces of the nation show high numbers⁸⁻⁹.

So as to decrease the disturbing degrees of predominance and rate of PU around the world, universal associations (the UK Pressure Ulcer Advisory Panel (EPUAP); the National Pressure Ulcer Advisory Panel (NPUAP) ; the Agency for Health Care Policy and Research (AHCPR) and the National Institute for Health & medical Excellence (NICE)) have expounded clinical rules coordinated towards the anticipation & medical care of this medical issue. Between the advancements coordinated towards medical care of Pressure Ulcer, the piece of advice⁵ demonstrate the

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hydrocolloids as an opportunities for nearby treatment, in light of the grouping & on the attributes of the wound. The hydrocolloids are intuitive bandages, form from an outer layer of polyurethane & an inner sheet of gelatine, gelatin & carboxymethyl cellulose, which give a perfect muggy condition in the injury framework, control the fluid, encourage the self removal of damaged tissue, add to torment the executives & give a hindrance to outside microorganisms⁶.

Mix to this, the hydrocolloids keep up a corrosive pH in the injury sheet, which obstructs bacterial development, just as continuing a perfect nearby temperature. These advances angiogenesis, increment the quantity of fibroblasts of the dermis, support the creation of **new connective** tissue and increment the amount of orchestrated collagen, which are all fundamental in the recuperating process¹⁰.

Other than the hydrocolloids, different bandages, for example, hydrogels, polyurethane froths, and hydropolymers, between others, help in the recuperating procedure. Be that as it may, assessment of the proof in regards to the viability of these treatments for better PU recuperating, or with respect to which item is generally proper for each phase of the weight ulcer¹¹⁻¹² stays rare. Along these lines, the current investigation expected to assess the adequacy of hydrocolloids in the mending of weight ulcers in grown-ups and more seasoned grown-up patients.

MATERIALS AND METHODS

This observational and experimental study was conducted at the Department of Surgery and Medicine, Sialkot Medical College, Sialkot from March 2019 to March, 2020.

One hundred patients of bed sore were included in this study to study the role of duoderm (hydrocolloid) dressing in this study. Demographic data was recorded in designed proforma. The history and examination was conducted on all the patients. Laboratory investigations for hepatitis C and complete blood examination was also conducted. The informed written consent was priorly taken in every case. The permission of ethical committee was also considered in this study. The data was analyzed for results on SPSS version 10.

RESULTS

Table No. 1: Incidence of Bed Sorrel According to Age (50 R.)

Age	Bed Sores	Percentage
20-30 Yr.	1 Patients	2%
30-40 yr.	3 Patients	6%
40-50 yr.	5 Patients	10%
50-60 yr.	25 Patients	50%
60-70 yr.	16 Patients	32%

The incidence of bed sore was maximum at the age of 50-60 years and minimum at the age of 20-30 year.

Table No. 2: Response to Duoderm application (duration different causative factor)

Factor	Duoderm	Simple dressing
Diabetic	2 Month (10 Pt.) 20%	3 1/2 Month (10 Pt.)
Spinal	2 Month (10pt) 20%	4 Month
Polio	1 Month (Spt) 10%	2 Month
CVA	1 Month (25pt) 50%	2 1/2 Month

Response to Duoderm application was maximum in polio patients and minimum in diabetic and spinal injury patients.

Table No.3: Socioeconomic Distribution of Response in Duoderm Dressing

Socioeconomic Distribution	Duoderm Application		Duration
Upper Class	10 Pt.	20%	1 Month
Middle Class	20 Pt.	40%	1 1/2 Month
Poor Class	20 Pt.	40%	2 Month

Patient Response to Duoderm was quickest in upper class and in middle and lower class was comparatively low.

DISCUSSION

According to the result "Recuperating", an aggregate of two hundred forty (thirty five percent, n=six hundred seventy one) Pressure Ulcer accomplished absolute decrease of the pressure ulcer (PU). It is imperative that fifty four point five percent (one hundred thirty one) of the Pressure Ulcer (PU) which mended were dealt with utilizing a substance which forms a gel in the presence of water bandages.

In study E one hundred sixty nine - Hollisaz; Khedmat; Yari¹³ it was seen that the substance which forms a gel in the presence of water was increasingly powerful when contrasted & cotton & tape (p<0.005) & with topical synthetic compound related to hydantoin (p<0.01).

In a methodical audit of twenty nine medical preliminaries, it was conceivable to watch the prevalence of a substance which forms a gel in the presence of water in connection over bandage, according to the quantity of recuperated pressure ulcer (PU) and to the decrease of the injury's measurable. Other studies got comparable outcomes, in spite of the fact that without a measurably huge contrast between the bandages examined.

It lyies apart that a substance which forms a gel in the presence of water were additionally better than the straightforward bandage in the medical care of different kinds of injuries, aside from pressure ulcer (PU), with a seventy six percent chance of getting satisfactory mending, in spite of the fact that in the absence of a critical contrast.

Contrasted and proteolytic enzymes that decompose collagen and gelatin (E554 - Burgos et al)¹⁴, the quantity of an open sore which mended was comparable

between the two gatherings. One imminent arrangement investigation underlined a different outcome in confirming that proteolytic enzymes that decompose collagen and gelatin was more viable than treatment with hydrocolloids in PU situated on the heels. Of the aggregate of twelve subjects who got proteolytic enzymes that decompose collagen and gelatin, eleven (91.7%) made progress in the medical care, contrasted and 7(63.6%) in the a substance which forms a gel in the presence of water gathering ($p < 0.005$).

In the meta-examination of the investigations E284 - Seeley; Jensen; Hutcherson¹⁵, E312 - Bale et al¹⁶, E314 - Thomas et al¹⁷ and E423 - Banks; Bale; Harding¹⁸, in which a substance which forms a gel in the presence of water bandages were contrasted and froths (pandemic, polímero hidrogenado & a synthetic resin), there was no measurably noteworthy distinction in the quantity of pressure ulcer which mended ($p = 0.84$; OR 1.06, CI 95% 0.61-1.86).

Nonetheless, when examination was attempted distinctly with the synthetic resin froth (E423 - Banks; Bale; Harding¹⁸ and E312 - Bale et al¹⁶, in spite of the fact that the predominance of the synthetic resin bandage was not confirm in mending ($p = 0.32$; OR 1.57, CI 95% 0.64-3.85), the meta-investigation uncovered an expansion in the odds of the event of the results contemplated. A medical care preliminary which looked at the viability of a substance which forms a gel in the presence of water and a synthetic resin froth showed that there was no distinction in the adequacy of the two kinds of bandage when they were utilized in medical care of pressure ulcer. An efficient audit in regards to froth bandages in the medical care of the diabetic foot likewise neglected to introduce a distinction in the quantity of healings when contrasted and a substance which forms a gel in water in the presence of water.

Conversely, one efficient review which looked at different bandages, for example, froths, found out that the hydrocolloids were less viable in regards to the quantity of injuries which mended the recuperating time and the decrease of the territory. A comparative outcome was discovered for the medical care of other ceaseless injuries. In a medical care preliminary with one hundred patients with venous open sores, a huge predominance ($p < 0.05$) of pandemic froth was seen according to the a substance which forms a gel in water in the presence of water in the quantity of open sores which healed.

It lies apart that the gathering of the investigations in the self-referential -examination was undermined by the branching in the intercessions contemplated and in the estimating of the results. In one precise audit on the utilization of extraordinary bandage in medical care pressure ulcer, the creators referenced that the combined investigation of the seventy-seven

examinations was upset by, between different causes, the aberrations in the results methodically.

When contrasted and other extraordinary bandages, for example, main structural protein found in skin (E627 Graumlich et al¹⁹, measurably noteworthy contrasts were not seen in the recuperating statistics. The amino corrosive copolymer (E348 - Hondé; Derks; Tudor)²⁰ was more powerful than the a substance which forms a gel in water in the presence of water bandage ($p = 0.089$). A methodical audit of bandages for venous open sores didn't locate a noteworthy distinction between the substance which forms a gel in the presence of water & main structural protein found in skin in the mending of the injuries. Another examination referenced that there was no confirmation of the adequacy of a substance which forms a gel in the presence of water comparable to different bandages in the medical care of diabetic foot open sores. So also, an efficient audit inferred that the proof is deficient to think about a specific unique bandage, among these a substance which forms a gel in the presence of water, better than the others. The investigations portrayed above show results like those provide in this examination, regardless of whether for pressure ulcer or other constant injuries.

In the correlation between a substance which forms a gel in the presence of water in various forms, study E346 - Day et al²¹ prove the predominance of the triangle-molded bandage in recuperating ($p = 0.017$) of sacral pressure ulcer in examination with the oval a substance which forms a gel in the presence of water. A comparative outcome was discovered by other authors. This distinction might be connected legitimately to the form, given that the trouble in adjusting bandages in the sacral locale can bargain and decrease their predominance. In this manner, the triangular a substance which forms a gel in the presence of water bandage is satisfactory adjusted to the district and, thus, presents better outcomes in recuperating.

CONCLUSION

Patient Response to Duoderm was quickest in upper class and in middle and lower class was comparatively low.

Author's Contribution:

Concept & Design of Study:	Imran Idrees Butt
Drafting:	Rehan Anwar Qureshi
Data Analysis:	Munawar Nadeem, Mian Mansoor
Revisiting Critically:	Imran Idrees Butt, Rehan Anwar Qureshi
Final Approval of version:	Imran Idrees Butt

Conflict of Interest: The study has no conflict of interest to declare by any author.

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