

Treatment of Venous Ulcer with Four Layer Crepe Bandage

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Received Date: 5-Aug-2022

Accepted Date: 7-Aug-2022

Published Date: 9-Sep-2022

1. Abstract

1.1. Foundation: Compression treatment is broadly acknowledged as the foundation of venous leg ulceration treatment and frequently emphatically affects result, with patients detailing decreased torment and further developed portability and worked on personal satisfaction because of ulcer recuperating. The current review has been finished to assess the viability and security of four layer pressure swathe with last layer is glue versatile wrap in treatment of venous ulcer.

1.2. Strategies: interventional study was led on 50 patients of venous ulcer. first layer close to skin is crepe gauze 10 cm, 2nd layer is cotton roll just in the side of ulcer third layer is crepe swathe 10 cm, fourth layer is versatile wrap.

1.3. Results: the outcomes uncovered that that result at twelfth weeks, complete mending was seen in 24(48%) patients. Additionally 4% of patient had release from ulcer, 36 (72%) patients had with sound skin encompassing the ulcer region and 34% had granulation (50-75%).

1.4. End: It was seen that mending was better in ulcers with brief term and lesser size in when contrasted with well established and huge size ulcers.

2. Keywords

Venous ulcer; Four layer gauze; Adhesive flexible swathe; Leg ulcer

3. Introduction

Venous illness is liable for 60-70% of all ulcers in the lower leg. Venous ulcer is the most extreme type of venous sickness. The assessed life time predominance for leg ulceration in created nations is 1% and the point pervasiveness is 0.1 to 0.2 % [1].

To help the progression of blood to the heart, there are valves inside the veins that near forestall the reverse of blood [2]. Assuming the valves are harmed because of injury or profound vein apoplexy, or can't close on the grounds that the vein is blocked because of oedema, they can't forestall the discharge of blood because of gravity and this expands the pooling of blood in the lower leg [3].

This brings about side effects, for example, haemosiderin staining the red-purple staining of the skin and aggravation, like varicose dermatitis and expanded oedema. This condition is known as venous hypertension and, if untreated, prompts venous ulceration [4].

Ulceration is additionally brought about by a collection of liquid inside the tissues, by which, in the end, the dermal tissue separates and a ulcer structures. This might be set off by a physical issue to an as of now oedematous appendage [5].

Pressure treatment is broadly acknowledged as the foundation of venous leg ulceration treatment. Anti-microbials don't accelerate ulcer mending in that frame of mind of cellulitis and any remaining explicit ulcer recuperating drugs are of questionable legitimacy [6].

By applying a satisfactory degree of pressure, the width of veins might be decreased in both the shallow and profound framework, albeit this doesn't happen in every one of the patients [7].

The sort of pressure swathe utilized is dependant upon a few factors: the size of the patient's legs, how much oedema is available, way of life and footwear [8].

Four-layer gauze frameworks containing a cushioning layer, crepe wrap, class 3a elasticated swathe and a class 3b strong pressure gauze, use of which guarantees that pressure is progressively applied through the quantity of layers of swathe [9].

Albeit no tension is applied by the cushioning layer inside pressure treatment, it is ostensibly the main layer. Its excellent capability is to safeguard the skin from the tension of the gauze, without which the patient would without a doubt foster strain harm [10].

The current review is planned to assess the viability and wellbeing of four layer pressure gauze with last layer is cement flexible wrap in treatment of venous ulcer.

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4. Subjects and Methods

This interventional study was conducted on 50 patients of venous ulcer introducing to Vascular Surgery Department, Aswan University Hospital during the period from May 2017 till May 2019.

Informed composed assent was gotten from every patient to be remembered for this review.

Consideration models

- Patients matured 18 or above.
- Venous ulcer determined clinical to have venous inadequacy which affirmed by duplex output if the reason shallow framework or profound framework and can give informed assent.

Rejection models

- Pregnancy.
- Huge blood vessel sickness (ABPI <0.8).
- Rheumatoid vasculitis.
- Diabetic foot ulceration or dangerous ulceration.
- Clinically tainted ulcers or exorbitant exudate.
- Ulcers more noteworthy than 10 cm².
- Failure to give informed assent.

Careful procedure

Definite history was taken with history of inclining factors for varicose veins.

Patients were inspected for venous inadequacy and Ankle Brachial Pressure Index was determined to survey the blood vessel supply of the objective appendage.

Routine lab examinations and variety Doppler assessment was finished to evaluate the situation with profound veins and shallow and perforator inadequacy in every one of the patients.

The objective ulcer was surveyed for nature of ulcer bed tissue, encompassing skin and level of exudates.

The swab for culture responsiveness was sent and anti-toxins were given according to culture report. The objective ulcer and appendage was entirely purified with typical saline. The injury debridement was finished in sloughy and exudative injuries.

4.1. Use of Bandages:

- first layer close to skin is crepe wrap 10 cm.
- second layer is cotton roll just in the side of ulcer.
- third layer is crepe gauze 10 cm
- fourth layer is flexible wrap.
- All layers without high strain just in get over without pressure
- Begin from only proximal to toes till underneath knee.
- Time : at regular intervals for little measured ulcer and 1 time each week for enormous estimated ulcer(Figure 1).

4.2. Measurable Analysis

The gathered information were coded, handled and broke down utilizing the SPSS (Statistical Package for Social

Sciences) variant 21 for Windows® (SPSS Inc, Chicago, IL, USA). Quantitative information was introduced as mean ± SD and reach. Subjective information was introduced as number and percent.

5. Results

Table (1) shows that 46.0% of cases were guys, 54.0% of cases were females, and mean age was 50.5 ±6.8 years, with range (19-63) years.

Table (2) shows 20 patients (40%) were housewives and Most of the patients had delayed standing occupation , in regards to site of ulcer ,left side was associated with 26 (52%) and right side was engaged with 14 (28. 0%) likewise respective ulcers were viewed as in 10 (20%) patients. 18 patients (36%) had ulcer of under a half year span, 14 patients (28%) had ulcer term between 7 a year and 13(34%) patients had length of ulcer over a year.

Table (3) shows that at the hour of show, 9(18%) patients had insignificant release while greatest 23 patients (46%) had medium exudate level and 18 patients (36%) had plentiful release at twelfth week ,19 patients (95%) had no release and just 2 patient (4%) had negligible release . with respect to in skin 23 patients (46%) had wet dermatitis, 187 patients (35%) had dry skin inflammation, 9 (18%) had erythema while no dermatitis changes were found in two patients (10%). At twelfth week, a large portion of the patients had improvement in skin condition encompassing the ulcer region and there was finished goal of dermatitis and erythema. Critical improvement was seen in encompassing skin status after use of wraps over ulcer region.

Table (4) shows that result at twelfth weeks, complete recuperating was found in 24 (48%) patients. Likewise 2 (4%) of patient had release from ulcer, 36 (72%) patients had solid skin encompassing the ulcer region and 34% had granulation (50-75%).

Table (5) shows that At 12 weeks it was seen that every one of the 10 ulcers which had size under 5 cm² were totally mended (100 percent) and 13 out of 20 ulcers (65%) having size between 5 to 10 cm² showed total recuperating. None of ulcers which had introductory size more than 10 cm² recuperated (Table 1-5, Figure 2).

6. Discussion

Venous illness is liable for 60-70% of all ulcers in the lower leg. Venous ulcer is the most serious type of venous sickness. The assessed life time predominance for leg ulceration in created nations is 1% and the point commonness is 0.1 to 0.2 %. The resultant venous hypertension is related with skin pigmentation, lipodermato-sclerosis and ulceration[11]. Pressure treatment is broadly acknowledged as the foundation of venous leg ulceration treatment. Anti-microbials don't accelerate ulcer mending in that frame of mind of cellulitis and any remaining explicit ulcer recuperating drugs are of questionable validity[12].

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By applying a sufficient degree of pressure, the distance across of veins might be diminished in both the shallow and profound framework, albeit this doesn't happen in every one of the patients. The four layer wrap framework is the standard strategy in various nations which contains muscular fleece, crepe gauze, flexible swathe and a last strong holding layer[13].

This interventional study was directed on 50 patients of venous ulcer, in which 46.0% of cases were guys, 54.0% of cases were females, and mean age was 50.5 ± 6.8 years, with range (19-63) years.

In concurrence with our review, the investigation of Vashist et al[11]. announced that mean period of patients was 59.67 years, there were 27 guys and 13 females, Other investigation of Nelzen et al[14]. revealed a mean age of 64 years of age to 77 years, Mean age in our review was less when contrasted with detailed in writing potentially on the grounds that youthful patients need to invest parcel of energy in standing occupation exceptionally in non-industrial nations as the greater part of the patients in the current review had drawn out standing occupation. There is no deliberate writing survey with respect to word related risk factors for varicose veins.

In the investigation of O'Brien et al [15]. there is female lion's share of venous ulcer. This might be because of topographical varieties in the sex frequency of venous ulcer.

Then again, the current review uncovered that 20 patients (40%) were housewives and Most of the patients had delayed standing occupation, there is no efficient writing audit in regards to word related risk factors for varicose veins. One imminent investigation of Brand et al [16]. has tended to word related elements and it presumed that ladies who revealed burning through >8 hours daily in stationary exercises had an essentially higher frequency of varicose veins than the people who spent under 4 hours daily in such exercises.

While as in regards to site of ulcer, the current review exhibited that left side was engaged with 26 (52%) and right side was associated with 14 (28.0%) likewise reciprocal ulcers were viewed as in 10 (20%) patients. 18 patients (36%) had ulcer of under a half year length, 14 patients (28%) had ulcer term between 7 a year and 13(34%) patients had span of ulcer over a year.

In accordance with our review, the investigation of Vashist et al[11]. detailed that left side was associated with 20 patients (half) while right side was engaged with 13 patients (32.5%). Two-sided contribution was found in 7 patients (17.5%).

Together as one with our outcomes, one more investigation of Gohel et al[17]. revealed that right side is associated with 32% to 41%, left side in 43% to 56% and two-sided contribution in 9% to 21% of patients.

The investigation of Vashist et al[11]. revealed that term of side effects shifted from under half year to 10 years, Maximum 15 patients (37.5%) had ulcer of under half year length while 12 patients (30%) had span of 7 a year and different patients had longer span of ulcer.

Past investigation of O'Brien et al[15]. detailed shifting term of show of ulcers going from under a half year to over 5 years.

In non-industrial nations patients will more often than not disregard their side effects particularly in country regions and may introduce extremely late.

Moreover, the concentrate on the hand uncovered that at the hour of show, 9(18%) patients had insignificant release while greatest 23 patients (46%) had medium exudate level and 18 patients (36%) had bountiful release at twelfth week, 19 patients (95%) had no release and just 2 patient (4%) had negligible release. as to in skin 23 patients (46%) had wet dermatitis, 187 patients (35%) had dry dermatitis, 9 (18%) had erythema while no dermatitis changes were found in two patients (10%). At twelfth week, the greater part of the patients had improvement in skin condition encompassing the ulcer region and there was finished goal of dermatitis and erythema. Huge improvement was seen in encompassing skin status after use of gauzes over ulcer region.

In concurrence with our review, the investigation of Vashist et al [11]. revealed that greatest 9 patients (45%) had medium exudate level, 7 patients (35%) had abundant release and four patients had negligible release while at twelfth week, 19 patients (95%) had no release and just 1 patient (5%) had negligible release, while as respect encompassing dermatitis, 9 patients (45%) had wet skin inflammation in skin encompassing the ulcer region, 7 patients (35%) had dry dermatitis, 2 (10%) had erythema while no dermatitis changes were found in two patients (10%).

Pressure treatment is the backbone of treatment of venous leg ulcers (VLU). Great injury care and pressure treatment will recuperate larger part of little venous ulcers of brief length. Objectives of pressure treatment are ulcer mending, decrease of torment and edema, and counteraction of repeat. The fruitful administration of venous leg ulcers addresses a critical clinical issue and a significant channel on restricted monetary assets. Swathes fluctuate enormously in their capacity to give supported pressure because of contrasts in their construction and the substance of elastomeric yarns. Different variables, for example, appendage perimeter and shape, will likewise impact the tension delivered underneath a pressure bandage[18].

The current review showed that result at twelfth weeks, complete recuperating was seen in 24(48%) patients. Additionally 4% of patient had release from ulcer, 36 (72%) patients had with solid skin encompassing the ulcer region and 34% had granulation (50-75%).

In correlation with the investigation of Vashist et al. [11], it was seen that in the four layer wrap bunch, 9 patients (45%) showed total recuperating while 7 patients (35%) showed total mending in short stretch swathe bunch at 12 weeks.

Different investigations of Harrison et al., [19] and Franks et al. [20] on four layer gauzing have shown ulcer recuperating rates changing from 40 to 61%. Though the ulcer recuperating paces of short stretch bounding in these examinations has changed from 34 to 53.1%.

At last, in the current review, we found that at 12 weeks it was seen that every one of the 10 ulcers which had size under 5 cm² were totally mended (100 percent) and 13 out of 20

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ulcers (65%) having size between 5 to 10 cm² showed total recuperating. None of ulcers which had beginning size more than 10 cm² mended, in concurrence with our discoveries, the investigation of Vashist et al. [11], announced that none of the ulcers recuperated which had beginning size more than 10 cm². Susan et al. [20] directed a meta-examination looking at the two strategies for pressure wrapping which included 887 patients from seven preliminaries. They presumed that bigger ulcers and ulcers of longer term found opportunity to recuperate freely of each other and of treatment.

All in all, it is presumed that four layer swathing has improved brings about mending of venous ulcers. Huge size ulcers and ongoing ulcers carve out opportunity to recuperate. Four layer bounding is not difficult to apply and prompts early mending of ulcers subsequently ought to be utilized in all patients of venous ulcers.

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