

**Impact of Nursing interventions on bilateral venous leg ulcer  
-A case study report**

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**Abstract**

**Background:** Venous ulcer is a most common type of skin ulcer. It develops when an area of skin breakdown due to trauma, poor blood supply, infection or autoimmune diseases. Leg ulcers are distressing and deeply reduce patient's quality of life. The condition impact 1% of the adult population and 3.6% of people older than 65 years. This case report highlights the importance of nursing care to boost ulcer healing and to reduce the risk of venous ulcer recurrence.

**Aim:** The study was aimed to understand the effectiveness of nursing care in caring the patient with venous ulcer

**Keywords:** Nursing care, venous ulcer, Infection, Wound Healing,

**Introduction**

Nurses play a vital role in caring the patients comprehensively. It is obvious that the care rendered by them influences the health and aid for speedy recovery. This case study illustrates the impact of nursing care in terms of regular ankle leg exercise, dietary management and wound care in the management of venous leg ulcer healing.

### **About the patient**

The patient was 64 years old male and had unhealed Asymmetric deeper venous ulcer in both legs since 2004. Also, patient had a known history of controlled diabetes and hypertension. The past history of the patient had the recurrence of the venous ulcer for several episodes with more than 6 months of wound healing duration.

### **Characteristics of the wound**

**Site:** The wound is basically bilateral origin and occurred in the ankle region of the left leg and anterior area of the right foot.

### **Size of the wound**

The initial size of the wound was relatively small and had widened in its size gradually.

The initial measurements were:

Right leg (Twin wound): Each 4 cm

Left leg: 3 cm

Regular measurements were taken but in the initial stage up to 2 months no changes found in the shape

### **Appearance of the wound**

The wound erupted as a small pimple and progressed to its maximum promptly. It appeared red in color and frequent discharges were noticed. Pain, itching and swelling over the ankle on right leg were the reported and observed complaints of the patient.

The skin around the periulcer areas was found hyper pigmented dehydrated and erythematous and it was associated with diseases chronicity and nonhealing.



**Figure 1:** Appearance of wound and surrounding skin structures



**Figure 2: Appearance of the wound in the middle of the treatment**

### **Treatment regimen**

The patient was under self-medicine since the onset of the ulcer and did not know that the condition was venous ulcer. By profession he was a former and had to work on prolonged standing. He continued the style of working pattern since many years. He managed the wound with some topical applications and analgesics to control pain.

In 2019, Doppler was done and diagnosed the ulcer as varicose venous ulcer. He visited the multispecialty hospital and consulted for the management aspects.

### **Procedures done after Doppler assessment**

#### **1. Leg elevation (above hip level)**

The patient was placed in supine position with leg elevated i.e. above hip level, during sleep and resting times. This helped the blood vessels to keep the flow continue on the lower extremities

#### **2. Ankle exercise (Active & Passive)**

Every day exercise was practiced for both the ankles and thus reduced the swelling of the ankles gradually. It was sometime done actively by patient and several times by the staff nurse. It included ankle rotation clock wise and anti-clock wise, lifting of the foot upward and downward.

#### **3. Walking (Morning & Evening)**

In order to maintain the venous blood flow to avoid stagnation and pooling, the patient was advised to walk for at least one hour twice daily.

#### **4. Wound care dressing (Every day Morning)**

In order to enhance wound healing aseptic wound care was done at home. Before dressing the wound is soaked in warm salt water for 5 minutes and followed by dressing with topical application of Amorphous Hydrogel with colloidal silver (Megaheal), Mupirocin ointment (T-bact)

#### **5. Diet**

The patient was consuming protein rich diets for faster wound healing along with regular diet. The food items were included egg white, green gram, green peas, and citrus fruits

#### **Conclusion**

There are advanced and contemporary procedures available to treat the disorder. Despite of suffering from bilateral venous leg ulcer, the patient was able to walk and carry out his activities of daily living due to proper and adequate nursing care, dietary management and exercises. The wound is clean and is significantly small compared to the initial stages of wound size. Finally, the patient is preparing for laser surgery as a permanent remedy to relieve from varicose venous ulcer.

**Figure 3:** Reduction in size of the wound after interventions



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#### **Declaration of conflict of interest**

The author declares no potential conflict of interest in respect to the publication and authorship

**Informed consent**

The patient was informed about this research protocol and provided written consent to publish this study.

**Ethical approval**

The author obtained formal approval from institutional ethical committee