

# Is Local Gentamycine useful with V.A.C (Vaccume Assisted Closure in Wound Healing??)

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**Abstract:** *Based on the results of this study, we recommend local application of gentamicin with V.C.C [Vacuum Assisted Closure]. Than using only V.C.C [Vacuum Assisted Closure].as loca application of gentamicin-impregnated collagen fleece sponge reduces wound infectin enhances wound healing*

**Keywords:** wound, hwaling, gentamycine, closure, the

## 1. Introduction

Chronic wound management represents a considerable burden on and requires considerable frequent specialist consultation, and adjunct therapies; an important example of these adjunct therapies is the V.A.C. stands for Vacuum Assisted Closure. which was suggested to offer an important option for the advanced management of many wound types [8–10], chronic wounds can also affect patients' ability to function in their environment, causing financial, social, and psychological consequences as well as affecting patients' Quality of Life (QoL) [12].

V.A.C. stands for Vacuum Assisted Closure, and comes under the umbrella of Topical Negative Pressure Wound Therapy (TNPWT). It produces a negative pressure gradient across the wound bed, which promotes wound healing by; Increasing blood flow to the wound site Removing exudate and slough from the wound bed Increasing cellular activity encouraging the formation of granulation tissue Reducing oedema (Schintler, 2012). This is the first study to investigate whether local application of gentamicin-impregnated sponge applied with V.A.C is it useful or not The aim of this pilot study was to determine the safety and potential benefit of adding a topical gentamicin-collagen sponge to standard of care for treating wound

## 2. Development of Topical Negative Pressure

The concept of using negative pressure to create a suction force enabling the drainage of surgical wounds to promote wound healing is well known.<sup>5,6</sup> If excess fluid is not adequately removed from a wound after surgery, its components may serve as both physical and chemical deterrents to wound healing. In addition, the basic concept of mechanical forces influencing the shape and growth of tissues is well reported. A buried drain can have little mechanical affect on surrounding tissue. Thus the development of the application of suction topically across the surface of the wound to provide a solution capable of removing excess fluid and exerting a mechanical effect on the wound has been a novel mechanical force to the surrounding tissues producing deformation of the extracellular matrix and promoting a reduction in wound size.<sup>5-7</sup>

Argenta and Morykwas first published experimental work on TNP therapy in 1997 using animal and scientific studies.

Using an acute wound model in swine, Moryk was postulated a multimodal mechanism of action.<sup>8</sup> Since then the improved outcome parameters observed clinically in a variety of wounds have resulted in a widespread empirical uptake of TNP and acted as a catalyst for the development of a number of research

## 3. Method

A consecutive series of 40 patients in our hospital. Of these patients, 19 received supplementary applications of three reabsorbable gentamicin-impregnated collagen fleece sponges with V.C.C [Vacuum Assisted Closure] and 21 patients underwent only V.C.C [Vacuum Assisted Closure].

## 4. Results

The two groups were comparable regarding age, sex, stage and level of the wound. Early Primary wound healing occurred in 16 patients (84%) in the gentamicin group, and 9 patients (43 %) in the other group (p=0.01).

The incidences of wound complications and deep infectio were 5% (one patients) in patient received local application of gentamicin with V.C.C and 35% (seven patients) . in group B who used only V.C.C developed a deep infection or wound abscess. This devastating complication occurred in only one patient (5%) patient who used) gentamicin with V.C.C. In most patients ofl wound.

The mean hospital stay of the gentamicin with V.C.C group was 15 days and the only V.C.C group 25 days (p=0.04).

## 5. Conclusions

Based on the results of this study, we recommend local application of gentamicin with V.C.C [Vacuum Assisted Closure]. Than using only V.C.C [Vacuum Assisted Closure].as loca application of gentamicin-impregnated collagen fleece sponge reduces wound infectin enhances wound healing



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