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Effect of Cooling Face on Recovery From Edema for Patients after Rhinoplasty

[1]Maisam Saadoun Hamidi, [2]Alaa Jawad Kadhim.

[1]University of Baghdad, College of Nursing, Department of Adult Nursing, Baghdad, Iraq.MSC. Student.
[2]University of Baghdad, College of Nursing, Department of Adult Nursing, Baghdad, Iraq. Assistant Professor and Ph.D.

Abstract

Objective: To determine the effect of the application of cold therapy oneyes edema for patients after rhinoplasty .

Methodology: A Randomized Clinical trial was conducted in the surgical wards of AL-Kindi Teaching Hospital and AL-Wasiti Teaching Hospital in Al-Russafa Health Directorate starting from January **4**th. Until February **2**5th, 2024.After a sample was calculated from the community, 53 patients were separated into two groups: the study group consisting of 26 patients, and the control group consisting of 27 patients. In order to accomplish the study's goals within the intervention group, a cold mask was employed to assess validity and reliability. Additionally, a dice cube was utilized by the researcher to examine randomness. The chosen strategy for data collecting was reported by the researcher.

Results: the results of data showed that the edema for right and left eyes in time one p= (0.941,0.763) And p-value the edema during time one, two and three (post two) in right eyes (0.941 ,0.001 and 0.001) as in left eyes p= (0.763,0.006 and 0.001) in time one. two and three.

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Conclusions: the researchers conclude that cold therapy have a positive relationship in reducing edema.

Recommendations: The researchers recommended that the cold therapy experience be applied to all patients after rhinoplasty.

Keywords: edema, rhinoplasty, cold therapy.

I. Introduction

Rhinoplasty, most common a surgical procedure with cosmetic and functional purposes, is well-known worldwide, especially for its ability to improve obstructed airways [(1)]. In the United States, rhinoplasty constitutes 15% of all cosmetic surgical procedures.there are well known risks associated with the procedure itself such as intraoperative bleeding, pain, periorbital ecchymosis and edema [(2)]. Such side effects, especially periorbital ecchymosis and edema may lead to increased morbidity for the patient, resulting in a longer post-operative recovery time and delayed return to work[(2,3)].and Postoperative edema after rhinoplasty obscures the aesthetic result, causing distress for both the patient and surgeon [(1)], Due to the fact that patient satisfaction is

one of the most crucial requirements for service excellence [4]. this may have an effect on mental health following surgery as well as preoperative anxiety [5]. which may make postsurgical discontent syndrome [6]. A multitude of experimental medicines, surgical procedures, and skills are employed in ongoing efforts to alleviate edema [7].

Non-pharmacological techniques can be beneficial complementary approaches that can increase the effectiveness of treatment. They are not aimed at replacing pharmaceutical therapies[8-11].

Therefore, nursing plays an important role in postoperative care using non-pharmacological methods in nursing care [12-16].

Cryotherapy is frequently used in standard plastic surgery practice to treat edema and ecchymosis after invasive and non-invasive facial operations, as well as for analgesic therapy[17,18]

The current study was conducted to clinical trialfor non-pharmacology techniques for patients after surgery intervention. Therefore, it aims to determine the effect of the application of cold mask on edema for patients after rhinoplasty.

II. Methodology

A true experimental design (simple, randomized clinical trial) was used to study patients who suffered from pain after rhinoplasty. The research began on December 5th and continued until February 5th, 2024. The study was carried out at the surgical wards of AL-Kindi and AL-Wasiti teaching hospitals. A simple random sampling (probability) sampling technique and a purposive sampling (non-probability) was used to select 53 patients feeling pain after rhinoplasty in the surgical ward. According to Slovin's formula (Ellen, 2012), a total population (patients) of 76, the estimated sample size was 63. The following formula was used:

$n = N / [1 + (N) (E)2]$

$n = 63.8 \approx 64$.

The 53 patients were randomly divided into two groups. The data collection technique was researcher report. After the patient had his/her rhinoplasty and was in the surgical ward waiting to gain consciousness, the researcher began to explain the intervention and obtain patient's consent to participate in the trial. The researcher began by assessing eyelid edema scale before the intervention. Then the researcher used the cooling therapy with a cold mask applied for 10 to 15 minutes every half hour. Then, the edema was re-assessed. After 4 hours, this process was repeated for 24 hours in both groups.

As soon as the patient recovered from the rhinoplasty and was in the surgical ward, waiting to regain consciousness, the researcher went on to describe the process and get permission to take part in this trial. After that, the patient received a grade of 45.

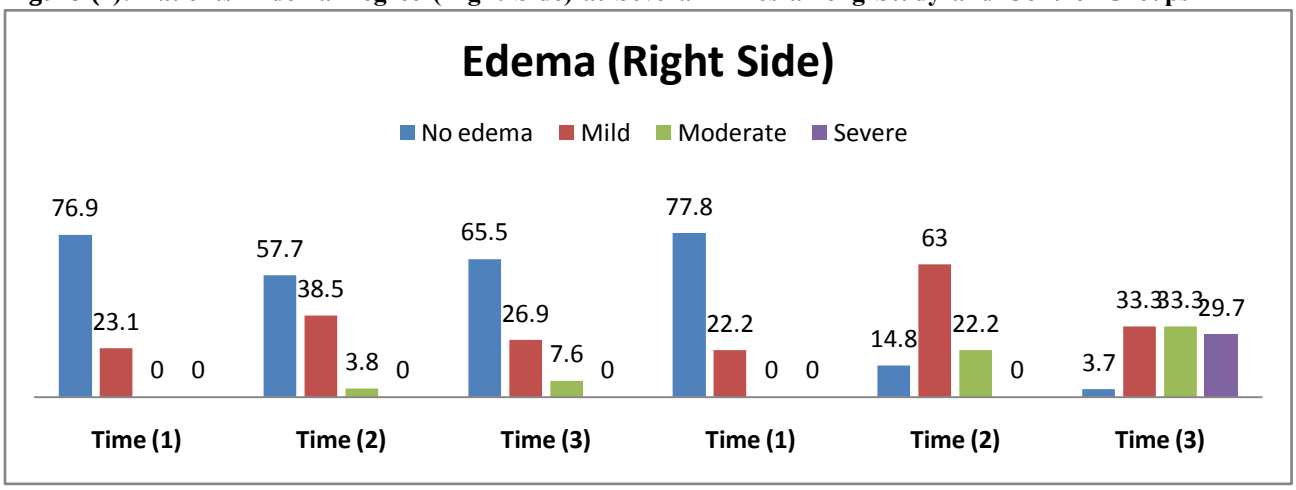
The researcher began by evaluating pain levels using aeyelid edema scalefor both the intervention group (cold mask) and the control group (traditional care). After this assessment, the experimental group received the cooling therapy through a cold mask. However, the control group received traditional care. The cold mask was applied for 10 to 20 minutes, with half-hour intervals. After 4 hours, the edema was re-evaluated. This process was repeated after 24 hours for both groups. And The questionnaire was a checklist which consisted of two parts, these parts are:

Part I: This part consists of patients' demographic information (age, sex, and occupation) obtained from interviews

PartII: Scale for eyelid edema: Edema scores were given depend on coverage of the iris with edematous eyelids, with 1 being no coverage; 2 indicated slight coverage of iris with swollen eyelid (mild), 3 indicated full coverage of iris with swollen eyelid (moderate) and 4 being full closure of the eye (sever).

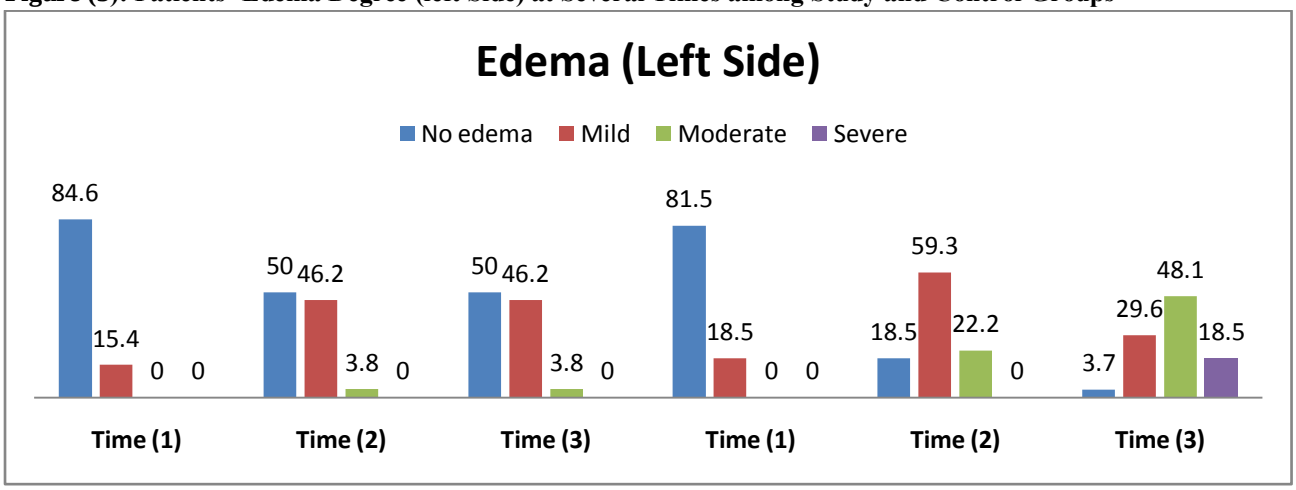
III. Results

Figure (2): Patients' Edema Degree (Right Side) at Several Times among Study and Control Groups



According to this figure2, 76.9% of patients in the study group and 77.8% of patients in the control group experienced no edema throughout time (1). No significant difference in edema degree has been detected between the study and control groups. During the time (2) following the application of cooling face, 57.7% of patients in the study group had no edema, whereas 63% of patients in the control group had mild edema; there is a significant difference in edema degree between the study and control groups at p-value=.001. During the time (3), 65.5% of patients in the study group have no edema, while 33.3% in the control group have mild and severe edema; there is a high significant difference in edema degree between study and control groups at p-value=001.

Figure (3): Patients' Edema Degree (left Side) at Several Times among Study and Control Groups



This figure 3 reveals that 84.6% of the patients in the study group and 81.5% of the control group had no edema. There has been no reported significant change in ecchymosis degree with time (1) between the study and control groups. During time (2), 50% of patients in the study group have no edema, whereas 59.3% of patients in the control group have mild edema; there is a significant difference in edema degree between study and control groups at p-value =.006 after cooling face application. During time (3), 50% of patients in the study

group have no edema, while 48.1% of patients in the control group have mild edema; there is a significant difference in edema degree between the study and control groups (p-value=.001).

IV. Discussion

presents the extent of edema on the right side of the patient for each of the two groups being studied at different time points throughout the first, second, and third postoperative periods (1, 4, 24 hours). The data indicates that after 1, 2, and 4 hours after the surgery, most patients in the intervention group did not exhibit any edema on the right side. By comparison, after one hour postoperatively, over two-thirds of patients in the control group were devoid of any edema, and by four hours, the majority of patients exhibited just minimal edema. Moreover, at the 3rd time point (24 hours) after the surgery, most patients in the control group showed mild to severe swelling. Following the intervention, at 4 and 24 hours after the surgery, there were statistically significant differences seen between the study and control groups in terms of the edema on the patient's right side. and presents the extent of edema on the patient's left side for both research groups at different time intervals throughout the first, second, and third postoperative periods (1, 4, 24 hours). The data indicates that the majority of patients in the intervention group did not exhibit any edema on the right side at 1, 4, and 24hours post-surgery. Conversely, most patients in the control group had minor swelling within 4 hours of the procedure, and almost two-thirds of patients saw no edema at all within 1 hour. In addition, a majority of patients in the control group continued to experience moderate edema 24 hours post-surgery. Following the intervention, at 4 and 24 hours after the surgery, there were statistically significant differences seen between the study and control groups in terms of the patient's edema on the right side.

This result was in line with that ofSalah and Abd El-Ghaffar., who discovered that using cryotherapy after rhinoplasty surgery reduced postoperative nasal edema [(19)]. These outcomes are in line with those of Kayiran, who conducted research in which 50 patients had their post-rhinoplasty results compared to one side of the face that had a gel mask applied to it. A cold gel mask applied to the periorbital area relieves edema; nevertheless, following a rhinoplasty, three days of use is sufficient. reduces edema [(20,-22)]. andalso supported by yalsin who studied "cold gel mask for the eye: a low-cost and effective postoperative alternative for the convenience of rhinoplasty patients" and found that the postoperative gel eye mask reduced postoperative edema after rhinoplastysurgery[(23-25)].

V. Conclusion:

The study found a statistically significant difference in edema patients before and after cold mask.thecold mask therapy had a positive effect to minimize patients' eyes edema, the cold mask had a significant and obvious role in relieving edema.

Recommendations: The study recommends applying the cold mask trial to all patients who suffer edema following rhinoplasty in order to generalize the experiment's findings to hospitals and surgical wards.

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