

Effect of Cooling Face on Recovery from edema for Patients after Rhinoplasty

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KEYWORDS

Edema, Rhinoplasty,
Cold Therapy

ABSTRACT

Objective: The purpose of this study is to ascertain how cold therapy affects patients' edema in the eyes following rhinoplasty.

Methodology: The AL-Kindi Teaching Hospital and AL-Wasiti Teaching Hospital's surgical wards hosted a clinical experiment. A community sample of 53 patients was computed, and the patients were divided into two groups: the study group, which consisted of 26 patients, and the control group, which consisted of 27 patients., a A cold mask was used in the intervention group to achieve the study's objectives and evaluate validity and reliability. The investigator also used a dice cube to investigate randomness. The researcher reported on the data collection technique that was selected.

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.

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.

1. Introduction

The most popular surgical operation for both practical and cosmetic reasons is rhinoplasties, which are well-known around the world, particularly for their capacity to clear blocked airways (1). Rhinoplasty accounts for 15% of all cosmetic surgery performed in the US. The surgery itself carries known hazards, including edema, periorbital ecchymosis, discomfort, and intraoperative hemorrhage (2). These adverse effects, particularly periorbital ecchymosis and edema, may worsen the patient's morbidity, extending their post-operative recovery period and delaying their return to work (2,3... and Postoperative edema following rhinoplasty masks the cosmetic outcome, upsetting the surgeon and the patient (1), Since one of the most important prerequisites for providing excellent service is patient happiness (4). This might impact preoperative anxiety and postoperative mental health after surgery (5), which could lead to postsurgical dissatisfaction syndrome (6). Various experimental medications, surgical techniques, and expertise are used in continuous attempts to reduce edema (7).

Techniques that do not involve the use of pharmaceuticals can be helpful adjuncts that improve treatment outcomes. They are not meant to take the place of prescription medications (8–11).

Consequently, employing non-pharmacological techniques in nursing care, nursing plays a significant role in postoperative care (12–16).

In both invasive and non-invasive facial procedures, cryotherapy is widely utilized in routine plastic surgery practice to treat edema and ecchymosis in addition to serving as an analgesic (17, 18).

The goal of the current investigation was to do a clinical trial for non-pharmacological treatments for individuals who had undergone surgery. Thus, its goal is to ascertain how cold mask administration affects patients' edema following rhinoplasty

2. Methodology

A true experimental design (simple, randomized clinical trial) was employed to research individuals who experienced pain following a rhinoplasty. Starting on December 5th, 2024, and ending on February 5th, 2024, was the research period. The AL-Kindi and AL-Wasiti teaching hospitals' surgical wards

served as the study's locations. 53 patients in the surgical ward who were experiencing discomfort following rhinoplasty were chosen using a simple random sample (probability) sampling approach and a purposive sampling (non-probability) selection method. Two groups were randomly selected from among the 53 patients. The researcher report served as the data collection method. The researcher started explaining the intervention and getting the patient's permission to take part in the trial after the patient had their rhinoplasty and was in the surgical ward waiting to regain consciousness. Prior to the intervention, the eyelid edema scale was first evaluated by the researcher. Next, 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.

The researcher continued to explain the procedure and obtain consent to participate in this trial as soon as the patient had recovered from the rhinoplasty and was in the surgical ward, waiting to regain consciousness. The patient was then given a grade of 45. Using an eyelid edema scale, the researcher first assessed the discomfort levels of the intervention group (cold mask) and the control group (conventional treatment). Following this evaluation, a cold mask was used to administer chilling therapy to the experimental group. The control group, however, got standard medical attention. At half-hour intervals, the cold mask was applied for ten to twenty minutes. The edema was reassessed four hours later. After a full day, both of these steps were repeated. 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

Part II: 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).

3. Result and Discussion

Table 1: Patients' Edema Degree (Right Side) at Several Times among Study and Control Groups

Interval Time (1)	Study Group (N=26)		Control Group (N=27)		Test of Sig	P-value
	No	%	No	%		
No Edema	20	76.9	21	77.8	U= 348.000	.941
Mild Edema	6	23.1	6	22.2		
Moderate Edema	0	0	0	0		
Severe Edema	0	0	0	0		
Time (2)						
No Edema	15	57.7	4	14.8	U= 179.000	.001
Mild Edema	10	38.5	17	63		
Moderate Edema	1	3.8	6	22.2		
Severe Edema	0	0	0	0		
Time (3)						
No Edema	17	65.5	1	3.7	U= 76.000	.001
Mild Edema	7	26.9	9	33.3		
Moderate Edema	2	7.6	9	33.3		
Severe Edema	0	0	8	29.7		

According to this Table1: 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 $p\text{-value}=.001$. 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 $p\text{-value}=.001$.

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

Interval	Study Group (N=26)		Control Group (N=27)		Test of Sig	P-value
Time (1)	No	%	No	%		
No Edema	22	84.6	22	81.5	U= 340.000	.763
Mild Edema	4	15.4	5	18.5		
Moderate Edema	0	0	0	0		
Severe Edema	0	0	0	0		
Time (2)						
No Edema	13	50	5	18.5	U= 212.500	.006
Mild Edema	12	46.2	16	59.3		
Moderate Edema	1	3.8	6	22.2		
Severe Edema	0	0	0	0		
Time (3)						
No Edema	13	50	1	3.7	U= 82.000	.001
Mild Edema	12	46.2	8	29.6		
Moderate Edema	1	3.8	13	48.2		
Severe Edema	0	0	5	18.5		

This Table 2: 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 $p\text{-value}=.006$ 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 ($p\text{-value}=.001$).

Discussion

shows the patient's right side's edema at various intervals during the first, second, and third postoperative periods for each of the two groups under study. According to the findings, the majority of patients in the intervention group did not show any signs of right side edema following surgery. In contrast, at one hour postoperatively, more than two-thirds of patients in the control group had no edema at all, and at four hours, most patients only showed mild edema. Furthermore, the majority of patients in the control group had mild to severe swelling at the third time point following the procedure. After the procedure, four and twenty-four hours later, there were statistically significant differences observed 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 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.

Salah and Abd El-Ghaffar (19) found that cryotherapy following rhinoplasty surgery decreased postoperative nasal edema, and this outcome was consistent with their findings. These results are consistent with those of Kayiran, who carried out a study in which the post-rhinoplasty outcomes of fifty patients were compared to the side of the face that received a gel mask application. Edema can be relieved by applying a cold gel mask to the periorbital area; however, three days of use is adequate after a rhinoplasty. lessens swelling (20,-22). was further corroborated by Yalsin, who discovered that the postoperative gel eye mask decreased postoperative edema following rhinoplasty surgery in his study "Cold gel mask for the eye: a low-cost and effective postoperative alternative for the convenience of rhinoplasty patients" (23–25).

4. Conclusion and future scope

The pre- and post-cold mask characteristics of the edema patients varied statistically considerably; the study found. The patients' eyes had less edema after using the cold mask therapy, and this improvement was noticeable and significant. According to the study, all patients who have edema following rhinoplasty should undergo the cold mask trial in order to apply the experiment's findings to hospitals and surgical teams.

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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