SHORT COMMUNICATION

Comparison of outcome of compression dressing for two days Vs seven days after varicose surgery

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Abstract

Incompetence of the great saphenous vein (GSV) is a global issue and the most prevalent cause of chronic venous disease of the leg. Clinical manifestations range from moderate to severe, including tiredness, heaviness, and irritation, as well as hyperpigmentation and leg ulcers. A study was conducted to address this controversy,[1] i.e. to determine the outcome of compression dressing after varicose vein surgery in terms of postoperative pain, on the Surgical floor, of Mayo Hospital, Lahore, from October 1, 2020, to April 1, 2021. A total of 60 patients with Primary varicose veins were enrolled in this study, fulfilling the inclusion criteria after obtaining approval from the ethical committee of the hospital. The patients were divided in two groups. Group A wore compression dressing for two days after surgery and Group B wore compression dressing for seven days after surgery. All the patients received 1gm Paracetamol I/V eight hourly followed by tablet Paracetamol 500mg P/O eight hourly. Then the outcome of compression dressing was analysed in the form of mean postoperative pain. The mean pain score was assessed on one week.

Data were entered in SSPS v23.0. Stratification of pain score was done against age, gender, and grades of varicose veins. A comparison of the two groups was done by applying a t-test. A p-value of ≤ 0.05 was considered significant.

Prescribing compression stockings for longer than two days after Trendelenburg's procedure leads to reduced pain and improved physical function during the first week after treatment.

Keywords: Trendelenburg's procedure, Great saphenous vein, Compression stockings.

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Introduction

Superficial venous insufficiency of the leg is estimated to occur in 40-50 percent of all adults and manifest mostly as a varicose vein. Great saphenous vein incompetence is associated with 80% of all significant lower limb varicosities.[2]

Patients with varicose veins usually present with aching legs at the end of the day after prolonged standing. Other symptoms include ankle swelling, itching, bleeding, superficial thrombophlebitis, eczema, lipodermatosclerosis, and ulcerations.[3]

Saphenofemoral junction disruption and ligation of the great saphenous vein (GSV) with multiple phlebectomy is a popular surgical technique for the management of symptomatic varicose veins.[4]

Radiofrequency or laser ablation of GSV are two less aggressive therapy methods that are equally successful as compared to the surgical management. Following GSV peeling or ablation, compression stockings are typically prescribed to minimise the possibility of haemorrhage, haematoma, oedema, and pain.[5]

A compression dressing is a form of dressing that can be flexible, deformable, a mix of the two, or a layered pressure system. It decreases venous wall pressure, avoids reflux, regulates venous regurgitation, redirects blood to deep veins, and enhances venous wall effectiveness.[6]

There is a wide variety of opinion regarding the form and time for applying this pressure in the form of compression stocking. Many studies have been carried out showing different results such as Baker et al have shown lesser frequency of pain at one week in patients who have continuous compression, as compared with more pain in cases who had only two days of compression - 2.0 (±1.1) versus 3.7 (±2.1), respectively.[7]

The optimal duration of compression dressing after varicose vein surgery remains a matter of debate.[5] To address this controversy,[1] the study is planned to determine the outcome of compression dressing after varicose vein surgery in terms of postoperative pain.[8] Moreover, no local published literature is available. This study aimed to compare the outcome of the compression dressing for two days vs seven days after varicose vein

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surgery. The outcome was measured in terms of mean postoperative pain.

Patients and Methods

The Case-Control study was conducted at the Surgical floor, Mayo Hospital, Lahore from October, 1 2020, to April 1, 2021. A sample size of 60 patients (30 patients in each group) was estimated by 95% of confidence level with 80% power of the test and taking an expected mean VAS score for two days after varicose vein surgery as 3.7 ±2.1 and seven days after varicose vein surgery as 2.0±1.1.[9] Non-Probability Consecutive Sampling Technique was used.

The Inclusion criteria were, both genders, age between 18-50 years and Primary varicose vein for clinical component of CEAP classification 2, 3, 4, 5 varicose veins (diagnosed clinically by a consultant).

The exclusion criteria were, previous varicose vein surgery of GSV, Bleeding disorders diagnosed on previous medical record, active ulceration diagnosed on clinical examination and Leg pain other than venous origin.

A total of 60 patients were admitted through the outpatient department fulfilling the inclusion criteria after the approval of the ethical committee of the hospital.

Written informed consent was taken. Data concerning their demographic profile (age and sex) was recorded.

All the patients underwent surgery (Trendelenburg operation) for varicose veins. All operations were performed by the same consultant under spinal anaesthesia. They were randomly allocated into two groups by a computer-generated method.

Group A wore compression dressing for two days after surgery and Group B wore compression dressing for seven days after surgery.

All the patients received 1gm Paracetamol I/V eight hourly followed by tablet Paracetamol 500mg P/O eight hourly. Then the outcome of compression dressing was analysed in the form of mean postoperative pain. Mean pain score was assessed after one week by a doctor who was unaware of the procedure. Data was entered in SSPS v23.0. Quantitative variables like age and postoperative pain were presented as Mean±SD. Qualitative variables, as gender, were presented as frequency and percentages. Stratification of pain score was done against age, gender and grades of varicose veins. Comparison of the two groups, i.e. group A (compression dressing for two days after varicose vein surgery) and group B (compression dressing for seven days after varicose vein surgery) was done by applying t-test. A p-value of $\leq$0.05 was considered significant.

Results

In this study a total of 60 cases with primary varicose veins were analysed. These patients were divided in two groups, viz. Group A (compression dressing for two days) and Group B (compression dressing for seven days). In

Table-1: Comparison of pain score in both groups.

	Groups	N	Mean	SD	p-value
VAS pain score	Group-A (Compression dressing for 2 days)	30	4.50	1.22	0.0003
	Group-B (Compression dressing for 7 days)	30	2.97	0.81	

Table-2: Stratification of pain score in both groups concerning gender.

	Gender	Groups	N	Mean	SD	p-value
AS pain score	Male	Group A (Compression dressing for 2 days)	19	4.55	1.37	0.012
		Group B (Compression dressing for 7 days)	18	3.25	0.87	
	Female	Group A (Compression dressing for 2 days)	11	4.47	1.17	0.0001
		Group B (Compression dressing for 7 days)	12	2.78	0.73	

Table-3: Stratification of pain score in both groups concerning age.

	Age Groups	Groups	N	Mean	SD	p-value
VAS Pain Score	18-30 years	Group A (Compression dressing for 2 days)	12	4.75	1.14	0.0001
		Group B (Compression dressing for 7 days)	10	2.90	0.88	
	31-40 years	Group A (Compression dressing for 2 days)	10	4.40	1.35	0.010
		Group B (Compression dressing for 7 days)	8	2.88	0.64	
	>40 years	Group A (Compression dressing for 2 days)	8	4.25	1.28	0.027
		Group B (Compression dressing for 7 days)	12	3.08	0.90	

Table-4: Stratification of pain score in both groups concerning grades of varicose veins.

	Grades of Varicose Veins	Groups	N	Mean	SD	p-value
VAS Pain Score	Class-2	Group A (Compression dressing for 2 days)	7	4.29	1.38	0.007
		Group B (Compression dressing for 7 days)	13	2.92	0.64	
	Class-3	Group A (Compression dressing for 2 days)	8	4.50	0.93	0.017
		Group B (Compression dressing for 7 days)	6	3.00	1.10	
	Class-4	Group A (Compression dressing for 2 days)	9	4.11	1.27	0.084
		Group B (Compression dressing for 7 days)	4	2.75	0.96	
	Class-5	Group A (Compression dressing for 2 days)	6	5.33	1.21	0.003
		Group B (Compression dressing for 7 days)	7	3.14	0.90	

terms of numbers and percentages, group A comprised 19 (63.3%) males and 11 (36.7%) females, while group B had 18 (60.0%) males and 12 (40.0%) females. Age range in this study was from 18 to 50 years with a mean age of 34.5±8.5 years. The average age of cases in group A was 33.4±9.6 years and in the group B it was 35.4±9.9 years. In group A, 12 (40.0%) patients were between the age of 18-30 years, while 10 (33.3%) and 8(26.7%) were between 31-40 years and >40 years of age, respectively. In group B, 10 (33.3%) were between the age of 18-30 years, while 8 (26.7%) and 12 (40.0%) were between 31-40 years and >40 years of age, respectively.

In group A, 7 (23.3%) patients had class-2 grade of varicose veins, while 8 (26.7%), 9 (30.0%) and 6 (20.0%) had class-3, class-4, and class-5 grade of varicose veins, respectively. In group B, 13 (43.3%) had class-2 grade of varicose veins, while 6 (20.0%), 4 (13.3%), and 7 (23.3%) had class-3, class-4, and class-5 grade of varicose veins, respectively.

A mean pain score of 4.5±1.2 was noted in patients of group A (compression dressing for two days) while 2.9±0.8 in patients of group B (compression dressing for seven days) which was statistically significant, ($p< 0.0003$) (Table-1).

By stratification of mean pain score in both the groups regarding gender, there was a significant difference in males ($p=0.012$) and females ($p=0.0001$) in both groups (Table-2). By stratification of mean pain score in both the groups concerning age, there was a significant difference in all age groups in both groups ($p=0.0001$, 0.010, 0.027) (Table-3). By stratification of mean pain score in both the groups concerning grades of varicose veins, there was a significant difference in all grades of varicose veins in both groups ($p=0.007$, 0.017, 0.084, 0.003) (Table-4).

Conclusion

Compression stockings do not need to be recommended for more than 7 days from a medical standpoint, as clinical outcomes and morbidity rates appear to be equivalent in both categories.[10] But when we measure the patient contentment, this pain is the most significant factor Application of pressure dressing for longer period of time post-operatively after varicose veins surgery leads to better function, early return to work and less pain as compared to pressure dressing applied for a shorter time period post operatively Compression is becoming common therapy following varicose vein surgery, as advised in the majority of current guidelines, to decrease bruising, pigmentation, discomfort, and oedema, as well as to increase effectiveness. Fewer adverse effects may be predicted now that venous procedures are minimally invasive. As a result, the requirement for compression is less obvious.

Limitations of this study: This sample size was small.

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Conflict of Interest: None to declare.

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