

Management Pattern of Chronic venous Disease in Bangladesh

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Abstract

Introduction: Chronic venous disease (CVD) is mostly underdiagnosed disease which may progress to chronic venous insufficiency and venous ulcer thus extensive treatment. CVD may affect negatively into patient's good well-being which can create burdens on their life and also healthcare resources. Bangladesh has very minimum awareness on CVD. **Materials and Methods:** This was a cross-sectional study was carried out in department of vascular surgery of National Institute of Cardiovascular disease. we randomly choose 60 patients with chronic venous disease (CVD) and evaluate their characteristics and prevalence of several types along with the management pattern. Data collection started from May 2021 for next 6 months. **Results:** The patients of this survey were aged between 24 to 70 years and the Mean±SD age was 43.6±12.2. 78.3% of total study population were male, 33.3% were businessman and 10% were housewife. 66.6% patients were having low socio-economic condition. C2 varicose veins were highly prevalent among the study population (35%) & lowest prevalence of C4b lipodermatosclerosis or atrophie blanche (11.7%). Male were predominantly more prevalent to having CVD, 78.33% (n47), (p <0.001). Among all the patient 68.3% patient were exposed to smoking. All the patient were managed predominantly by compression therapy mainly are of moderate pressure (66.7%,) 80% of total patients got treated by oral MPFF therapy. **Conclusion:** : Patients having CVD, invariably presented with the complains of heaviness of leg and unexplained leg swelling and Varicose vein were highly prevalent irrespective of sex. Compression therapy has been remained the mainstay of treatment in tertiary level hospital NICVD along with oral MPFF therapy. **Keywords:** Chronic venous disease (CVD).

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Introduction:

Chronic venous disease (CVD) patients pursue management with several symptoms and signs that may affect their quality of life (QoL). Common symptoms are leg pain, discomfort, and heaviness, whereas the clinical signs of CVD are varicose veins (VVs), oedema, skin discolouration, lipodermatosclerosis, and, in severe cases, venous ulceration. Based on the presence of specific clinical signs, which may or may not be symptomatic but are associated with increasing clinical severity, CVD can be classified from C0 (no signs) to C6

(venous ulceration) ¹. This form of venous dysfunction may be the result of recanalization of thrombosed venous segments, pathological dilation of the vein or due to congenital absence of competent valves ². CVD is a very common problem with varicose veins affecting more than 25 million adults in the United States and more than 6 million with more advanced venous disease³. Estimates from the west show that prevalence of varicose veins varies widely from 2–56% in men and from 1–60% in women and venous ulceration affect approximately 0.3% of the adult population⁴. In Bangladesh, there is no published data regarding the prevalence of CVD. However, unpublished data from the National Institute of cardiovascular diseases (NICVD) suggest that about 50% of all patients undergoing Duplex study for vascular diseases are venous patients and more than 80% of venous consultations are for C4-C6 disease⁵. Prevalence estimates for varicose veins are higher, <1% to 73% in females and 2% to 56% in males⁶. A lower prevalence has been observed in men but some recent surveys have suggested that the occurrence in men may be comparable to that in women⁷. Treatment of CVD is mainly driven by compression therapy along with MPFF and painkillers. Keeping that in mind we have designed this study to see prevalence of chronic venous disease and common treatment pattern in NICVD.

Materials and Methods:

This cross-sectional study was carried out in department of vascular surgery of National Institute of Cardiovascular disease. we randomly choose 60 patients with chronic venous disease (CVD) and evaluate their characteristics and prevalence of several types and treatment pattern. Data collection started from May 2021 for next 6 months in patients who was

admitted with CVD like symptoms. who were aged 18 years and above and willing fortreatment and given informed written consent were includedthis study and patients below 18 years of age were excluded inthis study. Data collected with a pre-tested structuredquestionnaire containing history, clinical, laboratoryinvestigations, pre-operative, post operative complications andpost operative follow up findings. Data collected, compiledand tabulated according to key variables. The analysis ofdifferent variable done according to standard statistical analysis- by using SPSS-19.

Results:

The patients of this survey were aged between 24 to 70 years and the Mean±SD age was 43.6±12.2. 78.3% patient were male and male: female ratio was 1:5.6. around 80% patient were employed that includes service (23.3%), business (33.3%), farming(10%) and garments working(13.3%). 66.7% patients were from low socio-economic background (Table I). All types of CVD patients were seen in our study (Table II), among them C2 varicose vein was more prevalent (35%). Advanced stage C5 healed venous ulcer also seen highly prevalent (21.7%).

Table-I: Demographic characteristics of the study patients (n=60).

Variables	Number of patients	Percentage (%)
Age group (years)		
20-30	9	15.0
31-40	17	28.3
41-50	14	23.3
51-60	16	26.7
61-70	4	6.7
Mean±SD	43.6±12.2	
Range (min- max)	24-70	
Sex		
Male	47	78.3
Female	13	21.7
Male : Female ratio	5.6:1	
Occupation		
Service	14	23.3
Business	20	33.3
Garments worker	8	13.3
Retired	4	6.7
Farmer	6	10.0
Housewife	8	13.3
Socioeconomic status		
Low	40	66.7
Middle	16	26.7
High	4	6.7

Table-II: Distribution of the study patients by clinical classification (n=60).

Clinical classification	Number of patients	Percentage
C2 varicose veins	21	35.0
C3 edema	8	13.3
C4b lipodermatosclerosis or atrophie blanche	7	11.7
C5 healed venous ulcer	13	21.7
C6 active venous ulcer	11	18.3
Total	60	100.0

31-40 years age group were most prevalent having CVD with 17 patients, then 41-50 years age group with 14 patients and 51-60 years age group with 16 patients showing diversified distribution of the disease in the several age groups (Table III). Male were more prevalent having CVD (Table IV) with 78.3% presence. 27.7% male showed C5 healed venous ulcer (p<0.001*) whereas C2 varicose veins were most prevalent among female (69.2%) (p<0.001*). C5 healed venous ulcer and C6 healed venous ulcer were mostly prevalent among service holder and businessman (Table V). Association of CVD with socio-economic status results were in (Table VI). All the patients have been treated with compression therapy. 66.7% patients got the moderate pressure and 26.7% patient got the mild pressure, very few (6.7%) patients got the light pressure. Stocking position was 73% in the thigh level means that is the most common site. Around 80% patients got treated additional MPFF(DAFLON) therapy. Only 8 patients got topical management. 13 patients required pain killer for pain.

Table-III: Association of clinical classification of CVD with age group (n=60).

Age group (years)		Clinical classification					p-value
		C2 varicose veins	C3 edema	C4b lipodermatosclerosis or atrophie blanche	C5 healed venous ulcer	C6 active venous ulcer	
20-30	9	8(88.9%)	1(11.1%)	0(0.0%)	0(0.0%)	0(0.0%)	<0.001*
31-40	17	7(41.2%)	0(0.0%)	2(11.8%)	3(17.6%)	5(29.4%)	
41-50	14	4(28.6%)	3(21.4%)	1(7.1%)	1(7.1%)	5(35.7%)	
51-60	16	2(12.5%)	4(25.0%)	0(0.0%)	9(56.3%)	1(6.3%)	
61-70	4	0(0.0%)	0(0.0%)	4(100.0%)	0(0.0%)	0(0.0%)	
Total	60	21(35.0%)	8(13.3%)	7(11.7%)	13(21.7%)	11(18.3%)	

p-value obtained by Chi-square test, *significant

Table-IV: Distribution of the study patients by compression therapy (n=60).

Variables	Number of patients	Percentage (%)
Light (10 – 14 mmHg)	4	6.7
Mild (15 – 22mm Hg)	16	26.7
Moderate (23 -32mmHg)	40	66.7
Total	60	100.0

Table-V: Distribution of the study patients by stockings (n=60).

Variables	Number of patients	Percentage (%)
Below-knee	16	26.7
Thigh level	44	73.3
Total	60	100.0

Table-VI: Distribution of the study patients by treatment (n=60).

Treatment	Number of patients	Percentage (%)
Oral Venoactive treatment (Tab. Daflon)	48	80.0
Painkiller (Tab. Paracetamol)	13	21.7
Topical	8	13.3
Others (surgical intervention, RFA, LASER ablation)	14	23.4

*RFA = Radio Frequency Ablation

Discussion:

Hippocrates recommended puncture of varicose veins followed by compression⁷. Compression therapy, despite significant improvements in dressing materials and other methods, remains the cornerstone of conservative treatment. This is because of its ease of use, non-invasive nature, and efficacy in managing venous hypertension, the main pathophysiological mechanism of CVD. Elastic stockings were invented in 1930 as a result of the personal experience of Jobst, an engineer, who himself suffered from a venous ulceration. While bathing in his pool, he noticed that his symptoms were less pronounced, coming to the conclusion that the increasing depth of the water was the secret of the “healing” component. Thus, graduated compression stockings were invented⁸. The current standard treatment for symptoms and signs of chronic venous obstruction or deep venous reflux is compression therapy. However, its effectiveness may be suboptimal in selected cases, especially when compression therapy has limited effect on venous symptoms or the compliance is poor. One RCT, concerned with treatment of venous ulcers, showed that the group treated by CHIVA had a similar healing rate (100% vs. 96%) and a lower recurrence rate (9% vs. 38%) at 3 years follow up than the group treated by compression⁹. In a RCT, sustained compression of at least 40 mmHg with a four layer compression bandage over a week has been 698 C. Wittens et al. shown to be more effective than lower grades of compression¹⁰. Maximum research suggest that compression therapy has been very effective and time tested for managing CVD. In this study along with compression several other concomitant therapy like oral MPFF, Painkiller, Surgical interventions, RFA, laser ablation have also been used in selective patients. Our study result also reveals similarity with these data. All the patients got treated with compression therapy in tertiary level hospital like NICVD.

Conclusion:

Chronic venous disease is quite common in Bangladesh. But majority of the patient remains unaware the disease and

also the rarely seek treatment. Maximum of our patients are poor thereby they are reluctant to take adequate management. Compression therapy is a cheaper option for the management of CVD along with MPFF. Use of compression is quite popular also in tertiary level hospital which is substantiated with our study.

Conflict of Interest: None.

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