



CLINICO-RADIOLOGICAL PRESENTATION AND MANAGEMENT OF VARICOSE VEINS OF LOWER LIMB

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ABSTRACT To describe the clinico-radiological presentation and complications of varicose veins along with the study various modalities of treatment for varicose veins both conservative and surgical. **METHODS** This prospective study entitled “Clinico-Radiological Presentation And Management Of Varicose Veins Of Lower Limb” was conducted at The Department of General Surgery, Teerthankar Mahaveer Medical College & Research Centre during the study period November 2018 – November 2019 on patients who attended the surgery out-patient department and were diagnosed with varicose vein and who underwent relevant surgical procedure. **RESULTS** In the current study, out of the 65 cases, 54 patients were found to be male (83.1%) while 11 patients are female (16.9%). A positive occupational history was found to be present in most of the cases and the patients were from different occupations. 20 cases were from the agricultural sector which is the maximum in the list of occupation that is around 30.8 percent who were affected the most and this might be because of the requirement of prolonged standing for their job The commonest complaint from the patients found in this study was for the prominent veins and it was present all of them after its pain was also significantly there as a clinical feature among 37 of the patients. Other clinical features were pigmentation, edema, active ulceration and healed ulceration. The lowest clinical feature was active ulceration which was present in only six cases. Over here the long saphenous vein was distributed in 63 of the patients, that is 96.9%, the varicosity in the short saphenous vein was in 10 patients only amounting to 15.4%. The commonest group of the perforators which were incompetent was basically the ones above knee only 1 patient and the below knee had 14 cases. According to the multiple tourniquets test that had the highest frequency below the knee owning 66.2% then came the lower leg and ankle perforators having 49.2% and the above knee having 36.9%. There was about 10.8% lower leg perforator and the negative perforator site was present in 20% of the patients. By the duplex USG, the saphenofemoral incompetence was present in 86.2%, the saphenopopliteal incompetence was in 13.8% of the study subjects. **CONCLUSION** Of 65 cases of varicose veins present in the lower limb of both males and females that have been studied over here. The in detailed analysis of the data has enabled this paper to conclude the following statements.

- Varicosity of the lower limb is a generally common clinical problem.
- The commonest age group of the patients is 15 to 25 years and mostly it occurs in male.
- The evidence of a long saphenous system is greater and common than the short saphenous system and the left limb is much more affected than the right limb.
- The outcome of the cases of primary Varicose veins depends on a proper and complete clinical examination. Although the conservative treatment helps to relieve the symptoms, it cannot be a definitive option for treating them.
- Operative line of treatment of Varicose veins of lower limbs is a primary procedure of Management and some complications may occur in cases of surgery.
- The clinico-radiological process of management helps the patients for leading almost normal life after the treatment and the morbidity rate is also very negligible.
- New trends are coming up in the field of radiological management of Varicose veins with good results and need a proper follow up in the future.

KEYWORDS : Varicose Vein, Saphenofemoral flush ligation, Stripping.

BACKGROUND

Varicose veins may be better defined as the superficial veins that are the consequence of weakening of the vein walls and valves in the lower limb of an individual. The affected limb tends to lose its valvular efficiency permanently.¹

The lower limbs are mostly found to be affected by this condition and this is mainly because of the increasing pressure received by the veins of the lower limbs while standing or walking. The condition occurs when the blood pressure inside the veins gets increased. While many people find the varicose veins to be a mere cosmetic concern caused due to mild variation in the veins, others tend to suffer from severe pain as well as discomfort due to varicose veins. In fact, if left untreated, the varicose veins may lead to further complications like pain, ulcer, skin changes and thrombosis.²

A number of mechanisms or interventions are suggested for the treatment of varicose veins. The diagnosis for varicose veins is done by both a conservative approach as well as by surgical interference⁹. However, both of the approaches have certain limitations. The common conservative treatment options used for treating varicose veins are avoiding restricted clothing, avoiding standing for a prolonged period of time, elevating the leg which is affected, exercising, and modifying the cardiovascular risk factors through relevant medical therapies.

Apart from the home treatment options, there are less invasive procedures for the closing or removal of the varicose veins. These less invasive procedures can be followed at the clinic very easily. For instance, a number of studies have suggested the importance of laser treatment for closing the affected veins. The lasers can be used both on the external surface of the skin as well as inside a vein. Radiofrequency closure is another relevant procedure which is also found to be used for the closure of the vein. In this procedure, the direction of energy is made through a thin tube inside the cut which is made in the vein. Sclerotherapy is the process of injecting a chemical into the varicose vein for closing it³.

However, if the conservative options and the less invasive procedures or clinical interventions fail in addressing the problem faced by the patient due to varicose veins, then he may opt for surgical interference. The most common surgical interventions used for the treatment of varicose veins are vein ligation and stripping⁸. As indicated by most of the studies, the laser treatment and radiofrequency closure work well for closing varicose veins along with surgical interference. The treatments are also found to be effective and efficient in relieving the patients from the symptoms of varicose veins, improving the skin look, thereby moving the quality of their life. However, a number of risk factors are associated with the treatment options including the formation of blood clots in the veins, formation of small scars, bleeding sores, allergic reactions in the skin and changing of skin color

where the treatment is done⁴. Surgical interference may also bring about the risks of increased bleeding from the skin, getting an infection, numbness in the lower limb, anesthesia problems or formation of small scars after the removal of the veins⁵.

In this context, the current study intends to undertake a close assessment for gaining an understanding of the clinic-radiological and management of varicose veins of lower limbs.

MATERIALS AND METHODS

This prospective study entitled “Clinico-Radiological Presentation And Management Of Varicose Veins Of Lower Limb” was conducted at The Department of General Surgery, Teerthanker Mahaveer Medical College & Research Centre during the study period November 2018 – November 2019 on patients who attended the surgery out-patient department and were diagnosed with varicose vein and who underwent relevant surgical procedure.

Sample Size :

The sample size has been calculated by using G-power software 80% power and 5% significance level. The total sample size was determined to be 65 consecutive cases, with complaints and clinical signs suggestive of varicose vein over a period of one year.

Inclusion criteria

- Patients coming to TMMC&RC who possessed the symptoms and signs of varicose veins.
- Patients who are clinically diagnosed as having varicose veins and willing for surgery will be included, after taking informed written consent.

Exclusion criteria

- Pregnant women with varicose veins
- Patients less than 18 years
- Secondary varicose veins
- Disease involves a deep venous system.

Study procedure :

Clinical history will be obtained in all the patients. The patient will be examined in standing position with good illumination, exposing both the lower limbs completely. The following tests will be performed:

- Brodientrendelenburg I and II
- Modified Perthe's test
- Multiple tourniquet test
- Schwartz test
- Morrissey's cough impulse test.
- Fegan's test.
- Abdominal and rectal examination

The results of the tests will be documented according to the clinical proforma.

OBSERVATION AND RESULTS

Table 1: - Clinical Features -wise distribution of the study subjects.

Clinical Features	Frequency	Percent
Prominent Veins	65	100.0
Pain	37	56.9
Edema	28	43.1
Pigmentation	15	23.1
Healed ulceration	8	12.3
Active ulceration	6	9.2
Family history	27	41.5

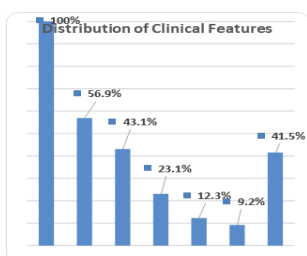


Fig-1

Table 2: - Perforator site-wise distribution of the study subjects.

Perforator site	Frequency	Percent
Above knee perforators	1	1.5
Below knee perforators	14	21.5
Lower leg	7	10.8
Multiple perforators	30	46.2
Negative	13	20.0
Total	65	100.0

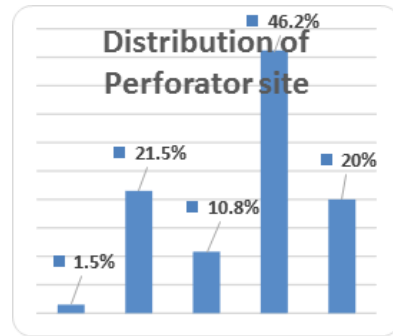


Fig.2

Table 3: - Treatment -wise distribution of the study subjects.

Treatment	Frequency	Percent
Saphenofemoral flush ligation	51	78.5
Stripping	57	87.7
Saphenopopliteal ligation	9	13.8
Multiple stab avulsions	12	18.5
Subfascial/ Extrad fascial ligation	19	29.2
Bisgard's Method	12	18.5

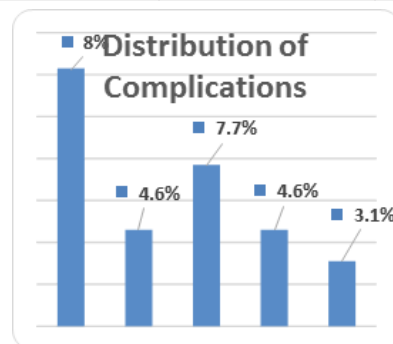


Fig.3

DISCUSSION

In the current study, out of the 65 cases, 54 patients were found to be male (83.1%) while 11 patients are female (16.9%). Like the Edinburgh study show that the adjusted prevalence of the trunk varices has been found to be higher in men which is around 39.7 % than in the cases of women show the percentage of 32.2 %.²

A positive occupant history was found to be present in most of the cases and the patients were from different occupations. 20 cases were from the agricultural sector which is the maximum in the list of occupation that is around 30.8 percent who were affected the most and this might be because of the requirement of prolonged standing for their job.

The commonest complaint from the patients found in this study was for the prominent veins and it was present all of them after its pain was also significantly there as a clinical feature among 37 of the patients. Other clinical features were pigmentation, edema, active ulceration and healed ulceration. The lowest clinical feature was active ulceration which was present in only six cases.

The findings of our study do not correlate with the studies done by W.B. Campbell et al.⁶, over the cosmetics items which were around 90% but the pain was only 57%. It is due to the reason that the patients of our study belong from the socio-economic background and that's why their cosmetic demands were low due to poor self-care and also, they had a delay for seeking a doctor for the treatment.

Over here the long saphenous vein was distributed in 63 of the patients, that is 96.9%, the varicosity in the short saphenous vein was in 10 patients only amounting to 15.4%.

The commonest group of the perforators which were incompetent was basically the ones above knee only 1 patient and the below knee had 14 cases.

According to the multiple tourniquets the test had the highest frequency below the knee owning 66.2% then came the lower leg and ankle perforators having 49.2% and the above knee having 36.9%. There was about 10.8% lower leg perforator and the negative perforator site was present in 20% of the patients¹⁰.

By the duplex USG, the saphenofemoral incompetence was present in 86.2%, the saphenopopliteal incompetence was in 13.8% of the study subjects. These results find a similarity with the research works of Harold Brem, Robert Kirsner, VincetFalanga.⁷

CONCLUSION

Of the 65 cases of Varicose veins present in the lower limb of both males and females that have been studied over here. The in detailed analysis of the data has enabled this paper to conclude the following statements.

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