



E-ISSN: 2616-3470
P-ISSN: 2616-3462
© Surgery Science
www.surgeryscience.com
2022; 6(1): 74-78
Received: 06-10-2021
Accepted: 10-12-2021

T Vignesh
Final Year Postgraduate,
Department of General Surgery,
Rajah Muthiah Medical College
and Hospital, Annamalai Nagar,
Tamil Nadu, India

R Jayaraman
Assistant Professor, Department of
General Surgery, Rajah Muthiah
Medical College and Hospital;
Annamalai Nagar, Chidambaram,
Tamil Nadu, India

V Jai Ganesh
Final Year Postgraduate,
Department of General Surgery,
Rajah Muthiah Medical College
and Hospital, Annamalai Nagar,
Tamil Nadu, India

Corresponding Author:
T Vignesh
Final Year Postgraduate,
Department of General Surgery,
Rajah Muthiah Medical College
and Hospital, Annamalai Nagar,
Tamil Nadu, India

A prospective study on venous ulcer in patients with varicose veins

T Vignesh, R Jayaraman and V Jai Ganesh

DOI: <https://doi.org/10.33545/surgery.2022.v6.i1b.823>

Abstract

Venous ulcers are by far the most common lower-limb ulcers. It has a higher mortality rate and causes economic strain on both individuals and nations. The pathophysiology is chronic venous hypertension due to primary or secondary venous disease with perforator paucity, destruction, or incompetence resulting in reflux, but tissue hypoxia, cell death, and ulceration are caused by inflammatory reactions mediated by leucocytes, platelet adhesion, formation of a pericapillary fibrin cuff, growth factors, and macromolecules trapped in tissue.

Aim: To study about incidence of venous leg ulcers in patients with varicose veins attending general surgery OPD in RMMCH and to study the risk factors influencing occurrence of venous ulcer in patients with varicose veins.

Results: Incidence of venous ulcer was more common in young adults and patients working as laborer which involves working in standing position for a longer time. Incidence of ulcer was common among males than in females in the ratio of 24:1 and left sided venous ulcers are more common than (R) side ulcers. Staphylococcus aureus was the common organism presented in about 44% of the cases 28% of the organisms isolated was found to be Gram negative.

Conclusion: Venous ulcers in patients with varicose veins are even common among young adults, perhaps due to occupations which require prolonged standing or they are more prone to traumatize while working. Co-morbidities like Diabetes, smoking and micro-organism like Staphylococcus aureus are major risk factors for venous ulcer.

Keywords: Venous ulcer, varicose ulcer, microbiological profile

Introduction

“Venous ulceration” is a term used to define an ulceration of the skin in malleolar region in presence of Superficial/perforating vein incompetence with or without the deep vein incompetence^[1].

Ulceration of leg is common symptom that affects 2% of people in their entire life time. Prevalence increases along with age ranging from 0.5% in patients above 40 years to 2% in those who are above the age of 80 years^[2]. Lower the incidence as the proportion of elderly people in the population increases; we can predict a rise in the present estimated number of leg ulcers unless a more educated approach taken towards its management^[3].

Though important advancements have been done towards management of leg ulcer, India is still lagging behind the European countries in terms of standards set by them. Treatment of leg ulcer is poorly taught, fragmented and researched inadequately. On an average ulcer takes 6 months to heal and in some, ulcers persist up to years. Good management of ulcer mainly depends on accurate diagnosis, appropriate and simple care of wound and also the treatment of the underlying cause^[4].

AIM

To study about incidence of venous leg ulcers in patients with varicose veins attending general surgery OPD in RMMCH

To study the risk factors influencing occurrence of venous ulcer in patients with varicose veins

Materials and Methods

The study will be conducted among 50 patients attending general surgery OPD in Rajah Muthiah Medical college and hospital who have been diagnosed as varicose veins during study period between October 2019 to October 2021.

A detailed history including symptoms, mode of development, duration of ulcer, occupation, claudications and previous surgery were taken. The patients were examined in both recumbent and standing postures. The size, location, floor of the ulcer and secondary changes in the like leg including pigmentation, mobility of ankle joint and periostitis of underlying bone were noted. Regional lymph nodes were also examined. Legs were thoroughly examined for any varicosities. Sapheno-femoral / Sapheno-popliteal and perforator incompetences were identified by Trendelenburg, Schwartz and multiple tourniquet tests. Perthe's test was used to assess the deep veins and by palpating the defects in deep fascia, perforator incompetences were

localized. Arterial component were ruled out by examining the arterial pulses of both feet. Pelvic and abdominal examination was done to rule out dilated suprapubic veins, tumours and ascites.

Doppler and Duplex imaging were done to rule out deep vein thrombosis and also to localize the site of incompetence in all the cases. Routine blood investigations were also done. Wound swabs were taken from wound and antimicrobials were given in accordance to microbial culture and sensitivity reports.

Results of the study

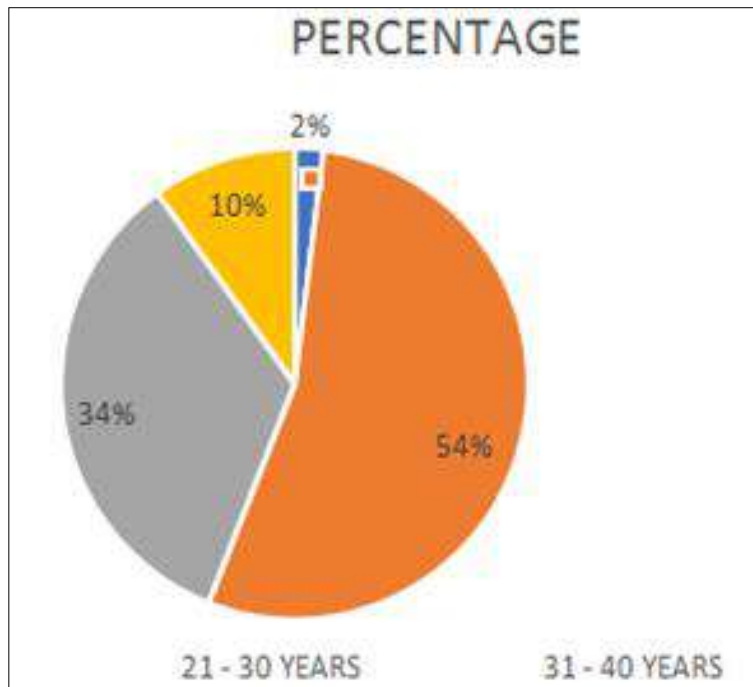


Chart 1: Age Incidence

In my study the majority of patients with venous leg ulcers belong to the age group of 31-40 years comprising of about 54% of the group, with the youngest aging 23 and the oldest aging 56 respectively,

The venous ulcer incidence was more common among males than females comprising of about 94% of the total study group.

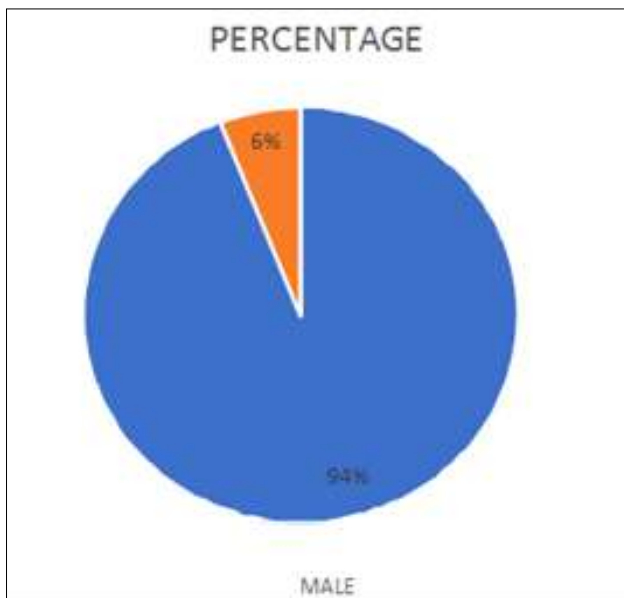


Chart 2: Sex Incidence

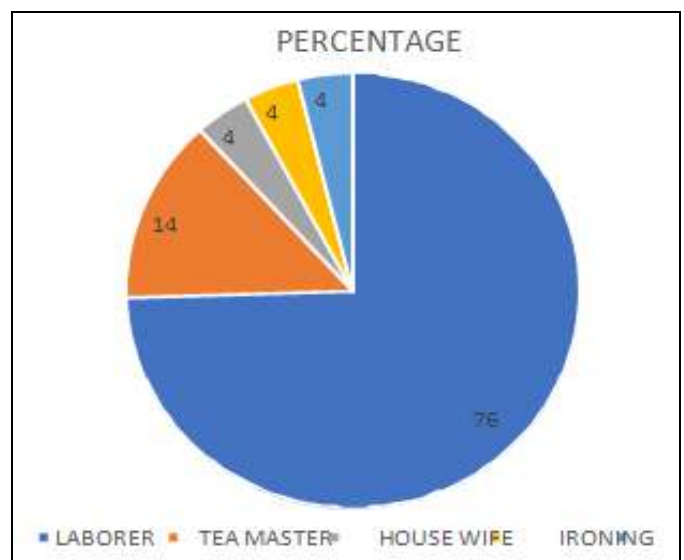


Chart 3: Occupation

Incidence of venous ulcer was more common in patients working as laborer which involves working in standing position for a longer time

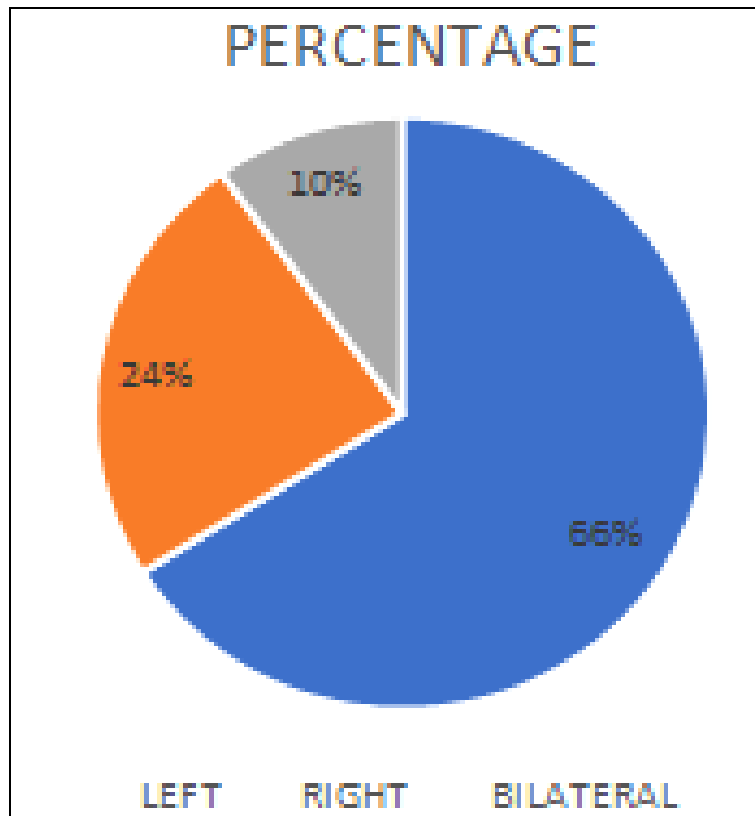


Chart 4: Incidence of laterality

In 10% of the study group bilateral leg involvement was present

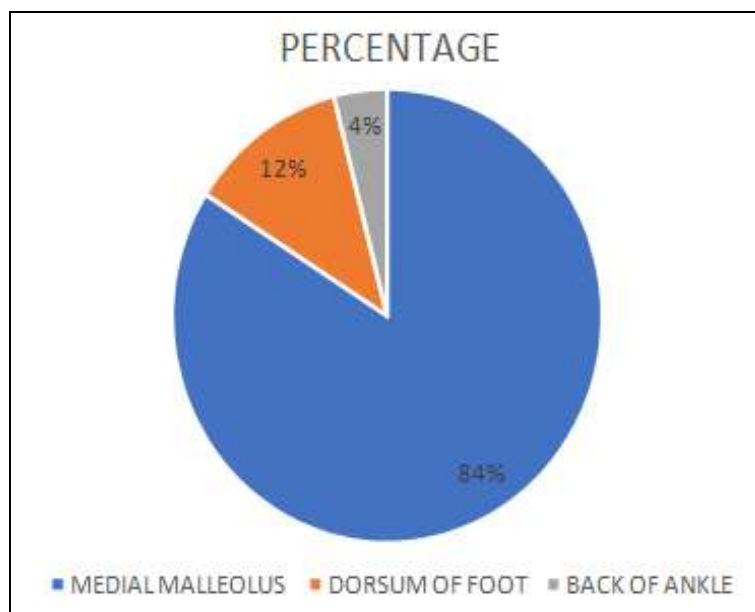


Chart 5: Incidence based on site of ulcer

Venous ulcer most commonly involved the area around the medial malleolus (GAITER'S AREA) comprising of around 84% of the study group

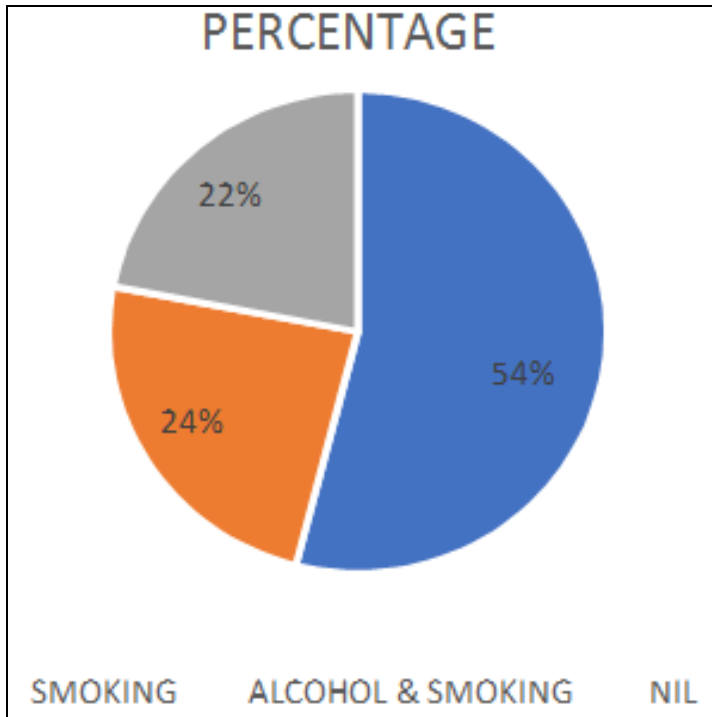


Chart 6: Personal History

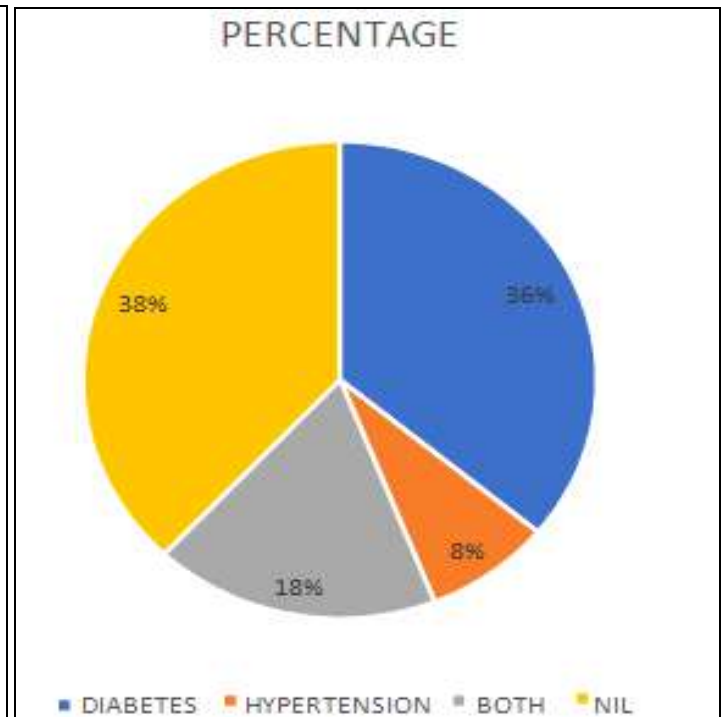


Chart 7: Comorbidities

Table 1: Wound swab for culture and sensitivity

Sl. No	Organism	No. of patients	Percentage
1	Staph. Aureus	22	44%
2	Klebsiella	08	16%
3	E.coli	04	8%
4	Pseudomonas	05	10%
5	Mixed	05	10%
6	No growth	06	12%

These results were comparable to British Reports. Staphylococcus Aureus was the common organism presented in about 44% of the cases 28% of the organisms isolated were found to be Gram negative.

Discussion

From the study of 50 venous ulcer cases, we found that though venous ulceration is described as a disease of elderly, it is found equally common among young adults as per my study, Callam M. J study also showed that elders are not the only risk groups⁵. This could be due to more prolonged standing occupations and perhaps young adults are more prone to traumatize themselves while working.

Incidence of ulcer was common among males than in females in the ratio of 24:1 in this study which co-related to the study by Dr Akkidas *et al.*^[6]. Left sided venous ulcers are more common than (R) side ulcers. This may be due to loaded sigmoid colon compressing veins draining the (L) lower limb.

Ulcer most commonly involves the GAITER’S area i.e, the area around the medial malleolus. Incidence of venous ulcer was more common in patients whose work involves standing for a long time. This proves the fact that venous stasis/pooling is an important factor in development of venous ulcer^[7] De Palma. In my study I have found that the incidence of ulcer was more common in patients with comorbidity like diabetes and patients who smoke. In 10% of cases in the study, venous ulceration has occurred in patients who have underwent prior Trendelenburg procedure, this could be due to failure in addressing the perforators. The common associations of ulcer are hyper

pigmentation followed by pruritis and pain, especially on prolonged standing which is relieved by keeping legs elevated. Pain is most often felt at the ulcer site and sometimes also felt involving entire leg^[8].

Our Indian patients have excellent tolerance. Even with leg ulcers they continue to work. This is evidenced by a history of up to 2-3 years duration of leg ulcer. This may be due to indifference and ignorance.

Incidence of venous ulcer is more common in patients with Sapheno-femoral junction incompetence, according to my study, which was similar to study by Bass A *et al*, P^[9].

Most common organism isolated from ulcer in my study is Staphylococcus Aureus in our study which correlated to the study by Lim *et al.*^[10].

This proves the fact that Staph. aureus is one of the risk factors influencing venous ulcer.

Conclusion

Venous ulcers in varicose vein are even common among young adults, perhaps due to occupations which require prolonged standing or they are more prone to traumatize while working. Co-morbidities like Diabetes, smoking and micro-organism like Staphylococcus aureus are major risk factors for venous ulcer in varicose veins.

Conflict of Interest: Nil

Acknowledgement: The authors report their sincere thanks to all who have helped in this project

Funding Source: Nil

Ethical Statement: Ethical clearance obtained from Institutional Human Ethics Committee, Rajah Muthiah Medical College and hospital.

References

1. Treatment of venous leg ulcers- William SC, British Journal of Nursing. March 1996, 274-278.
2. Margolis DJ, Bilker W, Santanna J, Baumgarten M. Venous

- leg ulcer: incidence and prevalence in the elderly. *J Am Acad Dermatol.* 2002 Mar; 46(3):381-6. doi: 10.1067/mjd.2002.121739. PMID: 11862173.
3. Wipke-Tevis DD, Rantz MJ, Mehr DR, Popejoy L, Petroski G, Madsen R, *et al.* Prevalence, incidence, management, and predictors of venous ulcers in the long-term-care population using the MDS. *Adv Skin Wound Care.* 2000 Sep-Oct; 13(5):218-24. PMID: 11075021.
 4. Rai R. Standard guidelines for management of venous leg ulcer. *Indian Dermatol Online J.* 2014;5(3):408-411. doi:10.4103/2229-5178.137830.
 5. Callam MJ, *et al.* Chronic Ulcers of the Leg: Clinical History, *Br Med J.* 1987;294:1389-91.
 6. Dr. Akkidas Suvarchala MS, Dr. Tabbassam Aura MS, Dr. Shaik Sohail. Clinicopathological Study of Chronic Lower Limb Ulcers and Management. *JMSCR.* March 1996;07(09):19-27.
 7. De Palma RG, Kowallek DL. Venous Ulceration, a cross over study from non-operative to operative treatment, *Journal of Vascular Surgery,* 1996, 788-792
 8. Reichardt LE. Venous ulceration: compression as the mainstay of therapy. *J Wound Ostomy Continence Nurs.* 1999 Jan; 26(1):39-47.
 9. Bass A, *et al.* P. Lateral Venous ulcer and short Saphenous vein insufficiency. *April 1997,* 654-657.
 10. Lim T, Mwipatayi B, Murray R, Sieunarine K, Abbas M, Angel D. Microbiological profile of chronic ulcers of the lower limb: a prospective observational cohort study. *ANZ J Surg.* 2006 Aug; 76(8):688-92.