Original Article

# A study of the Risk factors associated with chronic ulceration with patients of varicose vein

Sanjay Chanda

Associate Professor, Department of General Surgery, Bidar Institute of Medical Science, Udgir Road, Near Khadi Bhandar, Bidar 585401.
**Email:** chandasanjay31@yahoo.in

## Abstract

**Introduction:** Varicose veins occur commonly in the general population with 36% of people in the United Kingdom affected.[1]A major complication of varicose veins is venous ulcer, which accounts for over 75% of all chronic leg ulceration. **Aims and Objectives:** To study the Risk factors associated with chronic ulceration with patients of varicose vein **Methodology:** This was a hospital based study cross-sectional study carried out at the General Surgery Department of Bidar Institute of Science during the one year period i.e. March 2014-March 2015. All the patients with problems of varicose vein were studied only those persons were having ulceration were included into the study and those who don't given consent and were having terminal illness were excluded from the study. The statistical analysis done by Z-test (Difference between two Proportions) **Result:** In our study we have found that Majority of the Patients were in the Age group of >50 i.e. 42.50% followed by 40-50-30.00%; 30-40-15.00%; 20-30-5.00%; 10-20-5.00%; 1-10-2.5%Majority of the patients were Male i.e. 67.50% and Females were 32.50% The majority of the Patients with chronic ulceration with varicose vein were associated significantly with risk factors like H/o Long Standing Work 75.00 %(Z=5.55, p<0.05. HS) H/o Smoking 72.50% (Z=4.28, p<0.05.HS), H/o Diabetes 57.50% (Z=5.21,p<0.05.HS)Obese (BMI>30) 72.50% (Z=3.8, p< 0.05. NS), Infection 70.00% (Z=3.39,p<0.05.HS)H/o DVT 60.00% (Z=2.95,p<0.05.HS), Hypertension 62.50% (Z=4.49,p<0.05.HS). **Conclusion:** The identification of risk factors like Long Standing Work Smoking, Diabetes Obese, Infection, Hypertension helps to prevent the complication of ulceration in varicose vein.

**Keywords:** Chronic ulceration with patients of varicose vein, Diabetes, Hypertension, Obese.

**Address for Correspondence:**
Dr. Sanjay Chanda, Associate Professor, Department of General Surgery, Bidar Institute of Medical Science, Udgir Road, Near Khadi Bhandar, Bidar 585401 Karnataka, INDIA.
**Email:** chandasanjay31@yahoo.in

Received Date: 05/04/2016 Revised Date: 13/05/2016 Accepted Date: 01/06/2016

| Access this article online | |
|---|---|
| Quick Response Code: | Website: www.statperson.com |
| | DOI: 03 June 2016 |

## INTRODUCTION

Varicose veins occur commonly in the general population with 36% of people in the United Kingdom affected.[1] A major complication of varicose veins is venous ulcer, which accounts for over 75% of all chronic leg ulceration. Venous ulcers affect around 1% of the population during their lifetime, are notoriously difficult to heal, and cause considerable morbidity and diminished quality of life.[2,3] In the United Kingdom, venous leg ulceration alone has been estimated to cost the National Health Service (NHS) $575 million dollars a year.[4] It has been estimated that the treatment of venous ulceration accounts for around 3% of the total expenditure on health care.[5] Given the high cost of treating ulcers, strategies aimed at preventing leg ulceration would have compelling economic rationale. Attempts to improve the healing rates of venous ulcers by conventional treatments in the community have not been successful, as shown in the Scottish Leg Ulcer Project.[6] Greater attention needs to be given to prevention of leg ulceration if the community burden is to be reduced. NHS expenditure on treating varicose veins has been curtailed by most health authorities. There is a strong case for targeting available expenditure on the high risk fraction of the varicose vein population. As yet, there is little good scientifically validated evidence on which clinical and other factors increase the risk of ulceration. A few crosssectional and case control studies have compared risk factors in ulcer patients with the population as a whole[7-10]

How to site this article: Sanjay Chanda. A study of the Risk factors associated with chronic ulceration with patients of varicose vein. *International Journal of Recent Trends in Science and Technology* June 2016; 19(2): 197-199. http://www.statperson.com (accessed 05 June 2016).

## MATERIAL AND METHODS

This was a hospital based study cross-sectional study carried out at the General Surgery Department of Bidar Institute of Science during the one year period i.e. March 2014-March 2015. All the patients with problems of varicose vein were studied only those persons were having ulceration were included into the study and those who don't given consent and were having terminal illness were excluded from the study. The statistical analysis done by Z-test (Difference between two Proportions).

## RESULT

**Table 1:** Age wise Distribution of the Patients with ulceration of varicose vein

| Age | No. | Percentage (%) |
|---|---|---|
| 1-10 | 1 | 2.5% |
| 10-20 | 2 | 5.00% |
| 20-30 | 2 | 5.00% |
| 30-40 | 6 | 15.00% |
| 40-50 | 12 | 30.00% |
| >50 | 17 | 42.50% |
| **Total** | **40** | **100.00%** |

Majority of the Patients were in the Age group of >50 i.e. 42.50% followed by 40-50-30.00%; 30-40-15.00%; 20-30-5.00%; 10-20-5.00%; 1-10-2.5%.

**Table 2:** Gender wise Distribution of the Patients with ulceration of varicose vein

| Sex | No. | Percentage (%) |
|---|---|---|
| Male | 27 | 67.50% |
| Female | 13 | 32.50% |
| **Total** | **40** | **100.00%** |

Majority of the patients were Male i.e. 67.50% and Females were 32.50%.

**Table 3:** Distribution of the Patients as per the Various Associated Risk factors

| Risk Factors | Present | | Absent | | P-value |
|---|---|---|---|---|---|
| H/o Long Standing Work | 30 | 75.00% | 10 | 25.00% | Z=5.55, p<0.05. HS |
| H/o Smoking | 29 | 72.50% | 11 | 27.50% | Z=4.28, p<0.05.HS |
| H/o Diabetes | 23 | 57.50% | 17 | 42.50% | Z=5.21,p<0.05.HS |
| Obese (BMI>30) | 29 | 72.50% | 11 | 27.50% | Z=3.8, p< 0.05. NS |
| Infection | 28 | 70.00% | 12 | 30.00% | Z=3.39, p<0.05.HS |
| H/o DVT | 24 | 60.00% | 16 | 40.00% | Z=2.95,p<0.05.HS |
| Hypertension | 25 | 62.50% | 15 | 37.50% | Z=4.49,p<0.05.HS |

The majority of the Patients with chronic ulceration with varicose vein were associated significantly with risk factors like H/o Long Standing Work 75.00 % (Z=5.55, p<0.05. HS) H/o Smoking 72.50% (Z=4.28, p<0.05.HS), H/o Diabetes 57.50% (Z=5.21,p<0.05.HS)Obese (BMI>30) 72.50% (Z=3.8, p< 0.05. NS), Infection 70.00% (Z=3.39,p<0.05.HS)H/o DVT 60.00% (Z=2.95,p<0.05.HS), Hypertension 62.50% (Z=4.49,p<0.05.HS).

## DISCUSSION

External compression is regarded as essential to the VU healing process.21 Approximately 70% of patients in our sample used compressive elastic bandages and 40% wore an Unna boot at some point during the follow-up period. Compliance with compression therapy had a favorable effect on the healing process, but only at 6-month follow-up There is a consensus in the literature that the most effective intervention for treatment of VUs is strong compression, as it minimizes the effects of venous hypertension on the affected leg.[11,12,13,15-19] Compression acts on the macrocirculation by increasing deep venous return, reducing pathological reflux during walking, and increasing the stroke volume during activation of the calf muscles. Limb compression increases tissue pressure, thus facilitating resorption of edema and improving lymphatic drainage. Furthermore, it acts on the microcirculation to decrease fluid and macromolecule outflow from the capillaries and venules to the interstitial space, and can also stimulate fibrinolytic activity.[20,21] Compression therapy plays an essential role in promoting healing and prolonging the recurrence-free period after complete healing.[22] It may consist of a multi-layer dressing, elastic stocking, elastic bandage, or Unna boot.26 The current evidence is not sufficient to establish which provides greater benefit; instead, the adequate use of any of these methods is recommended.[17] Multi-layer compression wraps are currently considered the gold standard for treatment of leg VUs. However, this modality of compression therapy is still relatively

unaffordable, particularly in the Brazilian Unified Health System, which was the setting of our study.[18] Although diabetes mellitus may hinder healing of acute and chronic ulcerations, as poor glycemic control can have a negative impact on cytokine and growth factor release and on collagen synthesis, diabetes was not associated with poor prognosis in our sample; this finding is consistent with other studies.[22], Like Margolis *et al*., we also failed to find any association between high blood pressure and treatment failure.[22] In our study we have found that Majority of the Patients were in the Age group of >50 i.e. 42.50% followed by 40-50-30.00%; 30-40-15.00%; 20-30-5.00%; 10-20-5.00%; 1-10-2.5%. Majority of the patients were Male i.e. 67.50% and Females were 32.50% The majority of the Patients with chronic ulceration with varicose vein were associated significantly with risk factors like H/o Long Standing Work 75.00 %(Z=5.55, p<0.05. HS)H/o Smoking 72.50% (Z=4.28, p<0.05.HS), H/o Diabetes 57.50% (Z=5.21,p<0.05.HS)Obese (BMI>30) 72.50% (Z=3.8, p<0.05. NS), Infection 70.00% (Z=3.39,p<0.05.HS)H/o DVT 60.00% (Z=2.95,p<0.05.HS), Hypertension 62.50% (Z=4.49,p<0.05.HS).

## CONCLUSION

The identification of risk factors like Long Standing Work Smoking, Diabetes. Obese, Infection, Hypertension helps to prevent the complication of ulceration in varicose vein.

## REFERENCES


1. Evans CJ, Fowkes FGR, Ruckley CV, Lee AJ. Prevalence of varicose veins and chronic venous insufficiency in men and women in the general population: Edinburgh Vein Study. J EpidemiolComm Health 1999; 53:149-53.
2. Moffat CJ, Franks PJ, Oldroyd MI, Bosanquet N, Brown P, Greenhalgh RM. Community clinics for leg ulcers and impact on healing. BMJ 1992; 305:1389-92.
3. Simon DA, Freak L, Kinsella A, Walsh J, Lane C. Community leg ulcer clinics: a comparative study in two health authorities. BMJ 1996; 312: 1648-51.
4. Posnett M, Franks PJ. The burden of chronic wounds in the UK. Nursing Times 2008; 104:44-5.
5. Posnett M, Franks PJ. The costs of skin breakdown and ulceration in the UK. In: Pownall M, editor. Skin breakdown: the Silent Epidemic. Hull: Smith and Nephew Foundation; 2007. p. 6.
6. Scottish Leg Ulcer Participants. Effect of National Community Intervention Program on healing rates of chronic leg ulcer: randomized controlled trial. Phlebology 2002; 17:47-53.
7. Andersson E, Hansson C, Swanbeck G. Leg and foot ulcer prevalence and investigation of the peripheral arterial and venous circulation in an elderly population: an epidemiological survey and clinical investigation. ActaDermVenereol 1993; 73:57-61.
8. Scott TE, LaMorte WW, Gorin DR, Menzoian JO. Risk factors for chronic venous insufficiency: a dual case control study. J VascSurg 1995; 22:622-8.
9. Fowkes FGR, Callam MJ. Is arterial disease a risk factor for chronic leg ulceration? Phlebology 1994; 9:87-90.
10. Nelzen O, Bergqvist D, Lindhagen A. General health, socioeconomic factors and lifestyle in patients with chronic lower limb ulceration: a case control questionnaire. PhD dissertation: Uppsala University, Sweden 1997.
11. Zimmet SE. Venous leg ulcers: modern evaluation and management. Dermatol Surg. 1999;25:236-41
12. Abbade LPF, Lastória S. Afecçõesulcerosas. In: Belda Junior W, Di Chiacchio N, Criado PR, eds. Tratado de Dermatologia. São Paulo: Atheneu; 2010. p. 2167 -97.
13. Dow G, Browne A, Sibbald RG. Infection in chronic wounds: controversies in diagnosis and treatment. Ostomy Wound Manage. 1999; 45:23-7, 29-40.
14. Smith PC, Sarin S, Hasty J, Scurr JH. Sequential gradient pneumatic compression enhances venous ulcer healing: a randomized trial. Surgery. 1990; 108:871-5.
15. Smith PC, Sarin S, Hasty J, Scurr JH. Sequential gradient pneumatic compression enhances venous ulcer healing: a randomized trial. Surgery. 1990; 108:871-5.
16. Bevis P, Earnshaw J. Venous ulcer review. ClinCosmetInvestigDermatol. 2011;4:7-14.
17. Fletcher A, Cullum N, Sheldon TA. A systematic review of compression treatment for venous leg ulcers.BMJ. 1997; 315:576-80.
18. Palfreyman S, Nelson EA, Michaels JA. Dressings for venous leg ulcers: systematic review and meta-analysis. BMJ. 2007; 335:244.
19. Kahle B, Hermanns HJ, Gallenkemper G. Evidence-based treatment of chronic leg ulcers. DtschArztebl Int. 2011; 108:231-7.
20. Partsch B, Partsch H. Compression stockings for treating venous leg ulcers: measurement of interface pressure under a new ulcer kit. Phlebology. 2008; 23:40-6.
21. O'Meara S, Cullum NA, Nelson EA. Compression for venous leg ulcers. Cochrane Database Syst Rev. 2009:CD000265.
22. Abbade LPF, Lastoria S. Abordagem de pacientes com ulcera da perna de etiologiavenosa. An Bras Dermatol 2006; 81: 509-22.
23. Abbade LP, Lastória S, Rollo Hde A. Venous ulcer: clinical characteristics and risk factors. Int J Dermatol. 2011;50: 405-11.


Source of Support: None Declared
Conflict of Interest: None Declared