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ORIGINAL RESEARCH

Assessment of venous ulceration in patients with varicose veins

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Abstract
Background: Venous diseases of lower limb remains common affecting 20% of adult population. The present study was conducted to assess venous ulceration in patients with varicose veins.
Materials & Methods: 72 patients with varicose veins were enrolled. Parameters such as symptoms, mode of development, duration of ulcer, occupation, and previous surgery were taken. 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.
Results: Out of 72 patients, males were 46 and females were 26. Side involved was right in 40, left in 22 and bilateral in 10. Site was medial malleolus in 42, back of ankle in 18 and dorsum of foot in 12. Habits seen were smoking in 32, alcoholism in 11 and nil in 29. Comorbidities were diabetes in 24, hypertension in 22, both in 16and nil in 10 patients. The difference was significant (P< 0.05).
Conclusion: Most common side involved was right and males predominance was observed.
Key words: medial malleolus, venous ulcer, hypertension

Introduction
Venous diseases of lower limb remains common affecting 20% of adult population. In general these cause no major life threatening illness and yet the morbidity of venous ulceration places a substantial burden on the community health care and results in expenditure of large sums on daily management of this problem.[1] Despite the frequency of venous disease, surprisingly little is understood of the circumstances that lead to valvular incompetence, or the mechanisms by which chronic venous insufficiency leads to venous ulceration.[2]
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. 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

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depends on accurate diagnosis, appropriate and simple care of wound and also the treatment of the underlying cause.[4]

A better clinical outcome will be achieved particularly in patients with chronic venous insufficiency, when all sources of venous reflux have been controlled. Combined with surgery through small sized incision more aesthetic results will be achieved in patients with varicose veins.[5]The present study was conducted to assess venous ulceration in patients with varicose veins.

Materials & Methods

The present study comprised of 72 patients with varicose veins. All were informed regarding the study and their written consent was obtained. Ethical clearance was obtained before starting the study.

Data such as name, age, gender etc. was recorded. Parameters such as symptoms, mode of development, duration of ulcer, occupation, and previous surgery were taken. 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. Legs were thoroughly examined for any varicosities. Sapheno-femoral / Sapheno-popliteal and perforator incompetences were identified by Trendelenburg, Schwartz and multiple tourniquet tests. 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. Results were statistically studied.

Results

Table I Distribution of patients

Total- 72		
Gender	**Males**	**Females**
Number	46	26

Table I shows that out of 72 patients, males were 46 and females were 26.

Table II Assessment of parameters

Parameters	Variables	Number	P value
Side	Right	40	0.02
	Left	22	
	bilateral	10	
Site	Medial malleolus	42	0.05
	Back of ankle	18	
	Dorsum of foot	12	
Habits	smoking	32	0.03
	Alcoholism	11	
	nil	29	
comorbidities	Diabetes	24	0.05
	Hypertension	22	
	both	16	
	nil	10	

Table II, graph I shows that side involved was right in 40, left in 22 and bilateral in 10. Site was medial malleolus in 42, back of ankle in 18 and dorsum of foot in 12. Habits seen were smoking in 32, alcoholism in 11 and nil in 29. Comorbidities were diabetes in 24, hypertension in 22, both in 16 and nil in 10 patients. The difference was significant ($P< 0.05$).

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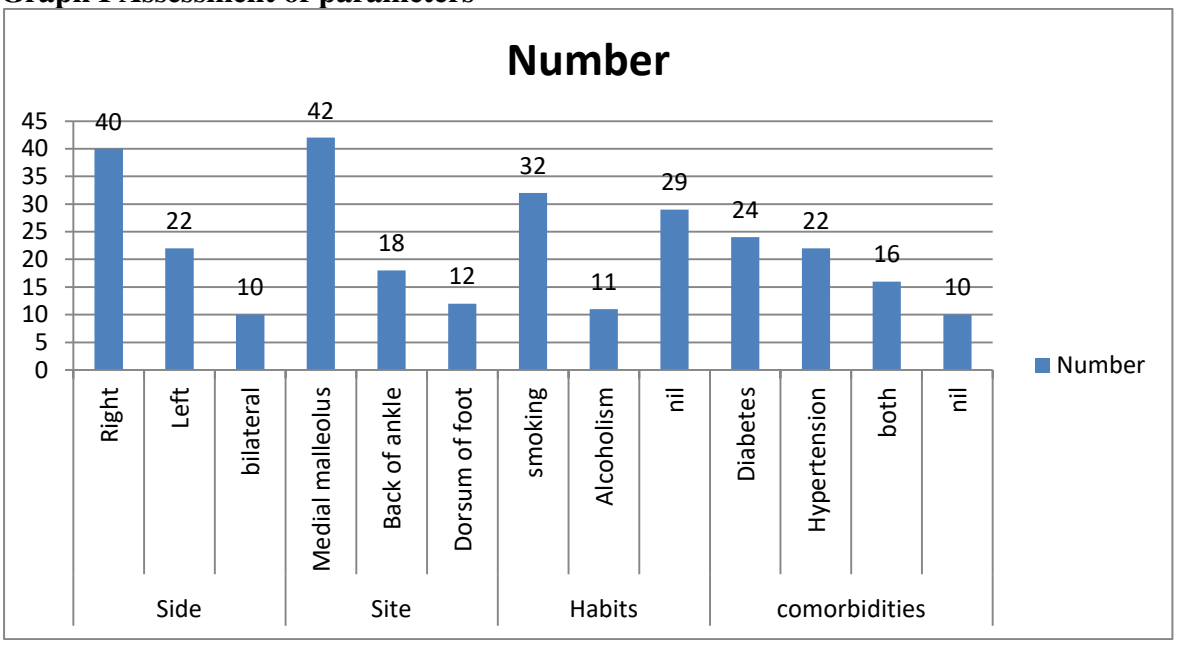
Graph I Assessment of parameters



Discussion

Primary varicose veins of leg are bothersome, particularly when associated with complication such as lipodermatosclerosis and ulceration. Valvular incompetence of superficial and perforating veins is considered the main pathological feature.[6,7] Because the patients with varicose veins may have valvular incompetence in the superficial, perforating and deep venous system alone, or in combination, it is difficult to determine which abnormality has maximum bearing on complications.Diagnosis of varicose veins is performed using venous Doppler with the patient standing, the Doppler probe is placed at saphenol-femoral junction and later wherever required. Basically by hearing the changes in sound, venous flow, venous patency, venous reflex can be very well-identified.[8]Duplex scan is a highly reliable U/S Doppler imaging technique which along with direct visualization of veins, gives the functional and anatomical information, and also colour map. Examination is done in standing lying down position and also with valsalvamanoeuvre. Hand-held Doppler probe is placed over the site and visualized for any block and reversal of flow. DVT is very wellidentified by this method.[9]The present study was conducted to assess venous ulceration in patients with varicose veins.

We found that out of 72 patients, males were 46 and females were 26. Vignesh et al[10]recorded incidence of venous leg ulcers in patients with varicose veins. 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. 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 ulcers.

We found that side involved was right in 40, left in 22 and bilateral in 10. Site was medial malleolus in 42, back of ankle in 18 and dorsum of foot in 12. Habits seen were smoking in 32, alcoholism in 11 and nil in 29. Comorbidities were diabetes in 24, hypertension in 22, both in 16 and nil in 10 patients. Akkidaset al[11]compared and analysed the distribution of age,

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sex, systemic disease in lower limb ulcers among 100 cases of the study group. The most common cause of lower limb ulcer was found to be Diabetes mellitus (29%) followed by traumatic ulcer (18%).Youngest patient was 13years and oldest 70years.Case volume was found to be maximum in the age group >50years (46%) signifying that ulcers occur frequently in older age group. Males were found to be predominantly affected (70%).Diabetic ulcers were found to be highest in the age group >50 years (58.62%). There was marked male preponderance (86.2%).Venous ulcers were found to be greatest in the age group >50 years (64.2%). Males were found to be maximally affected (57.14%).Long saphenous system is the most common venous system affected in venous ulcers (85.72%). Trendelenberg procedure combined with GSV Stripping & split thickness skin graft was the procedure employed in treatment of al 12 cases. Peripheral vascular disease in the affected limb was diagnosed by absent peripheral arterial pulsations and Color Doppler. Atherosclerosis was found to be the most common cause of arterial ulcers (57.14%). Among Trophic ulcers, 60% were in diabetics, 20% in hemiplegics and 20% in Hansen's disease. Most common malignant ulcer in my study was Marjolins ulcer (60%) all of which had history of burns in the past. Remaining were Squamous cell carcinoma (40%). The most common exudate in the present study is serous (54.16%) followed by purulent(43.76%) and greenish exudates (2.08%). Lower limb ulcers were found to be more common in left limb (60.49%). Out of total 100 patients of chronic lower limb ulcers,41% underwent debridement, 25% underwent split skin graft, 14% underwent Trendelenburg operation with Great/short saphenous vein ligation with perforator ligation, 10% underwent amputation,7% underwent lumbar sympathetectomy and rest 3% underwent plastic surgery consultation for reconstruction.

Conclusion

Authors found that most common side involved was right and males predominance was observed.

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