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Original Research Article

Clinico-Demographic Profile of Patients Underwent Conservative Treatment and Surgical Management of Venous Ulcers

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Conflict of interest: Nil

Abstract:

Aim: The aim of the present study was to assess the role of conservative treatment and surgical management of venous ulcers.

Methods: A cross-sectional study was conducted at the Department of General Surgery for the period of one year. 100 patients were studied who were patients attending the outpatient department and casualty during the study period with venous ulcers over the leg.

Results: Out of 100 patients, 15 (15%) patients were from 21-30 years age group, 17 (17%) from 31-40 years, 20 (20%) from 41-50 years, 48 (40%) from 51-60 years and 8 (8%) from 60 and above years of age. The mean age was noted to be 46 years. There were 80 (80%) males and 20 (20%) females. Total 18 (18%) patients had a normal BMI, 48 patients (48%) were overweight and 34 (34%) patients were obese. All 15 females were overweight or obese. Along with ulceration, 42 (42%) patients had pain, 69 (69%) patients had edema and 72 (72%) patients had skin changes. All our patients had underlying venous abnormalities either clinically or radiologically. Of the patients, 42 (42%) patients had venous ulcer in the right leg, 53 (53%) in the left leg. 5 (5%) had bilateral venous ulcers. In our study, 72 (72%) patients had pathology of great saphenous vein, 23 (23%) patients had perforator incompetence, and 5 cases (5%) had involvement of short saphenous vein. In our study, 20 patients (20%) underwent conservative management alone and 80 patients (80%) underwent surgery. Amongst 80 patients who underwent surgery, flush ligation of Sapheno-femoral junction with stripping of GSV up to knee was done in 56 (70%) patients. All of these patients had phlebectomy below the knee also. 7 (8.75%) cases underwent subfascial endoscopic perforator ligation (SEPS). Phlebectomy alone was done in 16 (20%) patients. 7 cases were operated with SSV ligation.

Conclusion: Venous ulcers are common ulcers of lower limb causing a progressive disability affecting patient with pain, disability, loss of work, and social isolation. Ulcers need prompt treatment with dressings and surgery. Correction of underlying venous insufficiency is the main stay of the treatment. Surgery gives best results with long term benefits.

Keywords: Chronic Venous Ulcer, Sapheno-Femoral Junction, Short Saphanous Vein, Great Saphanous Vein.

Introduction

Venous ulcers, or stasis ulcers, account for 80 percent of lower extremity ulcerations. [1] Less common etiologies for lower extremity ulcerations include arterial insufficiency; prolonged pressure; diabetic neuropathy; and systemic illness such as rheumatoid arthritis, vasculitis, osteomyelitis, and skin malignancy. [2] Venous ulcers are more common in women and older persons. [3-6] The primary risk factors are older age, obesity, previous leg injuries, deep venous thrombosis, and phlebitis. [7] Venous ulcers are often recurrent, and open ulcers can persist from weeks to many years. [8-10]

Venous leg ulcers (VLUs) are the most common ulceration on the lower extremity and account for 70% of all leg ulcers. [11] Various estimates have been made from observational studies on the prevalence of VLU, ranging between 0.06% and 2%. The Edinburgh study, which was a cross-sectional study of a random sample of more than 1500 people between the ages of 18 and 64 years, provided an estimate of VLU prevalence of 1%.

[12] This lower prevalence contrasts with the higher prevalence of an earlier study (2.7% clinical CEAP C5/C6), which was based on a questionnaire and photographs of the legs of the participants. [13]

Chronic venous leg ulcers have an overall prevalence of up to 2% in the general population of western countries with significant morbidity and a negative socioeconomic impact. [14] Venous ulcers are more common in women and older persons. [15-19] The primary risk factors are older age, obesity, previous leg injuries, deep venous thrombosis, and phlebitis. [20] Owing to the increase in obesity and the aging population, the prevalence of chronic wounds, including VLU, is predicted to achieve epidemic proportions. [21-24] The disease has a negative impact on the quality of patients' lives. Many of them live with chronic pain, experience issues with mobility, and perform everyday activities such as dressing or washing. The disease also has a significant impact on social life and mental health. About 30% of patients experience anxiety or depression. [25,26] VLUs are the most widespread type of leg ulcers. Their prevalence is rated between 1.5% and 3% in the general population and about 75% of leg ulcers have venous etiology. [25] Standard care in VLU treatment consists of local wound management and compressive therapy. [26,27]

The aim of the present study was to assess the role of conservative treatment and surgical management of venous ulcers.

Materials And Methods

A cross-sectional study was conducted at the Department of General Surgery, Anugrah Narayan Magadh Medical College and Hospital, Gaya, Bihar, India for the period of one year. 100 patients were studied who were patients attending the outpatient department and casualty during the study period with venous ulcers over the leg.

Inclusion criteria

All the patients presented with venous ulcers over the lower limb with or without varicose veins were included in the study.

Exclusion criteria

Patients with; co-existing arterial disease, coexisting lymphatic disease, on steroid therapy, immuno- compromised status, pregnant patients, intra-abdominal tumors and varicose veins without ulceration were excluded from the study.

Procedure

A detailed clinical history was noted. A thorough clinical examination was done and findings were recorded. All patients had a biochemical screening which includes random blood sugars, routine hematologic indices, wound site culture &sensitivity, abdominal ultrasonography, and chest radiographs. Venous duplex Doppler studies were done.

Biopsy of the ulcer were done if necessary. The treatment policy included either conservative or surgical. Conservative modalities included wound dressings, compression bandaging, antibiotics in infected cases, anti- inflammatory analgesics, pentoxifylline, and aspirin. Limb elevation and active and passive exercises were advised. Foam sclerotherapy for small or residual varicosities; surgical modalities included debridement of the ulcer, dressings followed by split skin grafting. Ligation and stripping of varicose veins and perforator ligation with subfascial ligation or multiple ligations was done. All the data was entered in Microsoft spread sheet and were analysed.

Results

Table 1: Age and gender-based distribution

Age (years)	Male	Female	Total
21-30	15	0	15
31-40	10	7	17
41-50	15	5	20
51-60	36	4	40
>60	4	4	8
Total	80	20	100

Out of 100 patients, 15 (15%) patients were from 21-30 years age group, 17 (17%) from 31-40 years, 20 (20%) from 41-50 years, 48 (40%) from 51-60 years and 8 (8%) from 60 and above years of age. The mean age was noted to be 46 years. There were 80 (80%) males and 20 (20%) females.

Table 2: BMI based distribution

BMI	Male	Female	Total
<25	18	0	18
25.1 - 30	39	9	48
>30+	28	6	34
Total	85	15	100

Total 18 (18%) patients had a normal BMI, 48 patients (48%) were overweight and 34 (34%) patients were obese. All 15 females were overweight or obese.

Table 3: Symptomatology and investigations

Parameters	N	%
Ulceration	100	100
Pain	42	42
Oedema	69	69
Skin changes	72	72
Ulcer		
Right leg	42	42
Left leg	53	53
Both legs	5	5
Doppler study		
GSV+ incompetent perforator	72	72
Incompetent perforator	23	23
SSV incompetent	5	5

Along with ulceration, 42 (42%) patients had pain, 69 (69%) patients had edema and 72 (72%) patients had skin changes. All our patients had underlying venous abnormalities either clinically or radiologically. Of the patients, 42 (42%) patients had venous ulcer in the right leg, 53 (53%) in the left leg. 5 (5%) had bilateral venous ulcers. In our study, 72 (72%) patients had pathology of great saphenous vein, 23 (23%) patients had perforator incompetence, and 5 cases (5%) had involvement of short saphenous vein.

Table 4: Management of venous ulcers

Surgery	N
SFJ ligation	56
Phlebectomy	80
Alone	16
With SFJ ligation	56
SEPS	7
SSV ligation	7

In our study, 20 patients (20%) underwent conservative management alone and 80 patients (80%) underwent surgery. Amongst 80 patients who underwent surgery, flush ligation of Sapheno-femoral junction with stripping of GSV up to knee was done in 56 (70%) patients. All of these patients had phlebectomy below the knee also. 7 (8.75%) cases underwent subfascial endoscopic perforator ligation (SEPS). Phlebectomy alone was done in 16 (20%) patients. 7 cases were operated with SSV ligation.

Discussion

Chronic venous ulcer (CVU) is the most common ulcer affecting the lower limbs, with a prevalence of 1-2%. CVU is defined as an ulcer with duration of more than 6 weeks with evidence of chronic venous insufficiencies like varicose veins, edema, and pigmentation. [28] CVU significantly reduce quality of life due to pain, loss of function, reduced mobility, and social isolation. They are complicated with local eczema, scarring, lipodermatosclerosis, ankylosis of the ankle joint, bleeding, chronic osteomyelitis and sometimes Marjolin's ulcer. Risk factors for CVU are obesity, deep venous thrombosis, phlebitis, and venous valvular dysfunction. [28,29] Venous ulcers are diagnosed based on clinical findings like anatomic location in Gaiter's area, morphology, and characteristic skin changes. Diagnosis is confirmed by assessing the venous system functionally and structurally using imaging.

Out of 100 patients, 15 (15%) patients were from 21-30 years age group, 17 (17%) from 31-40 years, 20 (20%) from 41-50 years, 48 (40%) from 51-60 years and 8 (8%) from 60 and above years of age. The mean age was noted to be 46 years which was on par with the findings of Rao et al and Zolotukhin et al. [30,31] Males were affected more than females which was similar to findings from Chandrasekhar et al and other Indian and international studies, which challenges the age old notion of female preponderance. [32] There were 80 (80%) males and 20 (20%) females. Total 18 (18%) patients had a normal BMI, 48 patients (48%) were overweight and 34 (34%) patients were obese. All 15 females were overweight or obese. Along with ulceration, 42 (42%) patients had pain, 69 (69%) patients had edema and 72 (72%) patients had skin changes. In a similar study by Reddy et al.

in 2017, most common presenting complaint was skin changes. Ulceration was the most common symptom affecting 57.6% patients followed by pain affecting 56.5%. [33] In our study, left limb was more commonly involved, similar to findings of Samane et al and Kumar et al. [34,35]

All our patients had underlying venous abnormalities either clinically or radiologically. Of the patients, 42 (42%) patients had venous ulcer in the right leg, 53 (53%) in the left leg. 5 (5%) had bilateral venous ulcers. In our study, 72 (72%) patients had pathology of great saphenous vein, 23 (23%) patients had perforator incompetence, and 5 cases (5%) had involvement of short saphenous vein. In our study, 20 patients (20%) underwent conservative management alone and 80 patients (80%) underwent surgery. Lawrence et al. observed that 50% of patient's ulcers treated with only compression therapy healed with a 15 month median period and 75% healed within a period of 36 months. [36] Amongst 65 patients who underwent surgery, flush ligation with stripping was done in majority of our cases. Most of the studies both in India (Patra) and elsewhere have reported adoption of similar lines of management. [37] The ESCHAR study established the role of surgical therapy along with compression therapy and noted high recurrence rates with the compression therapy alone. [38] Nelzen et al reported decreased recurrence rates if SEPS was combined with the conventional procedure. [39]

Amongst 80 patients who underwent surgery, flush ligation of Sapheno-femoral junction with stripping of GSV up to knee was done in 56 (70%) patients. All of these patients had phlebectomy below the knee also. 7 (8.75%) cases underwent subfascial endoscopic perforator ligation (SEPS). Phlebectomy alone was done in 16 (20%) patients. 7 cases were operated with SSV ligation.

Conclusion

Venous ulcers are common ulcers of lower limb causing a progressive disability affecting patient with pain, disability, loss of work, and social isolation. Ulcers need prompt treatment with dressings and surgery. Correction of underlying venous insufficiency is the main stay of the treatment. Surgery gives best results with long term benefits.

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