VENOUS LEG ULCERS TREATED WITH A NOVEL DUAL COMPONENT SYSTEM (DCS)* THAT COMBINES SHORT AND LONG STRETCH LAYERS, FOLLOW UP RESULTS IN AN AMBULATORY CARE SETTING

SERGE BOHBOT[1], MD; DEBASHISH CHAKRAVARTHY[1], PH.D; VINCENT CREBASSA[3], MD; FRANÇOIS-ANDRÉ ALLAERT[4], MD

[1]URGO MEDICAL PARIS FRANCE; [2]URGO MEDICAL NORTH AMERICA FORT WORTH· USA; [3]CLINIQUE DU MILLÉNAIRE· MONTPELLIER· FRANCE; [4]CEN BIOTECH, DIJON, FRANCE

INTRODUCTION

Muti-layered compression bandage therapy is indicated as a first-line treatment of venous or predominantly venous leg ulcers, until complete healing of these chronic wounds. The Dual Compression System (DCS) is a novel system, which combines both long and short stretch elements, and is engineered to provide therapeutic compression (40mm) for the venous insufficiency treatment. This system allows moderate resting pressures and high working pressures, compatible with wearing the compression therapy day and night and the maintenance of continuous therapeutic pressure. After being validated in clinical trials (1-4) and observational studies (5,6), an observational study carried out in France aimed to describe the clinical features and evolution of venous leg ulcers followed up in the community and treated with the multilayer multi-component Dual Compression System.

METHOD

The objectives of this observational study carried out in an ambulatory setting, with vascular specialists were :
- to describe, in daily practice, the characteristics of patients and ulcers treated with the Dual Compression System,
- to evaluate the wound area reduction of these ulcers over time,
- to assess the acceptability of patients and caregivers with regard to the use of Dual Compression System bandages.

These patients were monitored by private practice nurses via a smartphone system, which provides a record of care of wounds.

RESULTS

During this study conducted in France, the follow-up of the care of 102 patients has been documented, and lasted 37 ± 34 days (mean value).

The included patients were 75 years old on average, mostly female (55%), presenting an overweight in 67% of cases. In the vast majority of cases, leg ulcers were considered venous (86%) and were relatively recent (median duration of 2 months) with edema in more than 75% of the patients. The details of the selected population is detailed in Table 1.

Regarding the healing process
At the end of this follow-up, the wound closure rate was 11% and the treated wounds were improved in 62% of patients, the wounds remained unchanged in 18% of cases and a deterioration was noted in 9% of the cases, as reported in Figure 1.
The median wound area increased from 5.0 cm² at the initial visit to 2.0 cm² at the last visit, with a relative surface area reduction of 33%. The proportion of patients with a reduction in surface area ≥40% and ≥60% was 47% and 41%, respectively.
The reduction in wound surface area was accompanied by a decrease in the volume of exudates and an improvement in perilesional skin.

Regarding the Nurses' acceptability
The application of the Dual Compression System was…
- considered "easy" or "very easy" by 94% of the nurses and
- noted easier than usual in 76% of cases.
- rated "fast" or "very fast" by 61% of nurses and 79% of nurses said they were more confident in the effectiveness of the compression performed than they were usually with other compression systems.

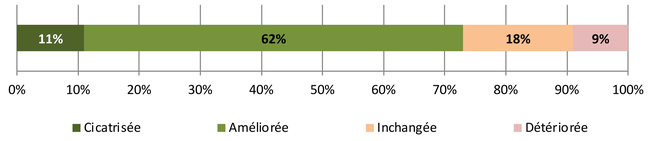
During renewal visits, the bandages were still in place when the nurse arrived in 77% of cases and no slippage was observed.

For all patients, wearing the compression system was compatible with easy footwear and from the first week of treatment, and the Dual Compression System bandages were perceived as more comfortable than previous worn compression systems.

Table1. Characteristics of the selected patients / wounds

Demographics	**N**	
Male / Female (%)	82	45 % / 55 %
Age (mean value. Years)	81	74.9 ± 13.2
Age ≥ 80 yearsold	81	43%
Mean BMI (kg/m²)	75	30.9 ± 8.9
Thinness : IMC < 18.5 kg/m² (%)	75	7 %
Overweight : BMI > 25 kg/m² (%)	75	67%
Obesity : BMI > 30 kg/m² (%)	75	56 %
History (%)		
Diabetes type II	72	21%
Congestive cardiac insufficiency	72	18%
Respiratory failure	72	14%
Bleeding disorders	72	15%
Others	72	21%
Mobility		
No mobility	82	12%
Walking less than 3 times 5 minutes a day	82	31%
Walking more than 3 times 5 minutes a day	82	57%
Oedema		
None (%)	73	25%
Moderate (%)	73	55%
Important (%)	73	20%
Etiology of the ulcer		
Venous Origin	79	86%
Mixed origin with venous dominance	79	14%
Duration of the Ulcer (months)		
Duration < 3 mois (%)	76	53%
Duration ≥ 3 ; < 6 mois (%)	76	18%
Duration ≥ 6 mois (%)	76	29%

Figure 1. Clinical outcomes of the treated wounds at the final visit (37 days, mean treatment duration)



Patient of 76 years old presenting with a VLU one month duration

CONCLUSION

The clinical data from this French observational study conducted in current practice, are consistent and support the clinical evidence of efficacy, good tolerance and acceptability of the Dual Compression System in the treatment of venous (or predominantly venous) leg ulcers. The ease of application and the good holding of the bandages over time relieve the workload of the caregivers and facilitate the organization of care. Additionally, the comfort of this Dual Compression System worn day and night is a definite advantage in the compliance and acceptability of patients with regard to their treatment.

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