

Treatment protocol on stasis edema in poorly mobile nursing home patients

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Conflict of interest:

This study was sponsored
by **MEDI Bayreuth**

Background

- Prolonged immobility in a sitting position in the elderly : venous stasis with leg edema and skin changes
- Bandage application : solid experience
- CS and bandage : not easy to use .

Background (2)

Adjustable compression Velcro^R wraps

- Some studies ⁽¹⁻³⁾ : interest in different forms of edema and leg ulcers
- A recent study ⁽⁴⁾ : Velcro^R wraps > short stretch after a 2-hour test in the stasis edema

1. [Blecken SR](#), [Villavicencio JL](#), [Kao TC](#).

[J Vasc Surg](#). 2005 Dec; 42(6):1150-5

2. [Mosti G](#), [Cavezzi A](#), [Partsch H](#), [Urso S](#), [Campana F](#).

[Eur J Vasc Endovasc Surg](#). 2015 Sep;50(3):368-74

3. [Damstra RJ](#), [Partsch H](#).

[J Vasc Surg Venous Lymphat Disord](#). 2013 Jan;1(1):13-9.

4. Benigni JP, Uhl JF, Balet F, Filori P, Chahim M.

[Int. Angiol](#). 2018 Mar; 8.



Background (3)

- In the elderly patients with a stasis edema : no study has objectively assessed adjustable compression wraps after a test of 30 days
- Best strategy to maintain the results after the reduction of edema ?

Main aims

- To quantify the reduction of volume of the legs with an adjustable compression wrap after a daily wearing for 15 days
- To compare the effect of an adjustable compression wrap on the leg volume for the next 15 days with 15-20 mmHg CS.

MATERIAL and METHODS :

- 30 patients CEAP C3 to C5
- Nursing home > 1month in Sénas (South of France)
- October 2017- April 2108

MATERIAL and METHODS (2)

- Circaid Juxtalite^R applied with a 40 mmHg pressure (Medi guide card)
- CS Mediven Microtec 15-20 mmHg
- Compressive treatment applied at least 8 hours a day

STUDY DESIGN

30 elderly patients
CEAP: C3 to C5



Pilot monocentric study

Randomization

Group 1
N=15
Circaid
One month

Group 2
N=15
Circaid 15 days
CS next 15 days

Description of the population at the inclusion

Parameters	Mean (SD)
Age (years)	88.9 (6)
Weight (kg)	67.2 (17.2)
Height (cm)	160.4 (7.5)
BMI	26.2 (6.4)
Sex	Females : 28 Males :2
CEAP Clinical class	C3: 80%, C4: 10%, C5: 10%
Primary causes of the poor mobility	
Hip or knee pathology or surgery	53.3%
Cognitive disorders	73.3%
Post stroke	13.3%
Other neurological disorders	20%
Degree of Immobility	Wheelchair 43.3% Crutch or walker 30%

INCLUSION CRITERIA

- Patients with poor mobility or unable to walk independently or unable to walk at all
- Patients with leg edema

NON INCLUSION CRITERIA

- Bedridden patients unable to sit
- Cancer
- Congestive cardiac failure
- Severe renal failure
- $ABI < 0.6$
- Exsudative or macerated skin lesion

MATERIAL & METHODS (3)

Parameters assessed

- Volume with a Leg-O-meter
- Calculated the truncated cone formula



Results

4 patients were excluded

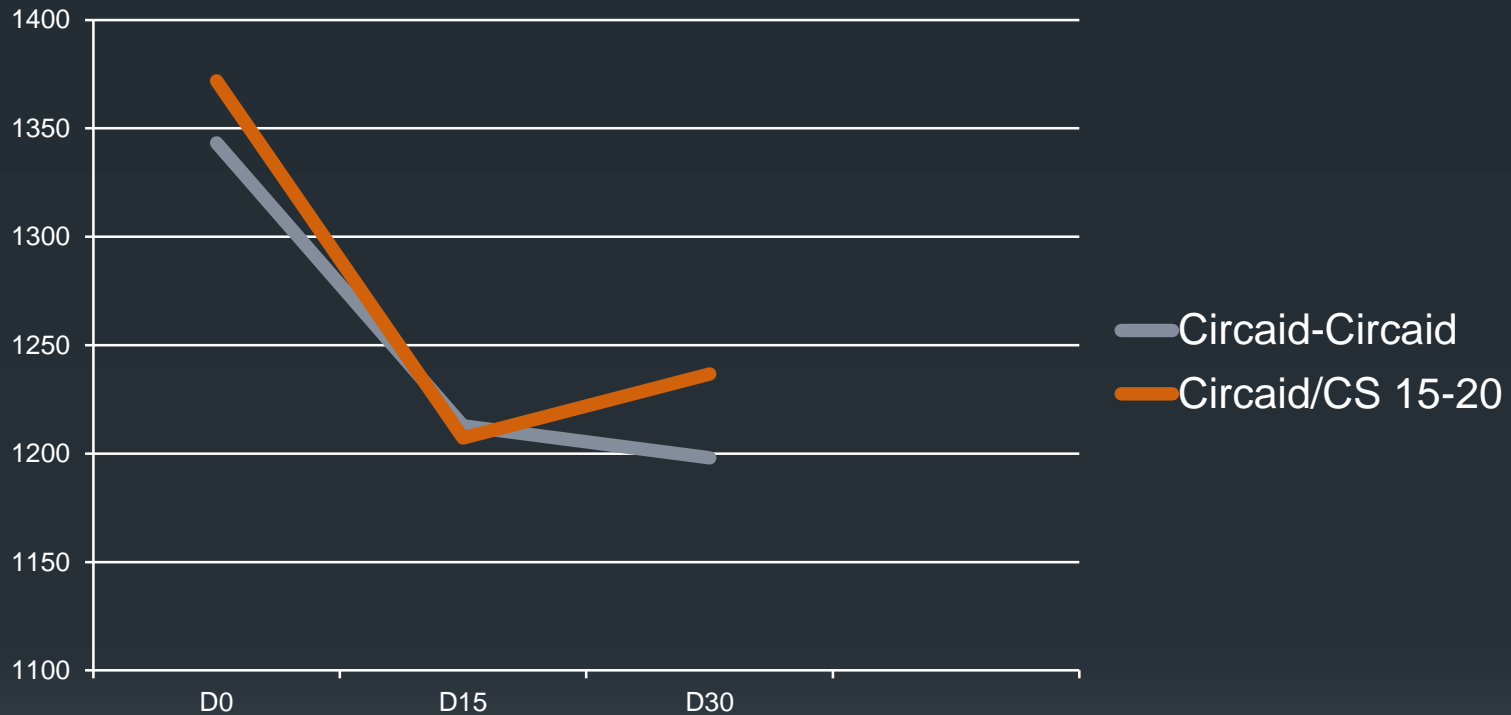


- Two in the group **Circaid** : one for cutaneous infection, one for delirious episode.
- Two in the group **Circaid+ CS 15-20 mmHg** : one for refusal to wear the compression, one for hospitalization.

Volume decrease after 15 days with Circaid Juxtalite

	D0	D15	p
Mean (ml)	1355.8	1210.3	<0.001
SD (ml)	233	193.4	
%		<10.8%>	
Median (ml)	1330.6	1151.9	
%		<13.5%>	
Min (ml)	929	831.8	
Max (ml)	1829.5	1591.1	

D0-D15 reduction phase D15-D30 maintenance phase



At D0 and D15 : Non significant differences between the 2 groups

At D30 : Circaid-CS + 1.3 %

Circaid-Circaid - 1%

NS



Discussion

- **Circaid Juxtalite[®] :**
 - ✓ Reduction of volume comparable with the previously published results (Circaid Juxtafit[®])
 - ✓ Quick and easy application does not require the presence of a trained nurse.
 - ✓ Short learning period.



Discussion

- The daily application of low pressure CS (15-20 mmHg) seems sufficient to maintain the medium-term results.

CS sufficient for opposing the venous hyperpressure created by a permanent sitting position in the elderly (Starling's law)

- Decrease of edema on the dorsal aspect of the foot :
nocturnal lymphatic aspiration by lymphangions of the leg ?



Conclusions

- Circaid Juxtalite[®] is very efficient in reducing stasis edema in the elderly.
- Stabilization of the leg volume with 15-20 mmHg CS : the pressure to maintain results does not require high back pressure ?
- High pressure required to maintain the reduction of edema: a dogmatic view ?



Do not hesitate to ask me the
complete version

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