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CONTROVERSES
ET ACTUALITÉS EN CHIRURGIE VASCULAIRE

CONTROVERSIES
& UPDATES
IN VASCULAR SURGERY

JANUARY 17-19 2013

MARRIOTT RIVE GAUCHE & CONFERENCE CENTER
PARIS, FRANCE

If the terminal and/or preterminal valve is competent or incompetent does it change the mode of treatment by surgery ?

P. Pittaluga, S. Chastanet

DISCLOSURE OF INTEREST

**I do not have any relevant
financial relationships
with any commercial interest**

Usually admitted that JSF competence is a critical factor

- **Correlated with the GSV hemodynamics and clinical stage of CVI**

Labropoulos N and coll. Superficial venous insufficiency: correlation of anatomic extent of reflux with clinical symptoms and signs. J Vasc Surg. 1994;20:953-8

Sakurai T and coll. Correlation of the anatomical distribution of venous reflux with clinical symptoms and venous haemodynamics in primary varicose veins. Br J Surg. 1998;85:213-6

Cappelli M and coll. Hemodynamics of the sapheno-femoral junction. Patterns of reflux and their clinical implications. Int Angiol. 2004;23:25-8.

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- **Influence the treatment**

- To justify the **indication**

Dwerryhouse S and coll. Stripping the long saphenous vein reduces the rate of reoperation for recurrent varicose veins : five- year results of a randomized trial. J Vasc Surg 1999 ; 29 : 589-92

Gloviczki P and coll. The care of patients with varicose veins and associated chronic venous diseases: clinical practice guidelines of the Society for Vascular Surgery and the American Venous Forum. J Vasc Surg. 2011 May;53(5 Suppl):2S-48S

- For the **choice** of the type of **treatment**

Pittaluga P, Chastanet S, and coll. Classification of saphenous refluxes and its implications for treatment. Phlebology 2008; 22: 2-8

Hirsch SA and coll Options in the management of varicose veins, 2008. J Cardiovasc Surg. 2008;49:19-26

Leopardi D and coll. Systematic review of treatments for varicose veins. Ann Vasc Surg. 2009;23:264-76

Murad MH and coll. A systematic review and meta-analysis of the treatments of varicose veins. J Vasc Surg. 2011;53(5 Suppl):49S-65S

RETROSPECTIVE STUDY

- **Objective**
- To evaluate the **influence of the JSF competence** for the **choice of treatment** in our experience

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■ Objective

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■ Method

- From January 1st to October 31st 2012
- Review **all surgical procedures for VVs** in LLs with a **GSV reflux**
- SFJ considered as incompetent if **both terminal and preterminal valves** were incompetent in preop
- According to the **GSV ablation / preservation, we compared:**
 - ✓ Hemodynamics and diameter of the SFJ and the GSV
 - ✓ Demographics and clinical data

RETROSPECTIVE STUDY

- **389 LLs operated on for VVs with GSV reflux:**

	n	%
Nb interventions	389	
Nb of patients	311	
Nb of limbs	389	
Mean age (average yrs)	55.4	
Female	231	74.3%
C2	294	74.3%
C3	54	13.9%
C4-C6	39	10.0%
Preop symptoms	150	79.4 %
Number zones treated (NZZ)	8.2	
BMI (average)	24.0	

RETROSPECTIVE STUDY

- 389 LLs operated on for VVs with GSV reflux:

	n	%
SFJ reflux <i>(term. & preterm. incomp)</i>	189	48.6%
GSV reflux below ½ lower calf	123	31.6%
GSV diameter (average)		
SFJ	6.9 mm (4-20)	
GSV thigh	5.8 mm (3-12)	
GSV focal dilatation (>diameter x2)	52	13.4%

RETROSPECTIVE STUDY

■ Procedures performed:

	n	%
GSV ablation	78	20.1%
<i>Endovenous ablation</i>	<i>54</i>	
<i>Stripping (without crossectomy=22)*</i>	<i>24</i>	
GSV preservation (ASVAL)	311	79.9%

* Crossectomy in 2 cases: JSF diameter 18 & 20 mm

RETROSPECTIVE STUDY

■ GSV ablation / GSV preservation

	GSV ablation	GSV preservation	P
	78	311	

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JSF reflux	92.3%	37.6%	
JSF diameter (average mm)	9.6	6.2	
GSV thigh diameter (average mm)	8.1	5.2	
GSV reflux below ½ lower calf	84.6%	18.3%	
GSV focal dilatation	55.6%	10.3%	

RETROSPECTIVE STUDY

▪ GSV ablation / GSV preservation

	GSV ablation	GSV preservation	P
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JSF reflux	92.3%	37.6%	< 0.01
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Age (average yrs)	62.5	53.1	
Male	50.0%	18.9%	
C4-C6	33.3%	4.8%	
Preop symptomatic	94.4%	70.1%	
Average BMI	26.1	23.8	
NZT	7.6	8.3	

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- **Worse JSF hemodyn/anatomy correlated to GSV ablation**
 - **JSF reflux:** 92.3% (vs 37.6%)
 - **JSF mean diameter:** 9.6 mm (vs 6.2 mm)

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 - **JSF mean diameter:** 9.6 mm (vs 6.2 mm)

- **But GSV ablation is also correlated with a worse GSV trunk hemodyn/anatomy**
 - **GSV thigh mean diameter:** 8.1 mm (vs 5.2 mm)
 - **GSV reflux below 1/2 lower calf:** 84.6% (vs 18.3%)
 - **Focal dilatation** of the GSV trunk: 55.6% (vs 13.4%)

- **GSV ablation influence by demographic & clinical factors**
 - **Age:** 62.5 yrs (vs 52.1), **Male** gender: 50% (vs 18.9%)
 - **C4-C6:** 33.3% (vs 4.8%)
 - **Preop symptoms:** 94.4% (vs 70.1%)
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 - **Preop symptoms:** 94.4% (vs 70.1%)
 - **BMI:** 26.1 (vs 23.8)

- **Correlation worse JSF situation / more advanced CVI**
 - **Correlation JSF incomp / GSV diameter / CEAP / symptoms**

Labropoulos N and coll. Superficial venous insufficiency: correlation of anatomic extent of reflux with clinical symptoms and signs. J Vasc Surg. 1994;20:953-8

Sakurai T and coll. Correlation of the anatomical distribution of venous reflux with clinical symptoms and venous haemodynamics in primary varicose veins. Br J Surg. 1998;85:213-6
 - **Higher BMI:**

Advanced clinical stage and/or technical difficulty for phlebectomy

■ The JSF hemodynamics rarely led to crossectomy

(2/78: very high JSF diameter)

• Following the principles of **endovenous treatment**

Lurie F and coll. Prospective randomised study of endovenous radiofrequency obliteration (closure) versus ligation and vein stripping (EVOlVeS): two-year follow-up. Eur J Vasc Endovasc Surg. 2005;29:67-73.

Rasmussen LH and coll. Randomized trial comparing endovenous laser ablation of the great saphenous vein with high ligation and stripping in patients with varicose veins: short-term results. J Vasc Surg. 2007;46:308-158

• And **stripping without crossectomy**

Pittaluga P, Chastanet S and coll. Great saphenous vein stripping with preservation of sapheno-femoral confluence: hemodynamic and clinical results. J Vasc Surg. 2008;47:1300-4

Casoni P. Is Crossectomy Still the First Obligatory Step in Varicose Vein Surgery? Five Year Follow Up in 124 Legs without Inguinal Dissection: Randomized Study. 22th Annual meeting of the American, College of Phlebology. Marco Island (FL) USA, Novembre 8th 2008

- **The JSF hemodynamics is not the only factor to decide a saphenous ablation:**

- In LLs treated by **ASVAL** the **JSF was refluxing in 37.6%**

- JSF reflux could be abolished after phlebectomy

Pittaluga P, Chastanet S and coll. The effect of isolated phlebectomy on reflux and diameter of the great saphenous vein: a prospective study. Eur J Vasc Endovasc Surg. 2010;40:122-8.

- Risk of recurrence after ASVAL in our experience:

length of the GSV reflux (BK), multiple VVs origins BK, reservoir

Pittaluga P, Chastanet S and coll. Influence of the location and the volume of varicose vein on recurrence after phlebectomy with preservation of a refluxing great saphenous vein. ESVS XXIVth annual meeting, Amsterdam, Sept 17th 2010

- **No correlation JSF hemodynamics – systematic indication**

JSF diameter seems more important than incompetence

Pichot O, De Maeseneer M. Treatment of varicose veins: does each technique have a formal indication? Perspect Vasc Surg Endovasc Ther. 2011;23:250-4

Mowatt-Larssen E. Treatment of primary varicose veins has changed with the introduction of new techniques. Semin Vasc Surg. 2012;25:18-24

Mendoza E and coll. Eur J Vasc Endovasc Surg. 2012 Dec 6 (online access)

TAKE HOME MESSAGE

If the terminal and/or preterminal valve is competent or incompetent does it change the mode of treatment by surgery ?

1) Yes...in part

- In case of saphenous ablation the JSF was mostly always refluxing
- With a higher diameter +++

2) GSV hemodynamics and anatomy should be considered

- GSV trunk diameter
- GSV focal dilatation
- GSV reflux below the $\frac{1}{2}$ lower calf

3) Clinical factors should be taken in account

- Age, gender, BMI
- Skin changes, symptoms

**Thank you for
your attention**





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6TH MEDITERRANEAN MEETING OF VENOUS DISEASE

STRATÉGIES ET MOYENS DU TRAITEMENT DE L'INSUFFISANCE VEINEUSE
STRATEGY AND MEANS FOR THE TREATMENT OF VENOUS INSUFFICIENCY

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