

CONTROVERSES ET ACTUALITÉS EN CHIRURGIE VASCULAIRE  
CONTROVERSIES & UPDATES IN VASCULAR SURGERY

**JANUARY 19-21 2017**

MARRIOTT RIVE GAUCHE & CONFERENCE CENTER

**PARIS, FRANCE**



# Complications after thermal ablation and how to avoid them

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## Disclosure

Speaker name:

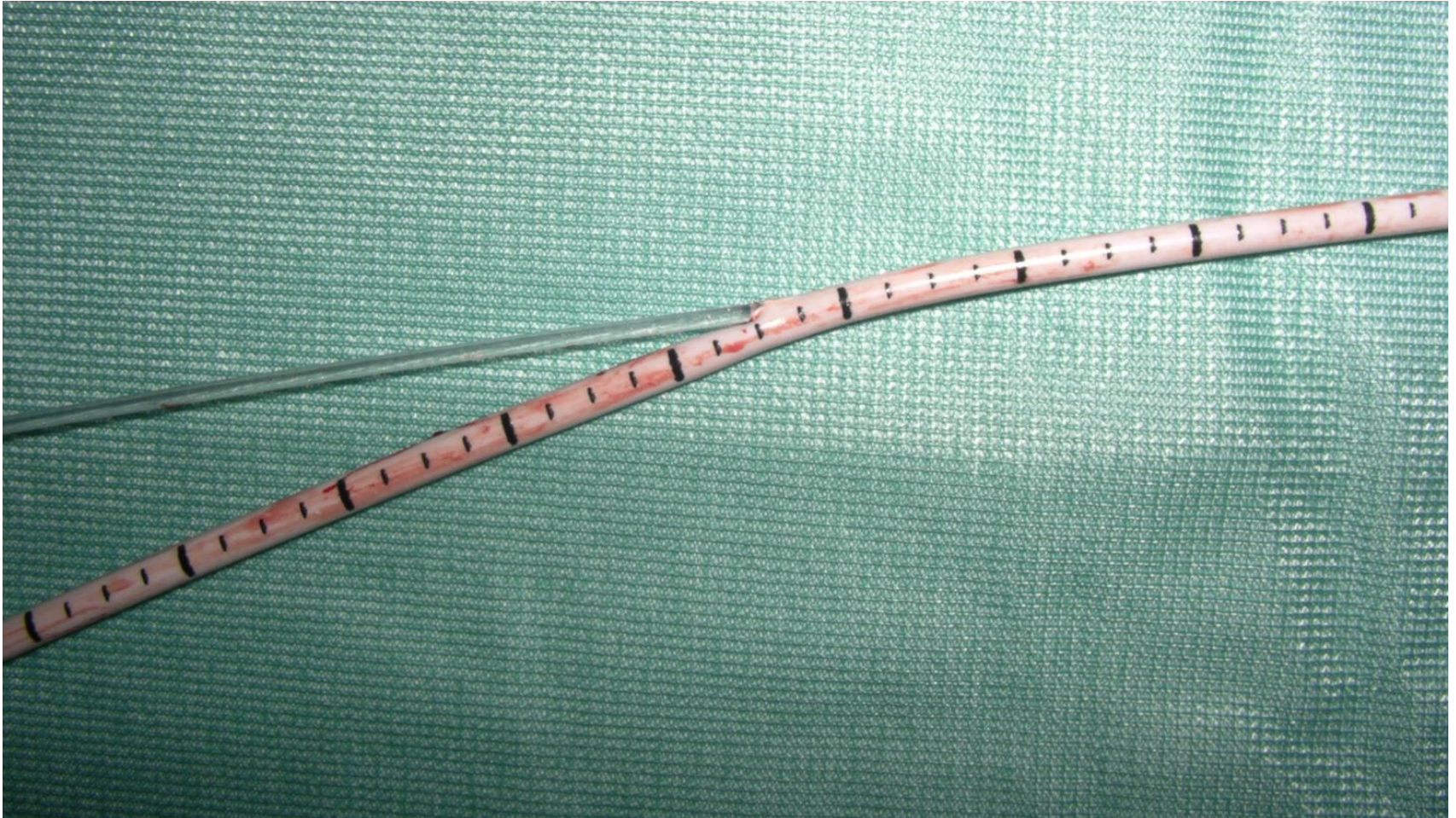
.....**Renate van den Bos**.....

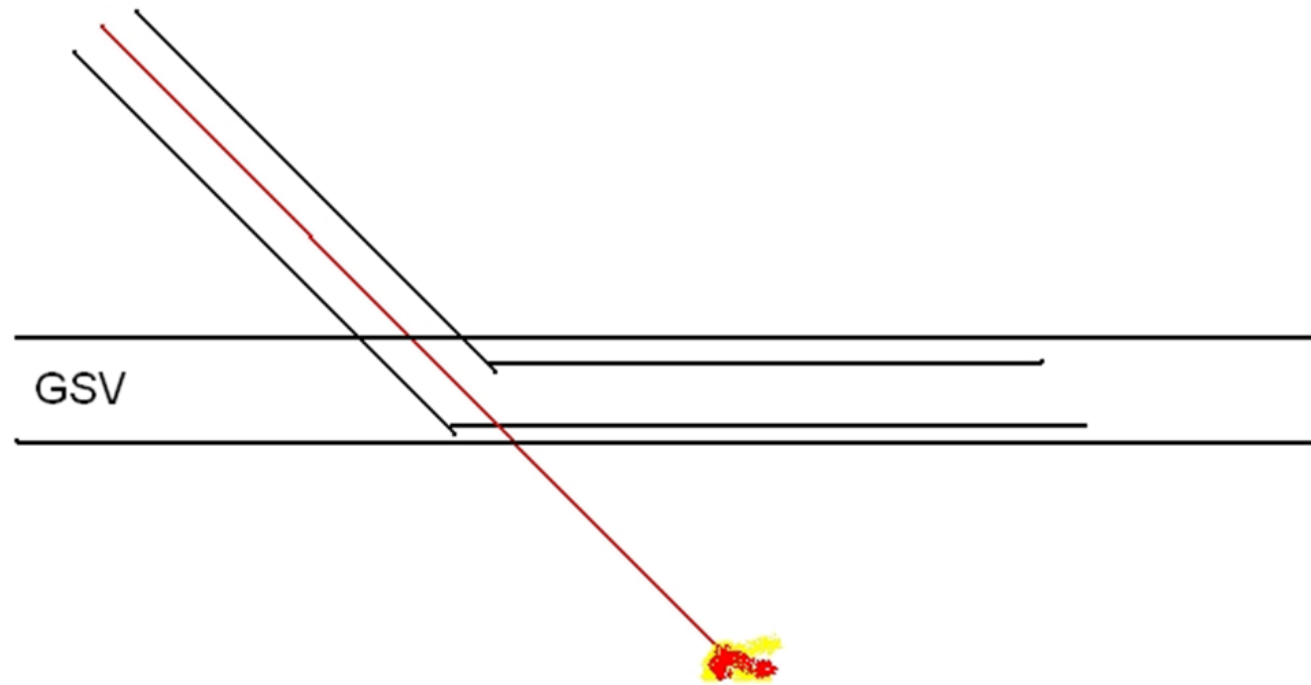
- I have the following potential conflicts of interest to report:
- Consulting
- Employment in industry
- Shareholder in a healthcare company
- Owner of a healthcare company
- Other(s)
- I do not have any potential conflict of interest**



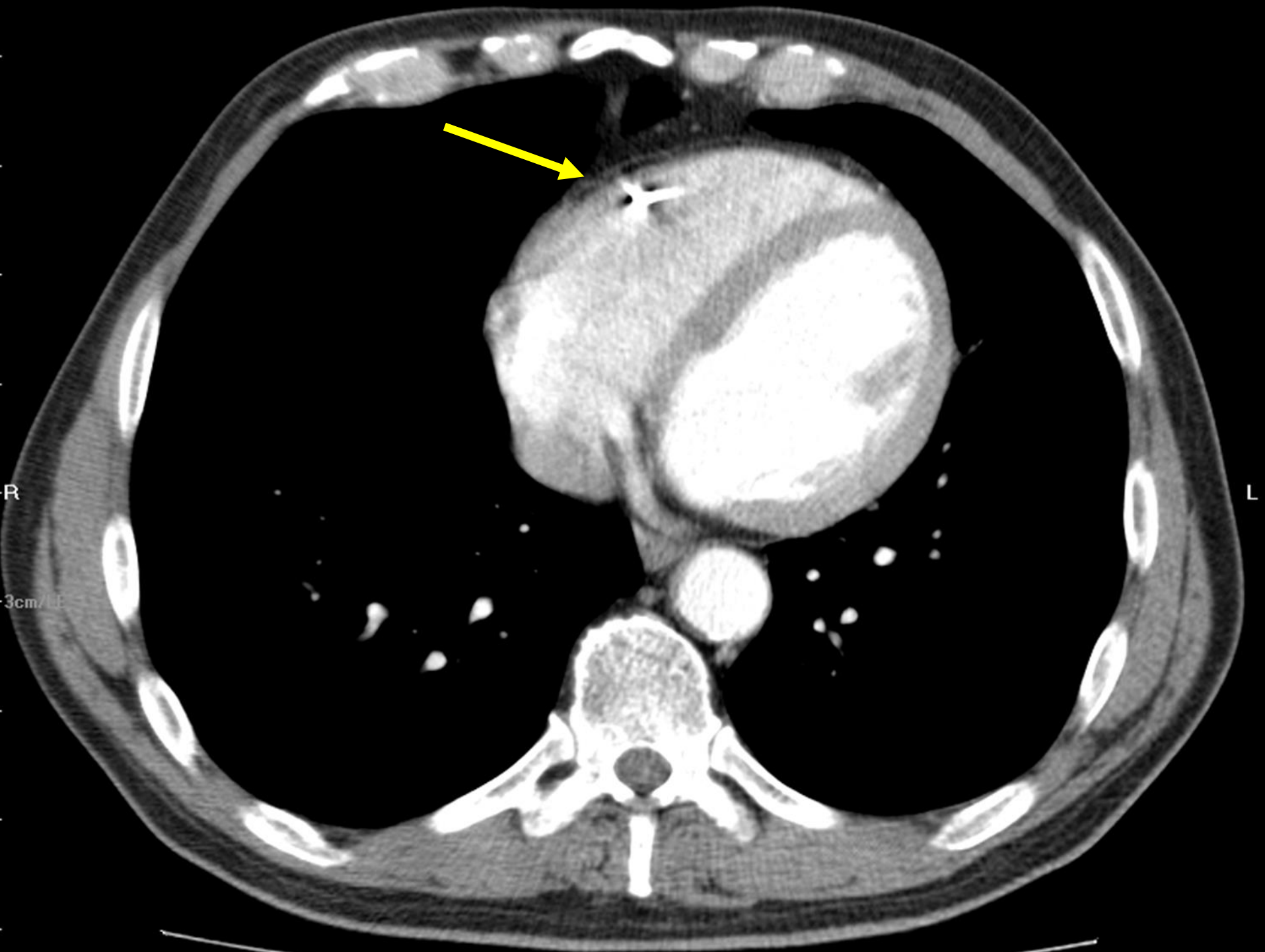
# Exceptional complications

## Relevant for daily practice?





**Listen to your patient**  
**Be careful in obese patients**





# Fiber inside catheter will disconnect distal end



**Check devices (length, completeness)**  
**Check connection**

# Complications in daily practice

- **Minor** complications that occur often  
(bruising, hematoma, pain, phlebitis, hyperpigmentation)
- **Major** complications that occur seldom (and may need prevention)  
(DVT and PE, sural nerve damage, arterial damage)



# Complications of endovenous ablation in randomized controlled trials

Meghan Dermody, MD, MS,<sup>a</sup> Thomas F. O'Donnell, MD,<sup>a</sup> and Ethan M. Balk, MD, MPH<sup>b</sup> *Boston, Mass*

- 17 RCTs
- Short-term complications <1year
- 2282 patients
  - 592 RFA
  - 1057 EVLA
  - 975 L&S



**Table IV.** Complications by intervention

		<i>L&amp;S</i>	<i>RFA-CF</i>	<i>EVLA</i>	<i>P values</i>		
<i>No. of treated limbs</i>		<i>975</i>	<i>330</i>	<i>1057</i>			
<i>No. of studies</i>		<i>15</i>	<i>4</i>	<i>13</i>	<i>L&amp;S vs RFA</i>	<i>L&amp;S vs EVLA</i>	<i>RFA vs EVLA</i>
DVT/PE	Pooled incidence, %	0.7	0.5	0.4	.71	.52	.84
	95% CI, %	0.2, 1.3	0.1, 1.2	0.1, 1.0			
	No. of studies reporting event	12	4	10			
Infection	Pooled incidence, %	2.1	1.0	0.7	.094	<b>.006</b>	.52
	95% CI, %	1.3, 3.1	0.3, 2.0	0.3, 1.3			
	No. of studies reporting event	12	4	12			
Paresthesia	Pooled incidence, %	6.7	7.8	3.3	.43	<b>&lt;.001</b>	<b>&lt;.001</b>
	95% CI, %	5.3, 8.3	5.8, 10.1	2.4, 4.5			
	No. of studies reporting event	15	4	12			
SVT	Pooled incidence, %	2.9	5.2	5.5	<b>.003</b>	<b>.003</b>	.6
	95% CI, %	1.9, 4	3, 7.8	4.2, 7			
	No. of studies reporting event	12	4	11			
Bruising	Pooled incidence, %	36.1	3.1	34.5	<b>&lt;.001</b>	.55	<b>&lt;.001</b>
	95% CI, %	32.6, 39.6	0.12, 9.9	31.2, 38			
	No. of studies reporting event	8	1	8			
Hematoma	Pooled incidence, %	13.5	0.2	2.1	<b>&lt;.001</b>	<b>&lt;.001</b>	.8
	95% CI, %	11.1, 16.1	0, 1.3	1.1, 3.5			
	No. of studies reporting event	11	2	6			
Skin burn	Pooled incidence, %		0.7	0.7			.74
	95% CI, %		0.04, 2.3	0.2, 1.4			
	No. of studies reporting event		2	6			

*CI*, Confidence interval; *DVT*, deep venous thrombosis; *EVLA*, endovenous laser ablation; *L&S*, conventional ligation and stripping; *PE*, pulmonary embolism; *RFA*, radiofrequency ablation; *RFA-CF*, ClosureFAST catheter; *SVT*, superficial venous thrombosis or thrombophlebitis.

Bold values indicate statistical significance.

## Technically and tactically demanding steps

- **Vein puncture** (watch out for sural and saphenous nerve, do not proceed when blood stops dripping)
- **Catheter advancement** (watch out when there is resistance)
- **Positioning catheter tip** (both transversal and longitudinal, move the tip to make sure you see the distal end, be aware of the difference between catheter and laser tip)
- **Thermal ablation** (listen tot the patient and watch your screens)

# Prevention of complications



<b>DVT</b>	Mobilisation DUS guided positioning tip	Analgesics Profylactic LMWH in high risk patients
<b>Paresthesia</b>	Liberal use of tumescent	Not below mid-calf with SSV treatment
<b>SVT</b>	Liberal use of tumescent	Concomitant phlebectomies
<b>Bruising/hematoma</b>	Liberal use of tumescent	Adequate hemostasis
<b>Pain</b>	Liberal use of tumescent Laser parameters	Analgesics

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**Thanks for your attention**