

**70TH ESCVS
CONGRESS & 7TH
IMAD MEETING**



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Liège | Théâtre de Liège | Belgium
www.escvs2022.com

RESULTS OF THE *WAVELINQ DEVICE*

Dr Denis HENROTEAUX

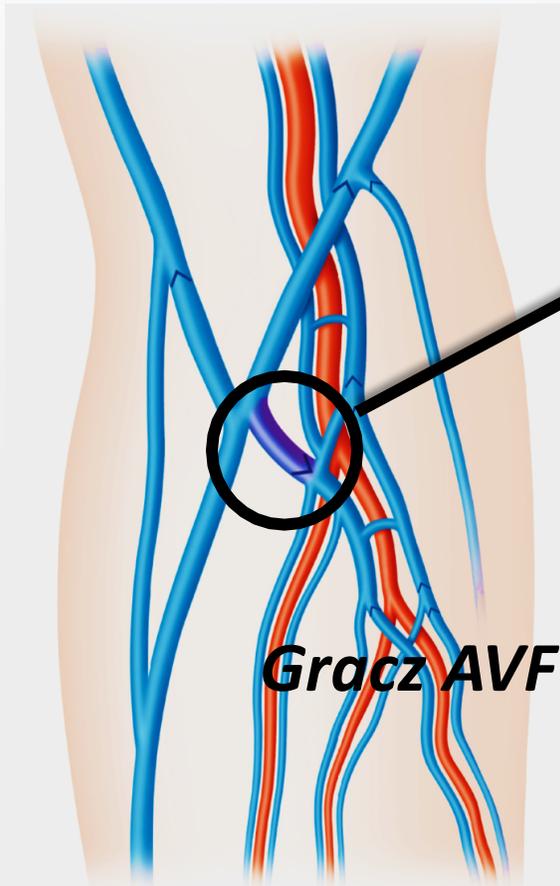




My disclosures:

- Medtronic consulting
- Balt consulting

WHO IS CANDIDATE ?



Gracis AVF

Perforating vein is an essential gateway between the deep and superficial venous system

88% of patients have a perforating vein greater than 2 mm diameter

45/183 (25%) in the WavelinQ trial

LITERATURE

	Journal	Patient nb	Success rate %
Rajan & al 2015	J Vasc Interv Radiol	33	87
Radosa & al 2017	Cardiovasc Interv Radiol	8	100
Lok & al 2017	Am J Kidney Disease	80	98
Berland & al 2019	J Vasc Surg	120	97
Zemela & al 2020	Ann Vasc Surg	35	100
Inston & al 2020	J Vasc Access	30	97
Kitrou & al 2022	J Vasc Interv Radiol	30	100

RESULTS I



ELSEVIER

Clinical Research

Real-World Usage of the WavelinQ EndoAVF System

- **35 patients but 32 follow up**
- **Initial success rate 100%**
- **Overall patency at 73 days : 88%**
- **Average brachial artery inflow : 1078 cc/min**
- **11/23 (41%) on dialysis**

Average procedure length 120 min

Fluoroscopy 9,6 min

Contrast usage 52,2 ml

Zemela & al Ann Vasc Surg 2020

RESULTS I

COMPLICATIONS 8/32 (25%)

- Hematoma 3
- Contrast extravasation 3
- Vessel spasm 1
- Pseudoaneurism 1

} *Resolving spontaneously*
Surgical repair

SUBSEQUENT ENDOVASCULAR INTERVENTION TO ASSIST MATURATION 13/32 (41%)

- Branch coiling 9
- Angioplasty/stenting 5
- Access thrombectomy 3

4/32 (13%) subsequent surgical intervention

RESULTS II

CLINICAL STUDY

Percutaneous Arteriovenous Fistula Creation with the WavelinQ 4-French EndoAVF System: A Single-Center Retrospective Analysis of 30 Patients

Panagiotis M. Kitrou, MD, MSc, PhD, EBIR, FCIRSE, Lamprini Balta, MD, Evangelos Papachristou, MD, PhD, Marios Papatotiriou, MD, PhD, Konstantinos Katsanos, MD, MSc, PhD, EBIR, Michail Theofanis, MD, Spyridon Papadoulas, MD, PhD, Fotios Anagnostopoulos, MD, Georgia Andriana Georgopoulou, MD, Dimitrios Goumenos, MD, PhD, and Dimitrios Karnabatidis, MD, PhD, FCIRSE



30 patients

- Technical success rate 100%
- Canulation rate 86,7%
- Mean follow up 547 days
- Mean time canulation 61,3 days

RESULTS II

COMPLICATIONS 2/30 (6,7%)

- Brachial artery pseudoaneurism
- Anastomosis aneurism

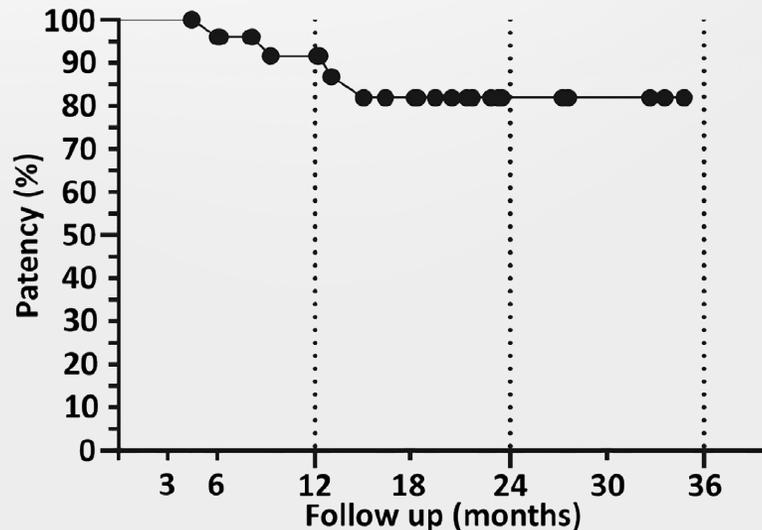
16 INTERVENTIONS NECESSARY TO ACHIEVE CANULATION 0,53 INTERVENTION/PATIENT

- Coiling 5
- Angioplasty 5
- Coiling + angioplasty 5
- Covered stent placement 1

RESULTS II

pAVF CANULATED

- Patency at 1 year **96%**
- Patency at 2 and 3 years **82%**



MAINTENANCE PROCEDURE

0,27 procedures/patient
0,17 procedures/patient-years

- Coils embolisation **2**
- Angioplasty **5**

RESULTS III

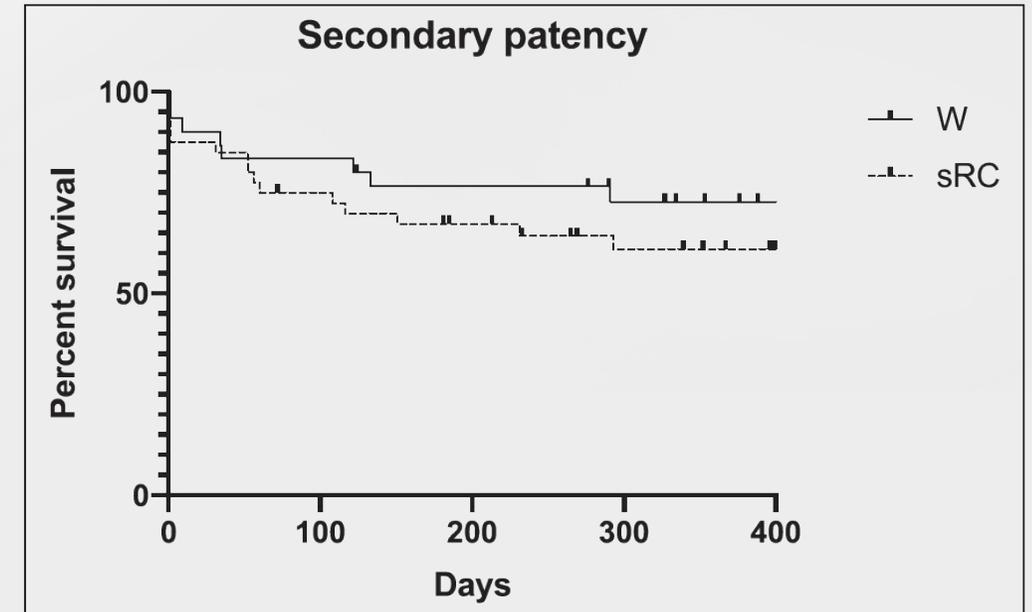
Original research article

WavelinQ created arteriovenous fistulas versus surgical radiocephalic arteriovenous fistulas? A single-centre observational study

JVA | The Journal of Vascular Access

The Journal of Vascular Access
1-6
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SAGE

- **Single center observational study**
- **30 patients WavelinQ – 40 patients RC fistula**
- **Procedural success rate 96,7%**
- **Secondary patency 75,8% - 69,5% at 6 & 12 months**



COST WAVELINQ

Original research article

Endovascular versus surgical creation of arteriovenous fistula in hemodialysis patients: Cost-effectiveness and budget impact analyses

JVA | The Journal of Vascular Access

The Journal of Vascular Access
2021, Vol. 22(1) 48–57
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Table 5. Model results for incident and prevalent patients (time horizon 1 year).

	Incident patients		Prevalent patients	
	Costs	QALYs	Costs	QALYs
EndoAVF (WavelinQ)	5722€	0.607	3978€	0.608
SAVF	33,041€	0.589	24,178€	0.595

SAVF: surgical arteriovenous fistula; QALYs: quality adjusted life years.

Endovascular arteriovenous fistula creation performed with WavelinQ could be a cost-saving strategy in comparison with the surgical approach for patients in hemodialysis.

IN ITALY!!!

TAKE HOME MESSAGE

- Endovascular arteriovenous fistula works
- Results are very good
- It seem cost-effective
- But not for all patients

What should be its place in the management of patients with chronic renal failure requiring dialysis?