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VALUE OF SHOCKWAVE INTRAVASCULAR LITHOTRIPSY FOR CALCIFIED AORTOILIAC OCCLUSIVE DISEASE TREATMENT AND FOR FACILITATING LARGE BORE ACCESS WITH CARROWED CALCIFIED ILIAC ARTERIES

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CONFLICTS

- Consultant: BSCI, Perdix, Inari/LimFlow, Elastimed, Medtronic, Shockwave, Caeli Med, BD

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CALCIFIED ILIAC ARTERY DISEASE

- Plaque
  - Bulky
  - Calcified
  - Eccentric
  - Often involves bifurcation
- Often associated with common femoral and infrainguinal disease

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Intravascular Lithotripsy for Treatment of Calcified, Stenotic Iliac Arteries: A Cohort Analysis From the Disrupt PAD III Study

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Table 1
Baseline characteristics.

	Overall (N = 118)	Claudication/CLI (n = 101)	Access (n = 17)	p-Value
Age, years	70.4 ± 8.3	70.0 ± 8.3	72.5 ± 8.3	0.262
Male gender	78 (66.1)	69 (68.3)	9 (52.9)	0.270
Diabetes	44 (37.3)	40 (39.6)	4 (23.5)	0.281
Hypertension	109 (92.4)	95 (94.1)	14 (82.4)	0.090
Hyperlipidemia	104 (88.1)	88 (87.1)	16 (94.1)	0.689
Current or former smoker	106 (89.8)	89 (88.1)	17 (100.0)	0.211
Coronary artery disease	66 (55.9)	55 (54.5)	11 (64.7)	0.599
Renal insufficiency	29 (24.6)	25 (24.8)	4 (23.5)	1.0
On dialysis	6 (5.1)	6 (5.9)	0 (0.0)	0.591
ABI	0.7 ± 0.3	0.7 ± 0.4	0.7 ± 0.3	0.364
Rutherford classification				0.281
RC 0	0 (0.0)	0 (0.0)	0 (0.0)	
RC 1	0 (0.0)	0 (0.0)	0 (0.0)	
RC 2	15 (12.8)	13 (12.9)	2 (12.5)	
RC 3	67 (57.3)	60 (60.0)	7 (41.2)	
RC 4	19 (16.2)	14 (14.0)	5 (29.4)	
RC 5	12 (10.3)	11 (11.0)	1 (5.9)	
RC 6	4 (3.4)	3 (3.0)	1 (5.9)	

Values are mean ± SD or n (%).

Table 3
Adjunctive therapy.

	Overall (N = 118)	Claudication/CLI (n = 101)	Access (n = 17)	p-Value
PTA	76 (64.4)	68 (67.3)	8 (47.1)	0.169
DCB	20 (16.9)	20 (19.8)	0 (0.0)	0.073
Specialty balloon	10 (8.5)	9 (8.9)	1 (5.9)	1.0
Stent	86 (72.9)	79 (78.2)	7 (41.2)	0.003
DES	11 (9.3)	11 (10.9)	0 (0.0)	0.362
BMS	49 (41.5)	43 (42.6)	6 (35.3)	0.608
Covered	39 (33.1)	36 (35.6)	3 (17.6)	0.173
Atherectomy	5 (4.2)	5 (5.0)	0 (0.0)	1.0
Embolic filter	2 (1.7)	2 (2.0)	0 (0.0)	1.0
With atherectomy	1 (0.8)	1 (1.0)	0 (0.0)	1.0
Without atherectomy	1 (0.8)	1 (1.0)	0 (0.0)	1.0

Values are n (%).

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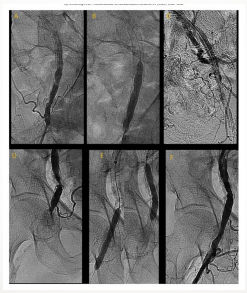
CALCIFIED LESIONS



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LITHOTRIPSY OUTCOMES FOR PAD

Table 4
Final results after intravascular lithotripsy.

Final angiographic results	Overall (N = 200)	Claudicant/CLI (n = 169)	Access (n = 28)	p-Value
Diameter stenosis, %	12.0 ± 12.1	11.7 ± 11.9	13.4 ± 13.3	0.573
Dissections, type D–F	0 (0.0)	0 (0.0)	0 (0.0)	N/A
Perforation	0 (0.0)	0 (0.0)	0 (0.0)	N/A
Slow flow/no reflow	0 (0.0)	0 (0.0)	0 (0.0)	N/A

Values are mean ± SD or n (%).
Final results are 'by lesion analysis' and complications are 'by patient analysis'.

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Successful use of lithoplasty for re-expansion of covered iliac stents with unilateral occlusion

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Fachreza A Damara, Matthew Wolfers and Lee Kirksey

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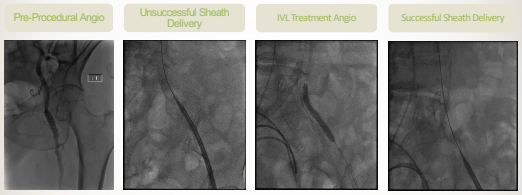
Pre-Impella



Physician: Rob Riley, MD

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Peripheral intravascular lithotripsy to facilitate transfemoral transcatheter aortic valve replacement – Defining optimal treatable peripheral arterial disease burden

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- Single center, 5 yr study of IVL assisted TAVR
  - 2862 TAVR – 2708 TF (92 (3.4%) IVL assisted)
  - Mean age 78/ 45% Female/ Primarily R CIA and EIA
  - Mean stenosis 41%; Ca++ >170°
  - 100% success in advancing device

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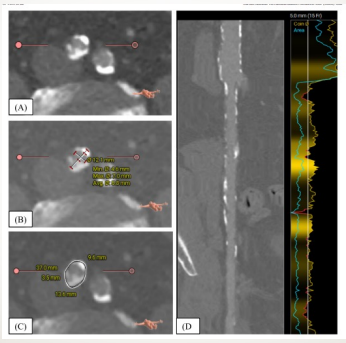
TYPICAL LESION



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Peripheral intravascular lithotripsy for transcatheter aortic valve implantation: a multicentre observational study

Giulia Nardi[1], MD; Ole De Backer[2], MD, PhD, MBA, FESC; Francesco Saia[3], MD, PhD; Lars Søndergaard[2], MD, DMSc; Francesca Ristalli[1], MD; Francesco Meucci[1], MD; Miroslava Stolcova[1], MD; Alessio Mattesini[1], MD; Pierluigi Demola[1], MD; Xi Wang[2,4], MD; Anees Al Jabri[3], MD; Tullio Palmerini[3], MD; Antonio Giulio Bruno[3], MD, FISC; Alfonso Ielasi[6], MD, FESC; Eric Van Belle[7], MD, PhD, FESC, FACC; Sergio Berti[5], MD; Carlo Di Mario[1]*, MD, PhD, FACC, FSCAI, FRCP, FESC

- Multicenter observational study
  - 108 pts IVL for TAVI
  - MLD 4.6mm/ 318° calcium arc
  - 100% successful delivery of device

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PROBLEMS

IVL-related vascular complications	
Perforation, n (%)	1 (0.9%)
Rupture, n (%)	0 (0.0%)
Minor dissection (type A-B-C), n (%)	4 (3.7%)
Major dissection (type D-E-F), n (%)	3 (2.8%)
Covered stent, n (%)	2 (1.8%)
Bare metal stent, n (%)	3 (2.8%)

Access-site-related complications	
Vessel perforation, n (%)	0 (0.0%)
Rupture, n (%)	1 (0.9%)
Dissection type, n (%)	2 (1.8%)
Stenosis, n (%)	3 (2.8%)
Ischaemia, n (%)	0 (0.0%)
Arteriovenous thrombosis, n (%)	0 (0.0%)
Arteriovenous fistula, n (%)	1 (0.9%)
Pseudoaneurysm, n (%)	0 (0.0%)
Retroperitoneal haematoma, n (%)	1 (0.9%)
Infection, n (%)	0 (0.0%)
Distal embolisation, n (%)	0 (0.0%)
Closure device failure, n (%)	6 (5.9%)
Bleeding <BARC3a, n (%)	21 (19.4%)
Bleeding >BARC type 3b, n (%)	3 (2.8%)
Unplanned endovascular intervention (balloon dilatation or covered stent implantation), n (%)	13 (12.0%)
Balloon dilatation, n (%)	4 (3.7%)
Covered stent, n (%)	10 (9.3%)
Bare metal stent, n (%)	1 (0.9%)

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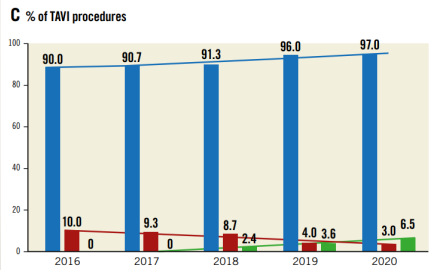
KEEPING TAVI TRANSFEMORAL



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Intravascular Iliac Artery Lithotripsy to Facilitate Aortic Endograft Delivery: Midterm Results of a Dual-Center Experience

Journal of Endovascular Therapy
1–13

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www.jevt.org
Sage

Stefano Fazzini, MD, PhD[1], Federico Francisco Pennetta, MD[1], Giovanni Torsello, MD[2], Valerio Turriziani, MD[1], Simona Vona, MD[1], Andrea Ascoli Marchetti, MD[1], Arnaldo Ippoliti, MD[1], Martin Austermann, MD[3], and Michel Joseph Bosiers, MD[3,4]

- 28 iliac arteries in 20 pts treated for severe Ca++
  - EVAR, TEVAR and BEVAR
  - 100% technical success
  - One “bail-out” stent

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CONCLUSION

- Iliac artery disease tends to be tremendously calcified
  - Makes treating symptomatic patients challenging
  - Makes delivering large caliber devices challenging
- Intravascular lithotripsy enables complete stent expansion in treating PAD
- Device delivery enabled with calcium fracture achieved with intravascular lithotripsy
- Complication rates are low and improvement in iliac artery flow significant