

Trends in Outcomes Associated with the Use of Auryon Atherectomy System in a Real-World Setting

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Purpose:

Evaluates the safety & efficacy of the *Auryon Laser Atherectomy System* in real-world treatment of a broad spectrum of infrainguinal PAD.

Auryon's Features:

- 355nm short pulse laser-transmitted catheter;
- Consists of optical fibers surrounded by a blunt blade (with aspiration); Indicated for atherectomy of infrainguinal PAD, including ISR;
- Has higher affinity for atheroma than for endothelium;
- Indifferent to the presence of contrast material.

Design & Methods:

- Single center retrospective analysis
- Reviewed patients with ingrainguinal PAD between March and December 2020
- Post-procedural patency evaluated by duplex ultrasonography

Population:

Age, years (mean ± SD)	73.7 ± 9.3
Sex, n (%)	
Male	35 (63.6%)
Female	20 (36.4%)
Smoking history, n (%)	41 (71.5%)
Diabetes mellitus, n (%)	37 (67.3%)
Chronic total occlusion, n (%)	24 (43.6%)
Chronic limb ischemia, n (%)	24 (43.6%)
In-stent restenosis, n (%)	1 (1.8%)
Rutherford classification (mean ± SD)	3.9 ± 1.0
2	1 (1.8%)
3	25 (45.5%)
4	7 (12.7%)
5	22 (40.0%)
TASC, n (%)	
A	3 (5.5%)
B	19 (34.5%)
C	23 (41.8%)
D	10 (18.2%)

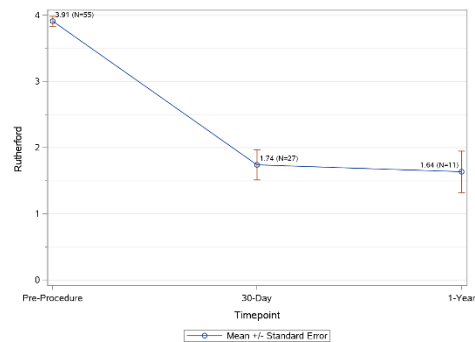
Procedural Data:

Number of lesions treated (mean ± SD)	2.1 ± 1.0
Lesions treated per patient	
1	21 (38.2%)
2	11 (20.0%)
3	19 (34.5%)
4	4 (7.3%)
Lesion location, n (%)	
Above the knee	28 (50.9%)
Below the knee	27 (49.1%)
Both	
Lesions length, n (%)	
<5 cm	6 (10.9%)
5-10 cm	12 (21.8%)
10-15 cm	7 (12.7%)
15-20 cm	11 (20.0%)
>20 cm	19 (34.5%)
Reference vessel diameter, mm (mean ± SD)	4.7 ± 1.6
Calcification, n (%)	
None/Mild	31 (56.4%)
Moderate/Severe	24 (43.6%)
Target limb run-off (mean ± SD)	1.7 ± 1.0
Fluoroscopy time, minutes (mean ± SD)	20.8 ± 11.9
Contrast volume, mL (mean ± SD)	44.4 ± 16.8
Angioplasty balloon, n (%)	
Non-drug coated balloon	55 (100%)
Stent placed, n (%)	3 (5.5%)
Procedural success*, n (%)	47 (85.5%)

Outcomes:

Follow Up Days		N	34
	Mean (SD)		205.94 (157.61)
	Min, Max		30, 487
Stroke		N (%)	0 (0.0%)
Amputation	Minor	N (%)	4 (7.3%)
	None	N (%)	51 (92.7%)
Bypass		N (%)	1 (1.8%)
Enderterectomy		N (%)	1 (1.8%)
MI		N (%)	2 (3.6%)
Stenosis/Re-Occlusion		N (%)	14 (25.5%)
Target Lesion Revasc		N (%)	14 (25.5%)
Death*		N (%)	1 (2.8%)

Rutherford Score By Timepoint



Conclusion:

The use of the Auryon laser system in a real-world patient population was associated with positive clinical outcomes, independent of lesion calcification level, type or length, with no procedure related adverse events.