

# Intravascular lithotripsy in calcified, femoropopliteal and crural lesions: a real world single-center experience

D. Kretzschmar<sup>1</sup>, M. Thieme<sup>1</sup>, P. C. Schulze<sup>1</sup>, S. Möbius-Winkler<sup>1</sup>

<sup>1</sup> Department of Internal Medicine I, University Hospital Jena

## Introduction

Peripheral vascular disease (PVD) is a major cause of morbidity and mortality with increasing need for interventional therapies. Vascular calcification increases risk of complications and may impair the effect of antiproliferative therapy. Intravascular lithotripsy (IVL) using pulsatile sonic pressure waves to modify intimal and medial calcium is a promising approach for those patients to overcome the drawbacks of vascular calcification.

## Methods

A retrospective record review of cases using IVL was performed for the period from december 2018 to january 2020 at our centre.



Egg shell after 7 Lithotripsy pulses

<b>cases</b>	<b>42</b>
patients	35
Rutherford class	3 (100 %)
age (mean)	72 (+/- 10)
women/man	7/28

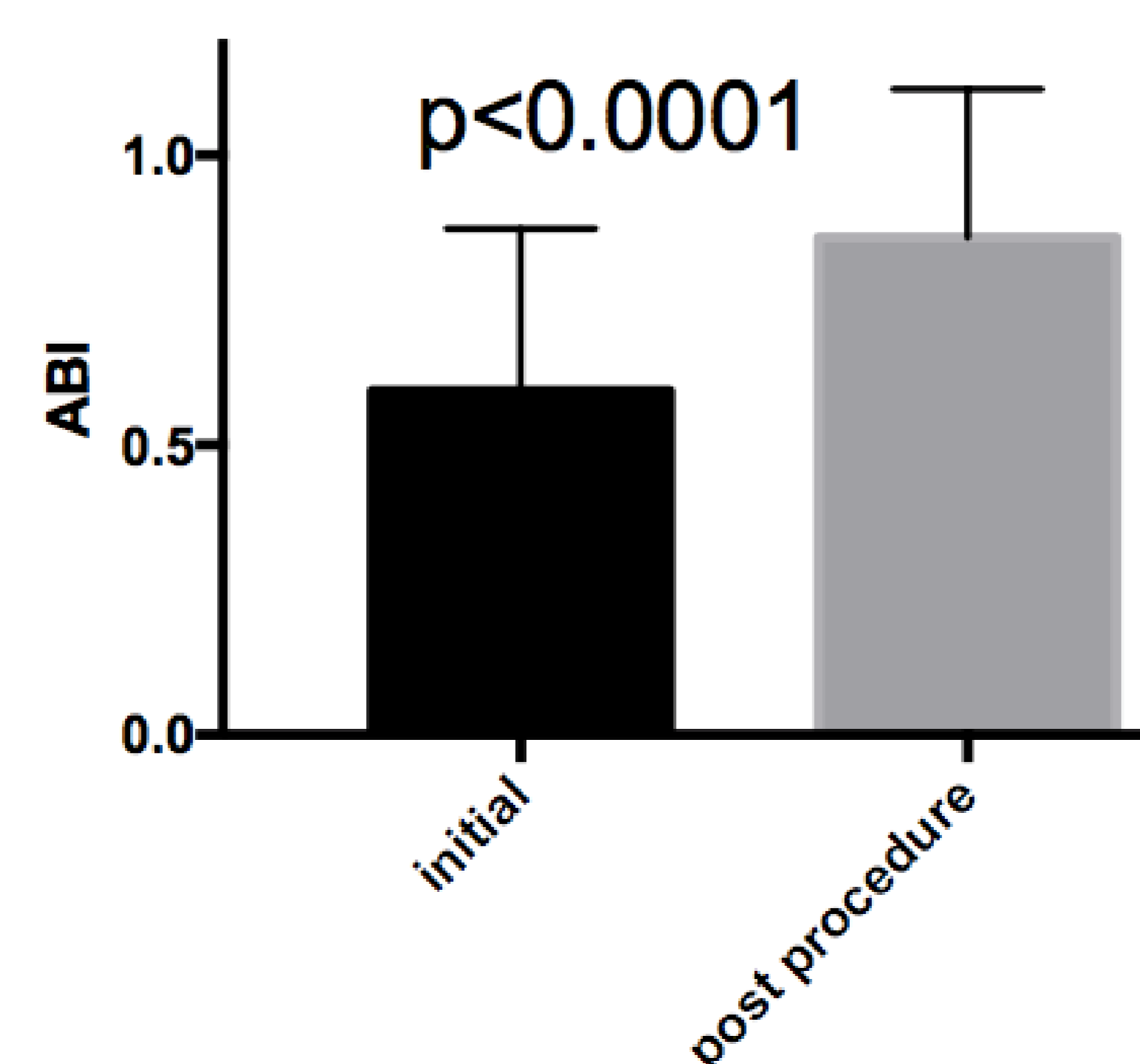
## Results

We performed 42 cases in 35 patients and treated 3 iliac, 6 common femoral, 36 superficial femoral, 2 deep femoral, 23 popliteal and 3 crural lesions with balloon sizes from 4.0 to 7.0 mm.

procedural characteristics	
antegrade/retrograde	
occlusions	11 (27 %) 16 (38 %) vs. 26 (62 %)
predilatation	16 (38 %)
stand alone therapy	21 (50 %)
adjunctive therapy	21 (50 %)-9 stents (22 %)
balloon rupture	5 (12 %)
crossing failure	1 (2 %)

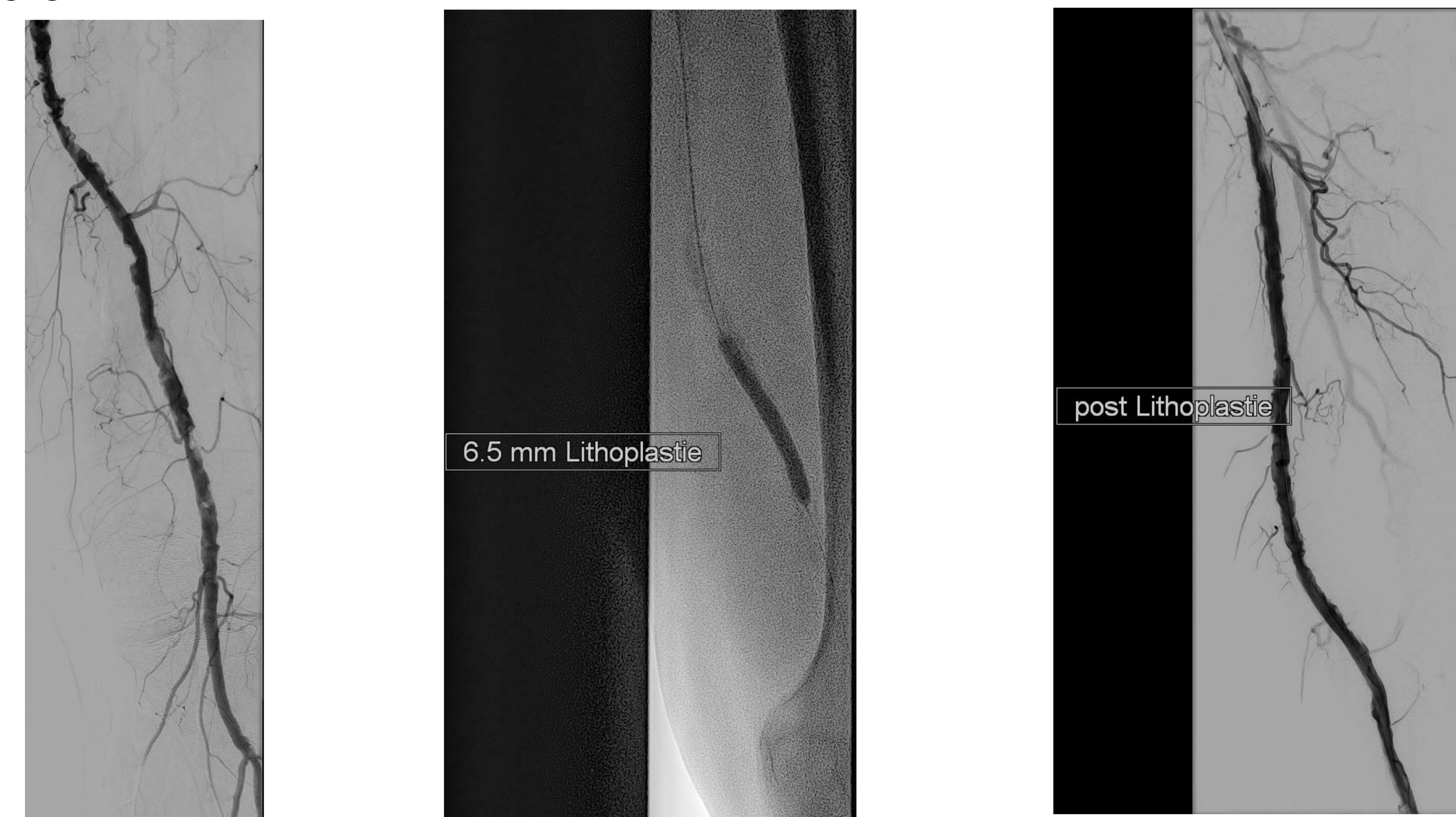
## Functional measurement

ABI was performed before and one day after IVL.



## Case

IVL with a 6.5 mm balloon was performed in a 68 year old male with severely calcified superficial femoral artery. ABI increases from 0.78 to 0.9.



## Conclusion

We report compelling safety and excellent short-term results using IVL in a complex, difficult to treat cohort. This innovative approach will gain more interest in future, especially since long term effects of paclitaxel eluting devices are controversially discussed.