



BUILDING
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Loss of kidney function after endovascular treatment of peripheral artery disease (PAD)

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Disclosure

Speaker name:

L.J.J. Bolt.....

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

Introduction

Global 202 million patients affected by peripheral artery disease (PAD)

First choice treatment in symptomatic PAD

Acute effects of radiocontrast administration on renal function have been well studied

Long-term effects of endovascular interventions for PAD remains to be investigated

Renal decline

Annual mean glomerular filtration rate (GFR) decline

Approximately 1mL/min/1.73m²

Fast decline

>4 mL/min/1.73m²

Increased mortality and cardiovascular events

We studied whether endovascular treatment of intermittent claudication is associated with long-term loss of renal function

Study design

Retrospective cohort

January 1st 2011 until July 31st 2013

Renal function (GFR)

Pre-procedural (*maximum 6 months prior to intervention*)

Post-procedural (*two till six weeks post intervention*)

One year post-procedural

In- exclusion criteria

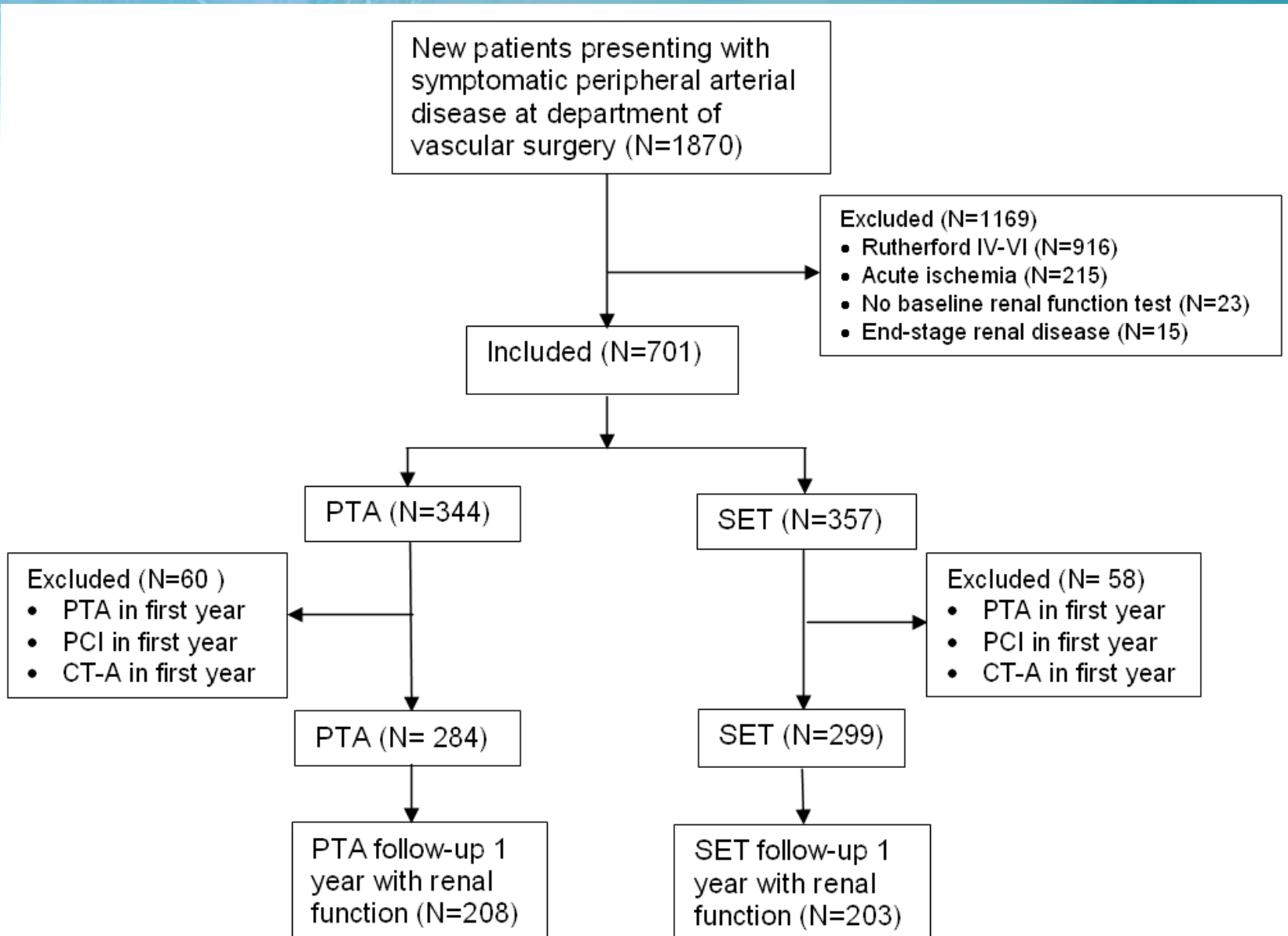
Inclusion

New consecutive patients with symptomatic PAD,
Rutherford 2-3
Endovascular treatment (PTA) or supervised
exercise therapy (SET)

Exclusion

Non-compliance to SET
PTA in medical history
End-stage renal disease
Rutherford classification 4-6
PTA in the first year of follow-up

Patient enrolment



Baseline characteristics

	PTA	SET	P-value
Age (years)	65	68	<0.01
BMI (kg/m²)	26	28	0.01
Rutherford Classification II classification III	100	64 36	<0.01
Baseline eGFR (mL/min)	75	69	<0.01
Diabetes mellitus	15	33	<0.01
Smoking	62	49	<0.01

*Data are presented as mean or as percentages.

Renal decline 1 year

	PTA		SET		P-value
	Mean renal decline	SD	Mean renal decline	SD	
Mean GFR decline	8.5 mL/min	10.6	1.8 mL/min	6.5	<0.001

Multivariate regression

	Renal decline (mean difference)	P-value	Fast renal decline (OR)	P-value
PTA	7.4	<0.01	9.0	<0.01
Age	-	-	1.0	0.05
Heart Failure	-	-	7.4	<0.01
Hypertension	1.9	0.03	1.8	0.01
GFR pre-operative	0.1	<0.01	-	-

Conclusion

Symptomatic PAD patients undergoing PTA show a significant fast renal decline compared to patients treated non-invasively with SET.

PTA for peripheral arterial disease are associated with clinically relevant permanent loss of kidney function observed after one year.

These risks are particularly important in PAD patients undergoing repeated contrast-enhanced procedures for diagnostic, therapeutic, or surveillance purposes.

Questions ??

Thank you for your attention!