Analysis of Outcomes for Bioresorbable Vascular Scaffold Use for the Treatment of Infra-Popliteal Disease

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Disclosure

Speaker name: **Mohammad Ansari, MD**

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☒ I do NOT have any potential conflict of interest

Introduction

Coronary drug eluting stents(DES): treatment of peripheral vascular disease (PVD) of patients with chronic limb ischemia (CLI)

Novel stents using bioresorbable vascular scaffolds (BVS) :

- Overcome the constrictive remodeling of endothelium

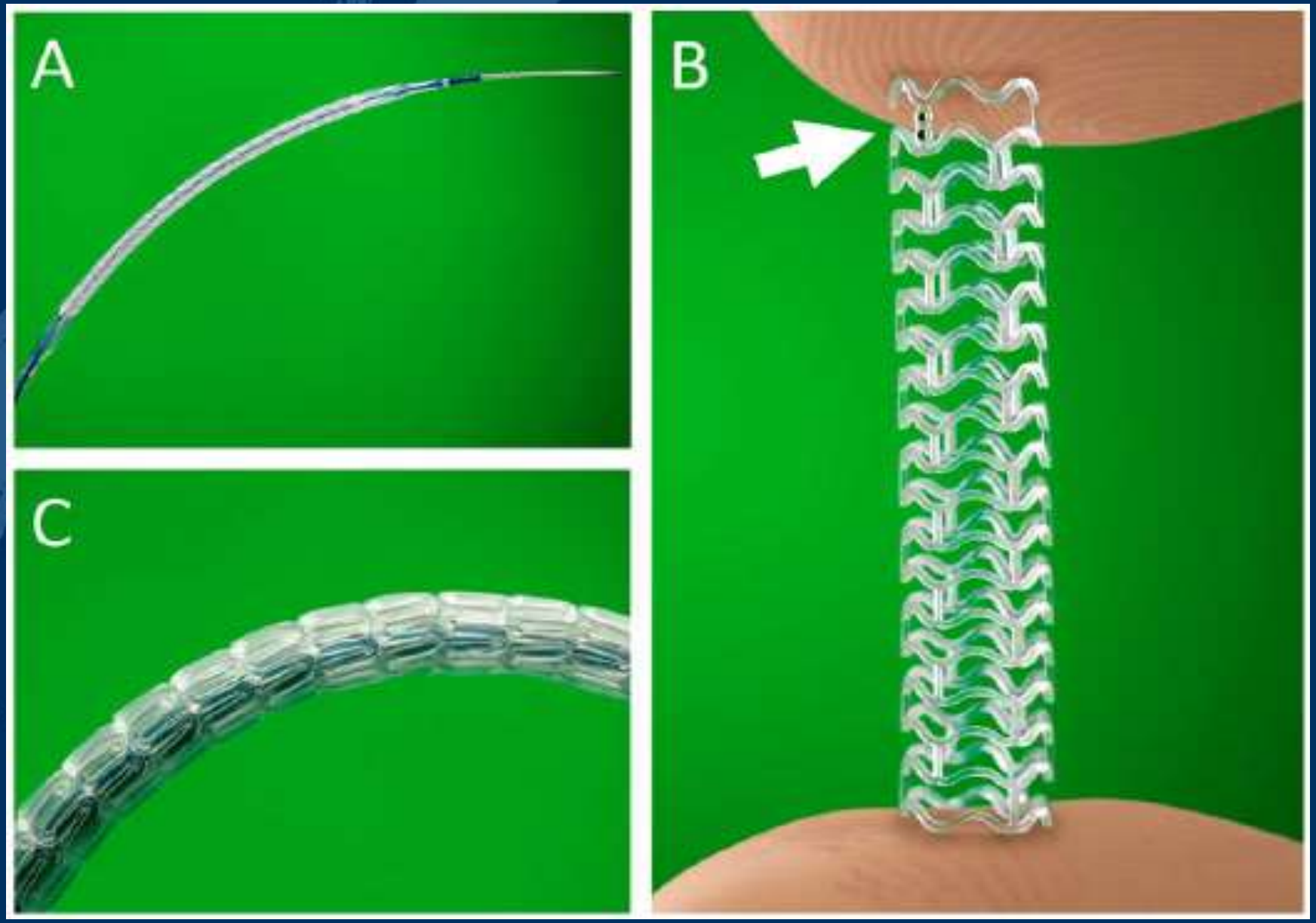
- Prevent natural endothelial elastic recoil

- Reduce lesion re-stenosis

- Reduce intimal hyperplasia

BVS applicability for peripheral vascular disease: Yet to be determined

Expert Rev Cardiovasc Ther. 2014 Apr;12(4):443-50
J Cardiovasc Surg (Torino). 2014 Aug;55(4):455-9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Objectives

Evaluation of BVS for treatment of chronic limb ischemia

To evaluate:

1.Efficacy

2.Safety

Search Method

Systematic search of the PubMed, EMBASE, and Cochrane databases up to November 2017

Data from all the clinical studies

Clinical outcomes of BVS use for peripheral arterial disease of infra-popliteal arteries

Primary Outcomes

Primary Patency

Secondary Patency

Clinically driven target lesion revascularization (TLR)

Target Vessel Revascularization (TVR)

Secondary Outcomes

Binary Restenosis

Scaffold Thrombosis

Amputation

Mortality

RESULTS

Study	Follow up (months)	BVS	Patients (n)	Primary Patency	Secondary Patency	TLR	TVR
Giordano.2016	3		56	NA	NA	11	13
Peeter.2005	3	Biotronik	20	NA	NA	1	NA
Varcoe.2016	6	Absorb	15	13	15	1	NA
Total n(%)			91	13 (86)	15 (100)	13 (14)	13 (23)

Study	Follow up (months)	BVS	Patients (n)	Amputation	Death	Binary Restenosis	Scaffold Thrombosis
Giordano.2016	3	NA	56	1	0	NA	NA
Peeter.2005	3	Biotronik	20	0	1	2	2
Varcoe.2016	6	Absorb	15	0	0	0	1
Total n(%)			91	1 (1)	1 (1)	2 (5.7)	3 (8.5)

Conclusion

BVS is safe and feasible option for infra-popliteal disease

Should be considered the optimal treatment for IP lesions

Discussion

Stent thrombosis: is it similar to coronaries stent ?

Comparison to drug coating balloon and balloon angioplasty

Different recoil morphology compared to coronary arteries

Early clinical and imaging data sustain further randomized trials

Historical Data

Drug eluting stents for coronaries

Drug eluting stents for peripheral artery disease

BVS for coronaries

BVS for peripheral artery disease ??

Femoro-popliteal Disease

Study	Follow up (months)	BVS	Patients (n)	Primary Patency	Secondary Patency	TLR	TVR	Amputation	Death	Binary Restenosis	Scaffold Thrombosis
Bontinck.2016	12	Remedy	80	43/74	61/71	26/80	26/80	3/78	2/76	NA	1
Lammer.2016	12	Espirit	34	Na	-	3	3	0	0	2	0
Werner.2014	12	Igaki-Tamal	28	9	25	25	-	0	1	19	8
Total n (%)			142	52(51)	86 (87)	45 (32)	29 (25)	3 (2)	3(2)	21 (33)	9(6)

Study	Follow up (months)	BVS	Patients (n)	Primary Patency	Secondary Patency	TLR	TVR	Amputation	Death	Binary Restenosis	Scaffold Thrombosis
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Lammer. 2016	3	Biotronik	20	NA	NA	1	NA	0	1	2	2
Werner. 2014	6	Absorb	15	13	15	1	NA	0	0	0	1
Total n (%)			91	13 (86)	15 (100)	13 (23)	1 (1)	1 (1)	1 (1)	2 (5.7)	3 (8.5)

Limitations

Small sample size

Short-term follow up

Lack of randomized data

No angiographic follow up analysis

Future

Questions ?

Thank you!

Questions ?

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