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Drug-Eluting Balloon Angioplasty versus Bare Metal Stents for Femoropopliteal Disease in Real-World Experience

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Disclosure

Speaker name: Maria Doyle



I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

- I do not have any potential conflict of interest



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Peripheral Arterial Disease

- Debilitating disease
- 800,000 people in Canada affected by PAD
- Up to 20% of individuals over 75 years old
- Interventional Radiology
 - Conventional balloon angioplasty
 - Bare metal stents (BMS)
 - Drug eluting stents (DES)
 - Drug coated balloons (DCB)



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Methods

- Retrospective, single-center study
- Symptomatic superficial femoropopliteal (SFA) atherosclerotic disease
- **Sample size: 405 patients from 2010-2015**
 - **DCB: 204**
 - **BMS: 201**
- 12 month follow up





Methods Cont'd

- Patient characteristics: Age, Diabetes, Smoking Status, Hypertension
- Lesion location: SFA, Distal SFA/Popliteal, Popliteal
- Lesion type: De novo, Recurrent stenosis, In-stent stenosis/occlusion
- Lesion classification: TASC II, Rutherford Classification, Lesion length
- Primary endpoint after intervention is freedom from target lesion revascularization (TLR), defined as: repeat percutaneous intervention, bypass surgery and amputation



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Baseline characteristics

	BMS		DCB	
	# pts	%	# pts	%
Hypertension	154	77%	177	87%
Diabetes Mellitus	115	57%	102	50%
Current or ex-smoker	139	69%	165	81%



Classifying lesions

Rutherford Category	
Category	Symptoms
0	Asymptomatic
1	Mild claudication
2	Moderate claudication
3	Severe claudication
4	Ischemic rest pain
5	Ischemic ulceration (minor tissue loss)
6	Ischemic gangrene

Multifocal Disease:

intervention performed at an additional location other than the treated lesion

BMS		DCB	
51	25%	78	38%

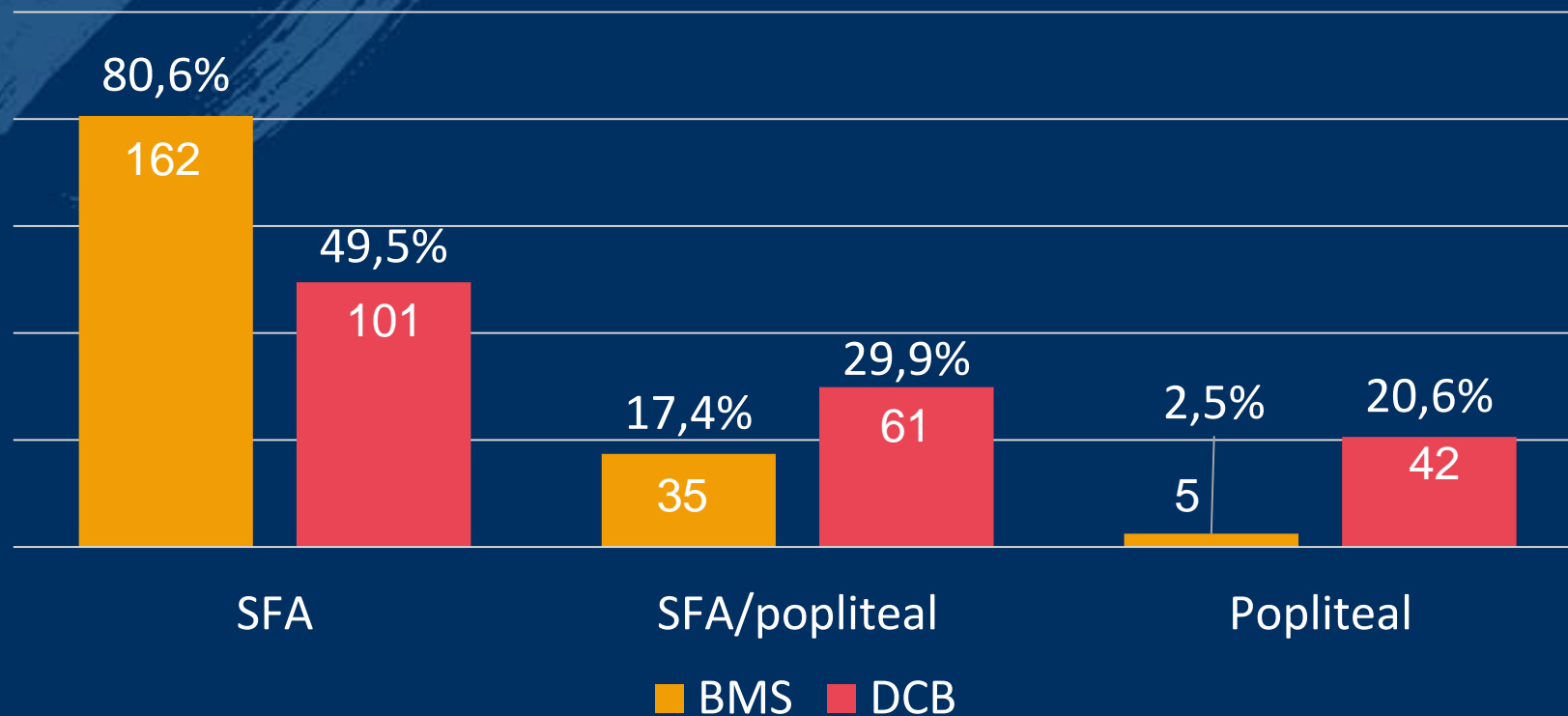
Mean lesion length (cm)	
BMS	DCB
11.8	12.3

BMS		DCB	
118	59%	116	55%



Classifying lesions – lesion location

Distribution of lesion location





Classifying Lesions: TASC II

	BMS		DCB	
	# patients	%	# patients	%
A	43	21.4%	73	35.8%
B	85	42.3%	52	25.5%
C	56	27.9%	58	28.4%
D	17	8.5%	21	10.3%
C + D	73	36.3%	79	38.7%



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12 Month TLR

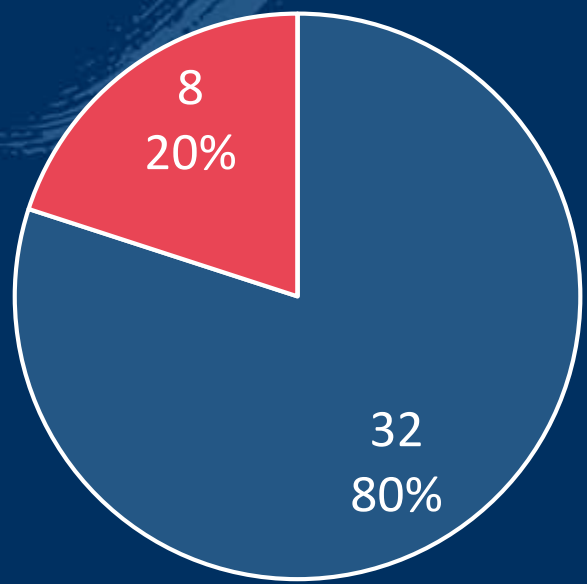
	BMS	DCB	P-value
Total # patients	201	204	
TLR at 12 months	40	30	0.16686
% TLR at 12 months	19.9%	14.7%	



TLR at 12 months – Lesion Location

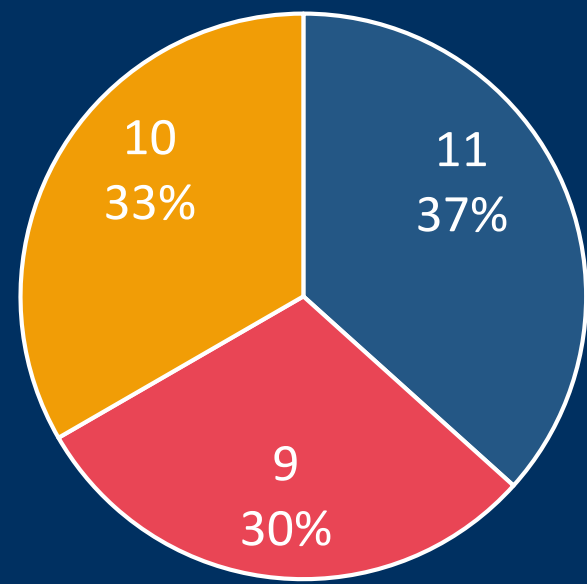
BMS

□ SFA ■ SFA/popliteal ■ Popliteal



DCB

□ SFA ■ SFA/popliteal ■ Popliteal

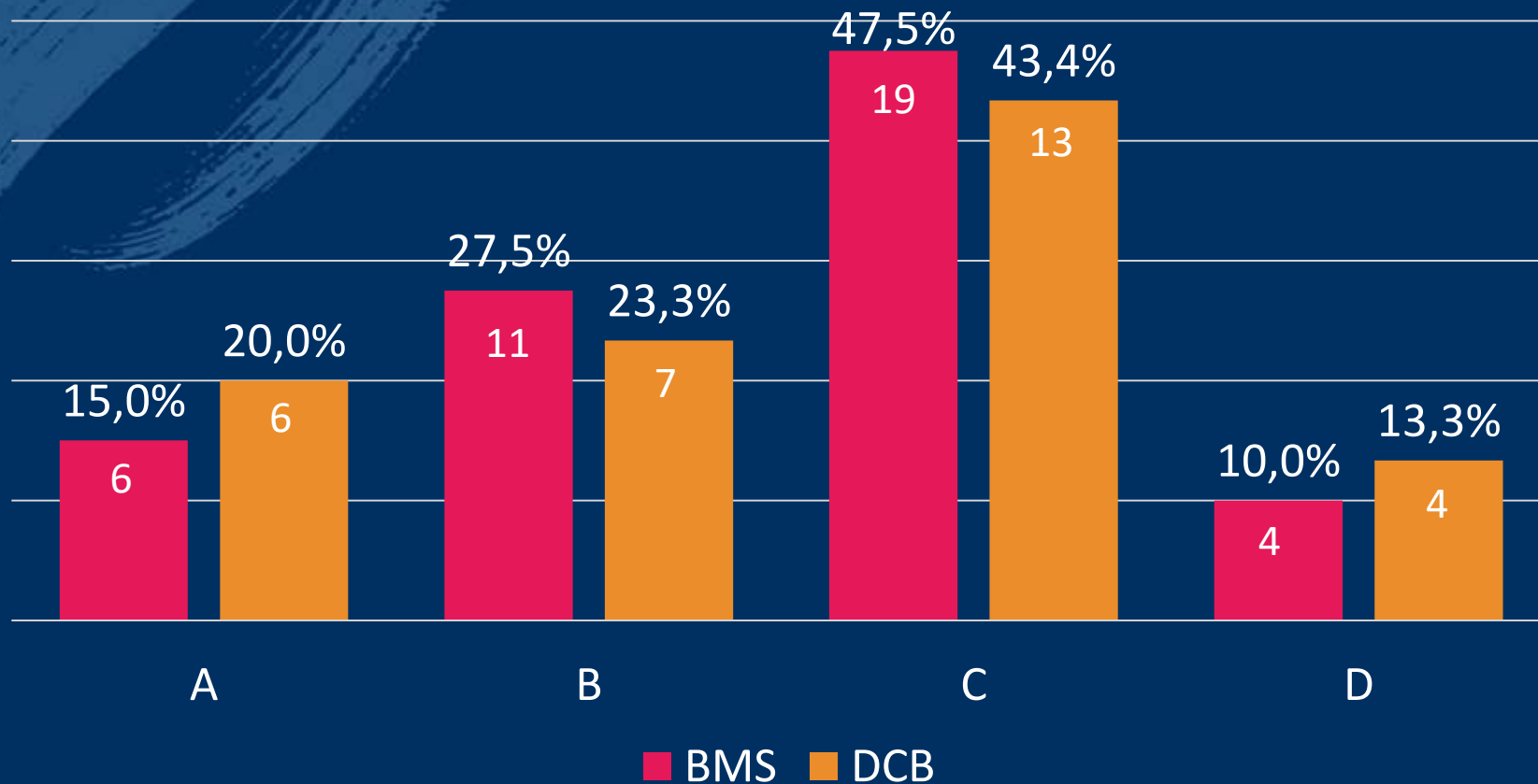




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TLR at 12 months – TASC II Classification

Comparison of TLR at 12 months





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Ongoing work

- Statistical analysis considering baseline characteristics
- Survival analysis/time to event statistics
- Follow up at 2 and 3 years



Conclusions

- Freedom from TLR at 12 months:

BMS		DCB	
161	80.1%	174	85.3%

- Complex patient cohort
- DCB have role in TASC C & D patients unsuitable for surgery
- DCB have role in popliteal lesions



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