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**EGYPTIAN SOCIETY OF
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Coronary Aneurysms What are the management options?

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My Agenda

- Definition
- Pathophysiology
- Management
- Interventional Cases



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What is Coronary Artery Ectasia/ANEURYSM (CEA)?

- Relatively common entity
 - 1.5-8% of patients undergoing coronary angiography.
 - Pure ectasia (15% of the total population with CAE) have a more benign course
 - There is a higher incidence of adverse events in this population compared to people with normal coronary arteries



CEA, or aneurismal coronary artery disease, is **defined as** dilatation of an arterial

Suzuki *et al.* recommended expanding Hartnell's definition to include

those arteries that are 1.5 or more times greater than the mean diameter of the proximal and distal portions of the ectatic area

Aneurysm: diameter > 1.5 n, width > length (<50% of vessel's length)

- Suzuki H. : Coronary spasm in patients with coronary ectasia. *Carhete cardio vasc diagnostics* 1994



Hartnell GG, Pamell BM, Pridle RB. Coronary artery ectasia, its prevalence and clinical significance in 4993 patients. *Br Heart J.* 1985; 54: 392-395.

Classification

Coronary Artery Aneurysms: An Update 383

Classification of CAAs		
Characteristics	Categories	Luminal diameter of the aneurysm
<i>Shape</i>	Saccular Fusiform	Maximum transverse diameter > longitudinal dimension
		Longitudinal dimension > maximum transverse diameter
<i>Vascular wall integrity</i>	True aneurysm Pseudoaneurysm	All vascular layers present
		Loss of the vascular wall integrity
<i>Topographical extent</i>	Type I Type II Type III Type IV	Diffuse dilatation of two or three vessels
		Diffuse dilatation in one vessel and localized in another
		Diffuse dilatation of one vessel only
		Localized or segmental dilatation

Modified from Antoniadis et al., 2008; Diaz-Zamudio et al., 2009.

Table 1. Morphologic and topographical classification of aneurysms and ectasias observed in coronary arteries.

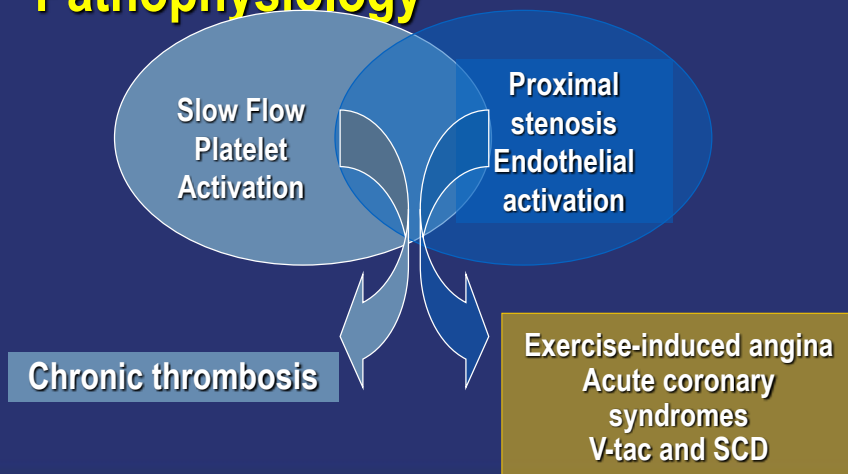


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Pathophysiology



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Management

- No specific guidelines
- Customized treatment

Heterogeneous morphology of CEA → pharmacological, interventional and surgical therapy specific to **the cause**

Also, therapeutic management depends on possible or manifest **complications.**



Medical management

- ▶ Platelet inhibitors as a prophylaxis against ischemic syndromes
- ▶ Warfarin, although a therapeutic superiority compared with aspirin has not yet been evaluated and not established by evidence based medicine
- ▶ No Nitrates
- ▶ BB
- ▶ CCBs against vasospasm



PCI ??

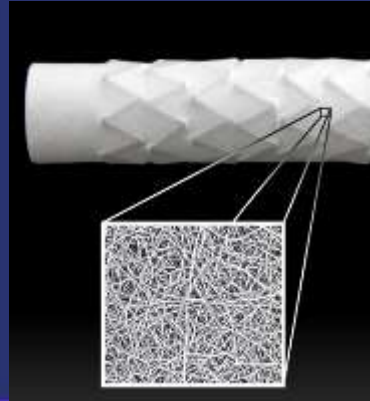
- ▶ Persistent Ischemia
- ▶ PCI to lesions adjacent to coronary aneurysm
- ▶ Covered or graft stents versus BMS/DES
- ▶ Technical challenge,
 - ▶ Apposition of struts to a vessel of large and irregularly-variable caliber may not be feasible.
 - ▶ Distal embolization



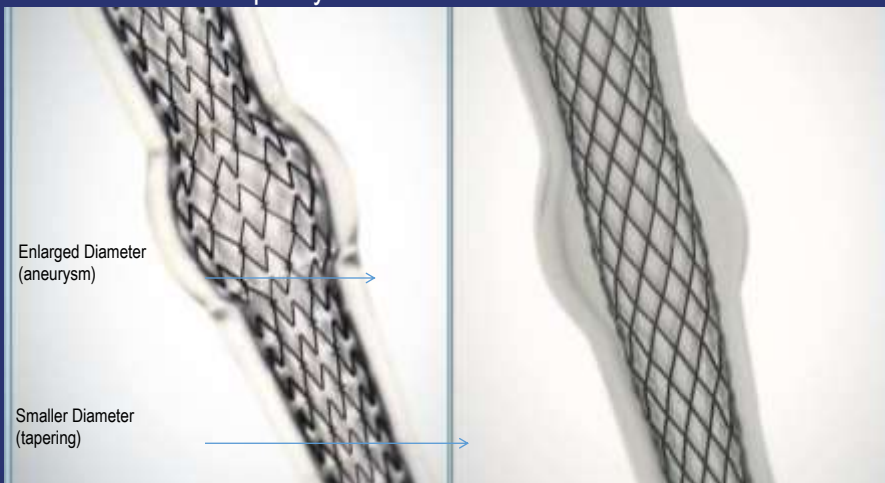
PTFE (Covered) STENT

► Challenges:

- Occlusion of branch arteries
- Incomplete coverage of the aneurysm may result in persistent “leak” into the aneurysm sac
- Diameter >10 mm → restenosis



STENTYS stent designed for perfect apposition in coronary anatomies with diameter discrepancy



Surgery ??

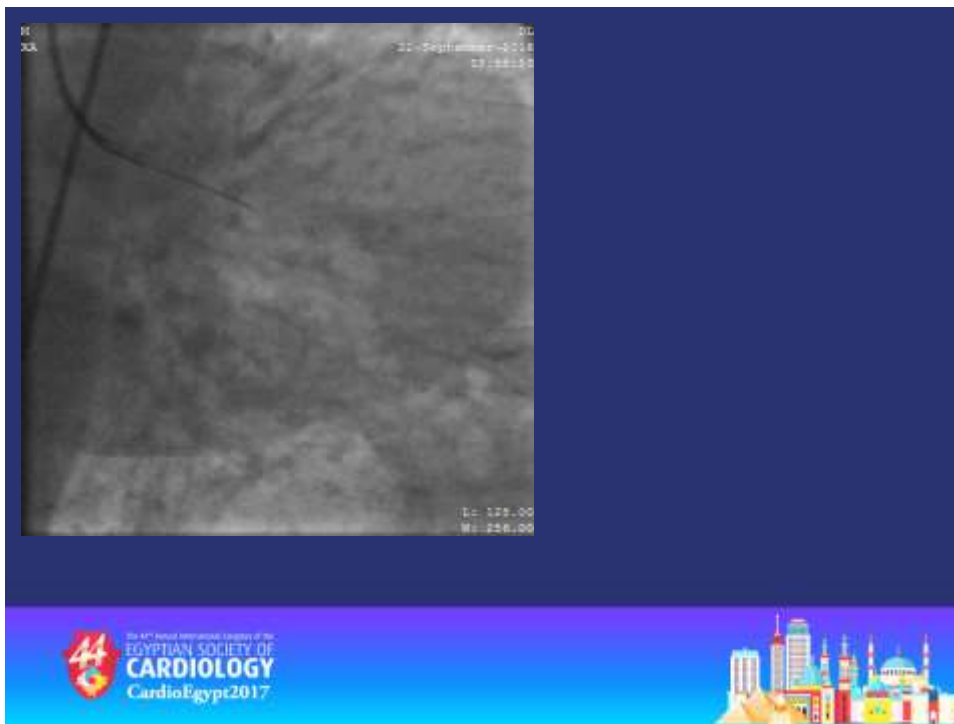
- ▶ 3 to 4 times the original vessel diameter
- ▶ involvement of the left main, bifurcation lesions, or multi-vessel involvement
- ▶ Coronary artery bypass with or without aneurysm ligation or resection



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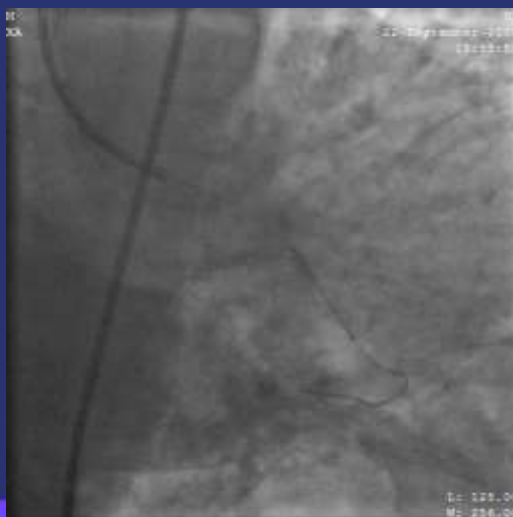




Case 1



Case 1



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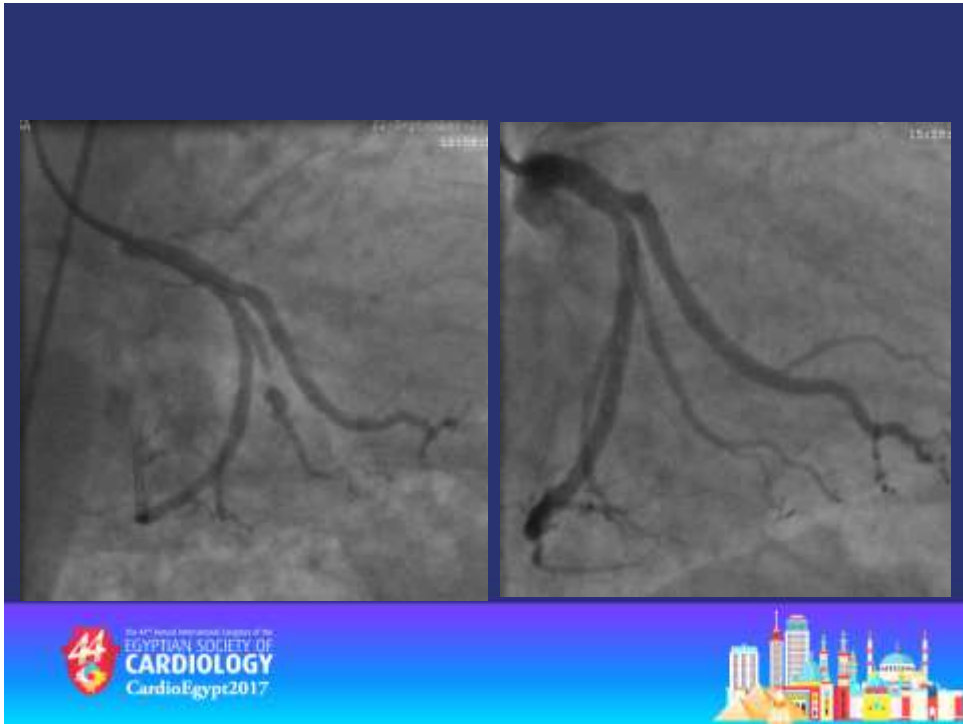


Case 1



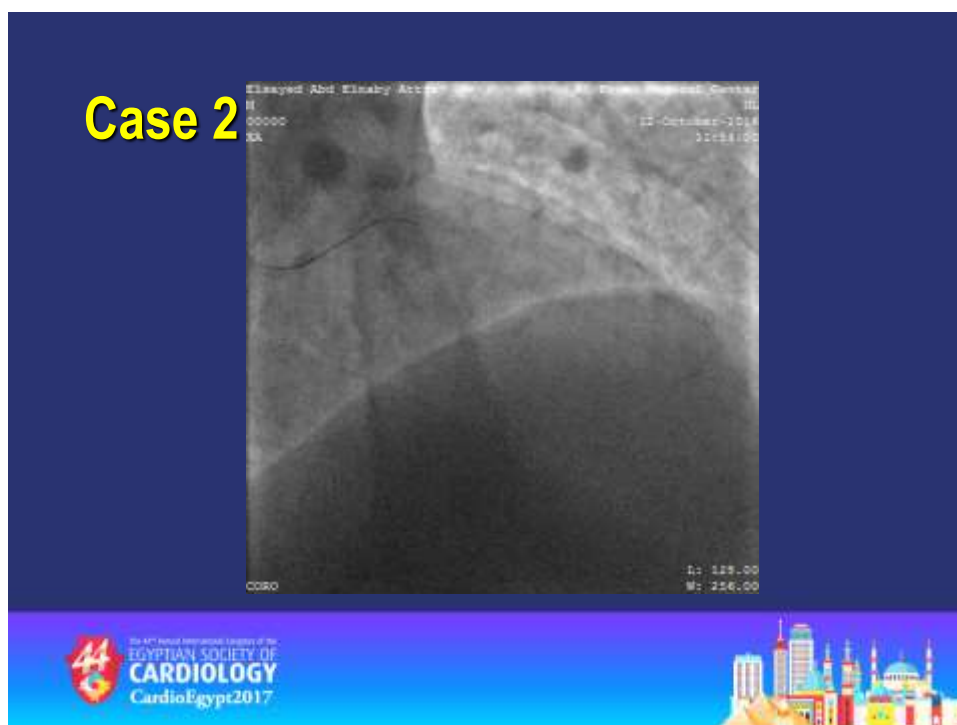
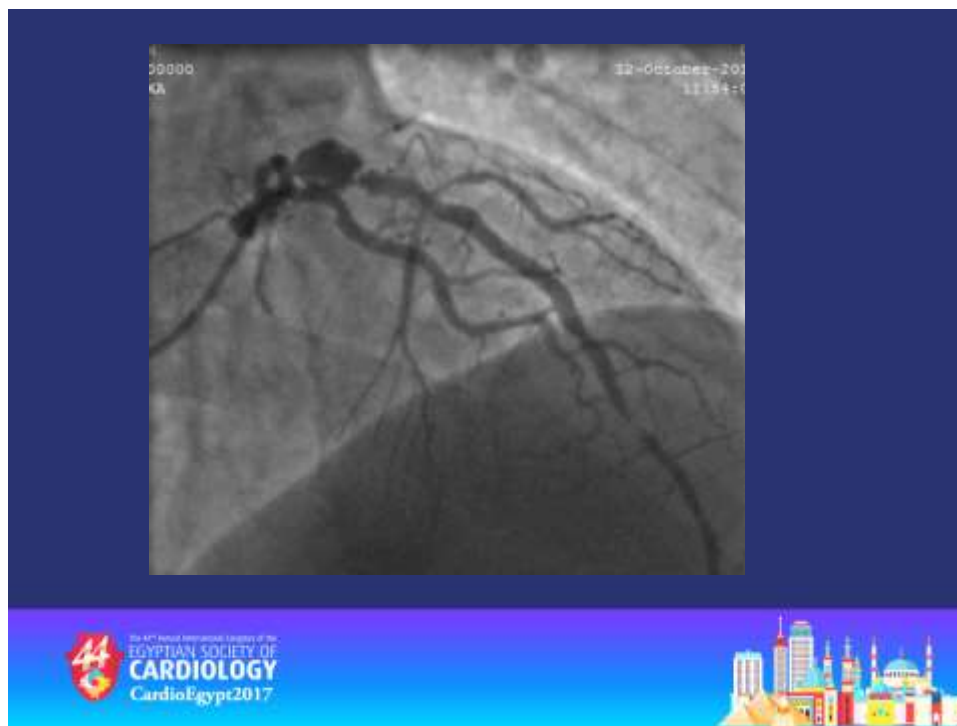
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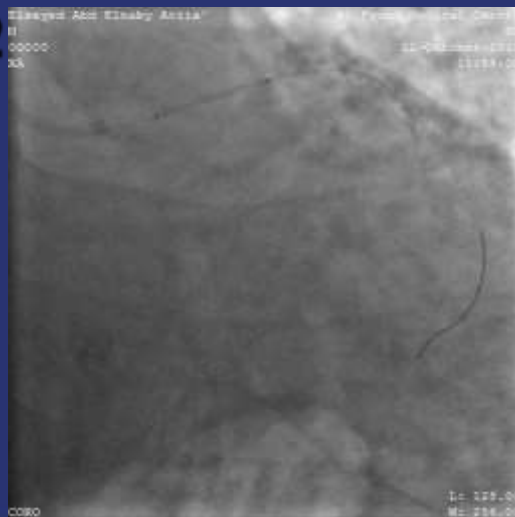


Case 2

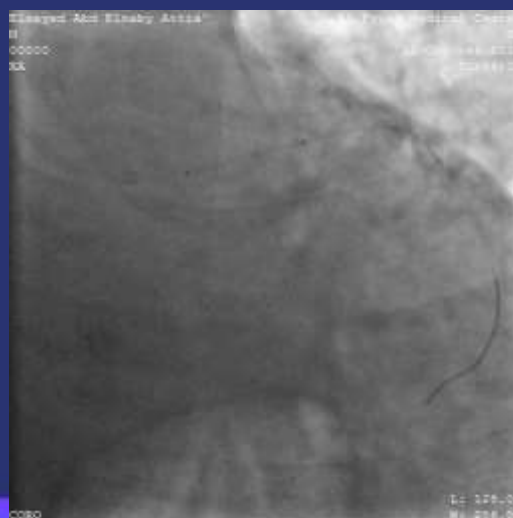




Case 2



Case 2



Case 2



Conclusion

- Very difficult entity of CAD
- All options are there
- Intervention is an option with very challenging and careful manipulations

