

September 12-14

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Les Comtes de Méan
Liège, Belgium

6th International Meeting on Aortic Diseases

New insights into an old problem CHU Liège, APF

www.chuliege-ima.be

Incidence of AAA is higher in patients with COPD and smoking-why?

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Disclosure of Interest

Speaker name: .Thomas V. Bilfinger

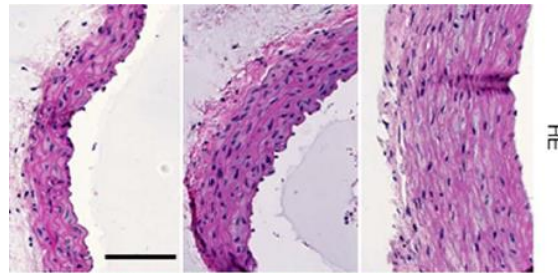
- I do not have any potential conflict of interest

What are we talking about?

Smoke →	Odds: 5.57 Smoke 2.68 Male 1.94 family hx 1.71 >65 yrs 1.15 HTN →	Aneurysm ↑ 3-9 x increase
Smoke →	1 : 3 →	COPD ↓ 2-5 x increase
Smoke →	1 : 14 Male 1 : 17 Female →	Lung Cancer

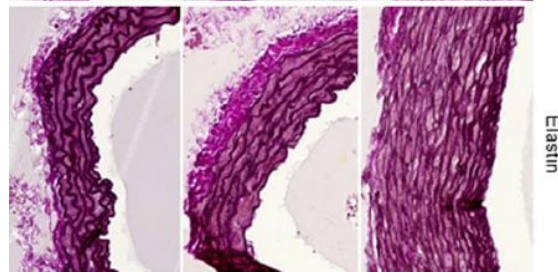


Common Observations



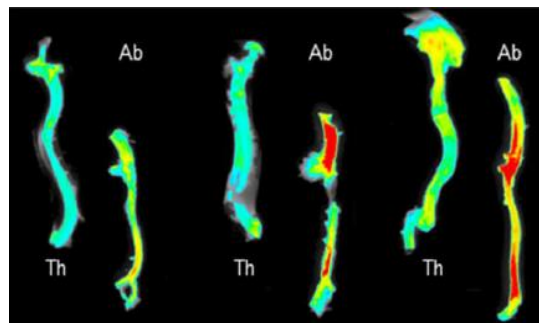
H&E

Macrophage infiltration of aneurysmal mice aorta

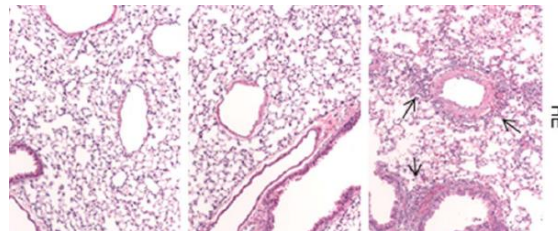


Elastin

Progressive fragmentation and disorganization of elastin in media



Increasingly active MMP's with NIRF probe



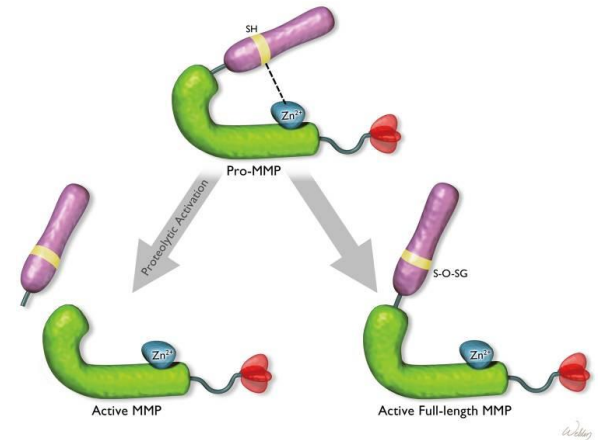
H&E

Progressive Macrophage infiltration in emphysematous lungs



Common Mechanism

Smoke	3,4 Benzopyrene	Macrophage	NFκB	↑ MMP's 2,9,12	Aneurysm
	Angiotensin II	Endothelial Dysfunction		2, 5, 8, 9, 12	

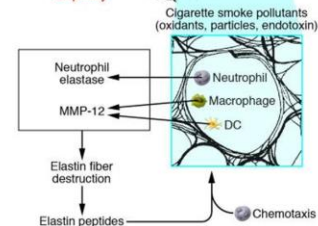
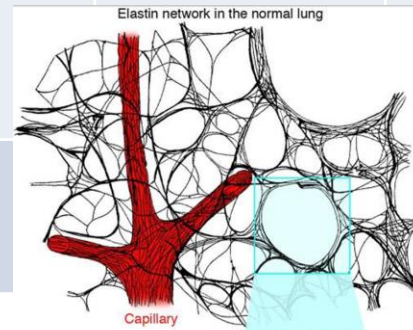


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5 Lipoxygenase is the key enzyme in leukotriene biosynthesis catalyzing arachidonic acid to biologically active lipid mediators: proinflammatory



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Smoke		Macrophage	NFκB, IL8, LTB4 Neutrophils CD8 Lymphocytes	12	Emphysema





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Smoke		Macrophage		1, 2, 7, 9, 12, 13	Lung Cancer



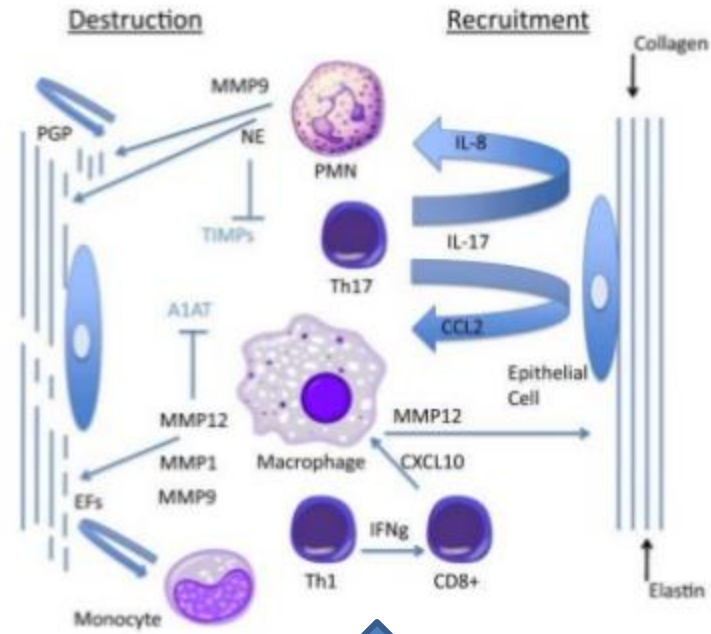
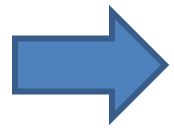
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Smoke					

MMP1 linked to metastatic behavior
 MMP2 fundamental Role in Cancer progression: Angiogenesis
 MMP7 very specific against extracellular matrix
 Important in regulating bioactive substances
 MMP9 assoc. with metastatic properties of Lc
 MMP12 secreted by inflammatory macrophages
 MMP13 wide range of proteolytic substrates for Lc



Summary

Smoke



Aneurysm

COPD

Cancer

