Determinants of new onset diabetes among hypertensive patients randomised in the ASCOT-BPLA Trial .

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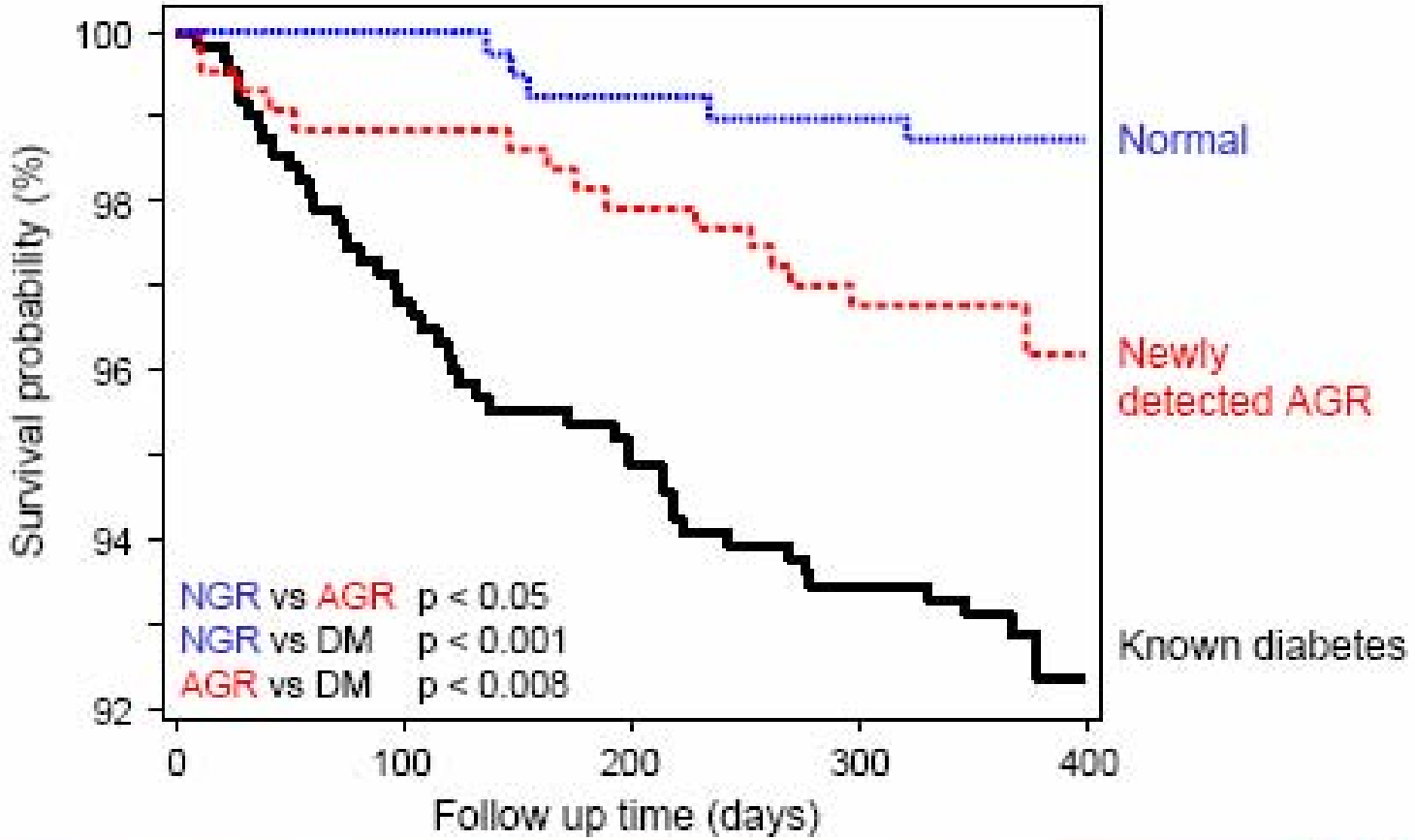
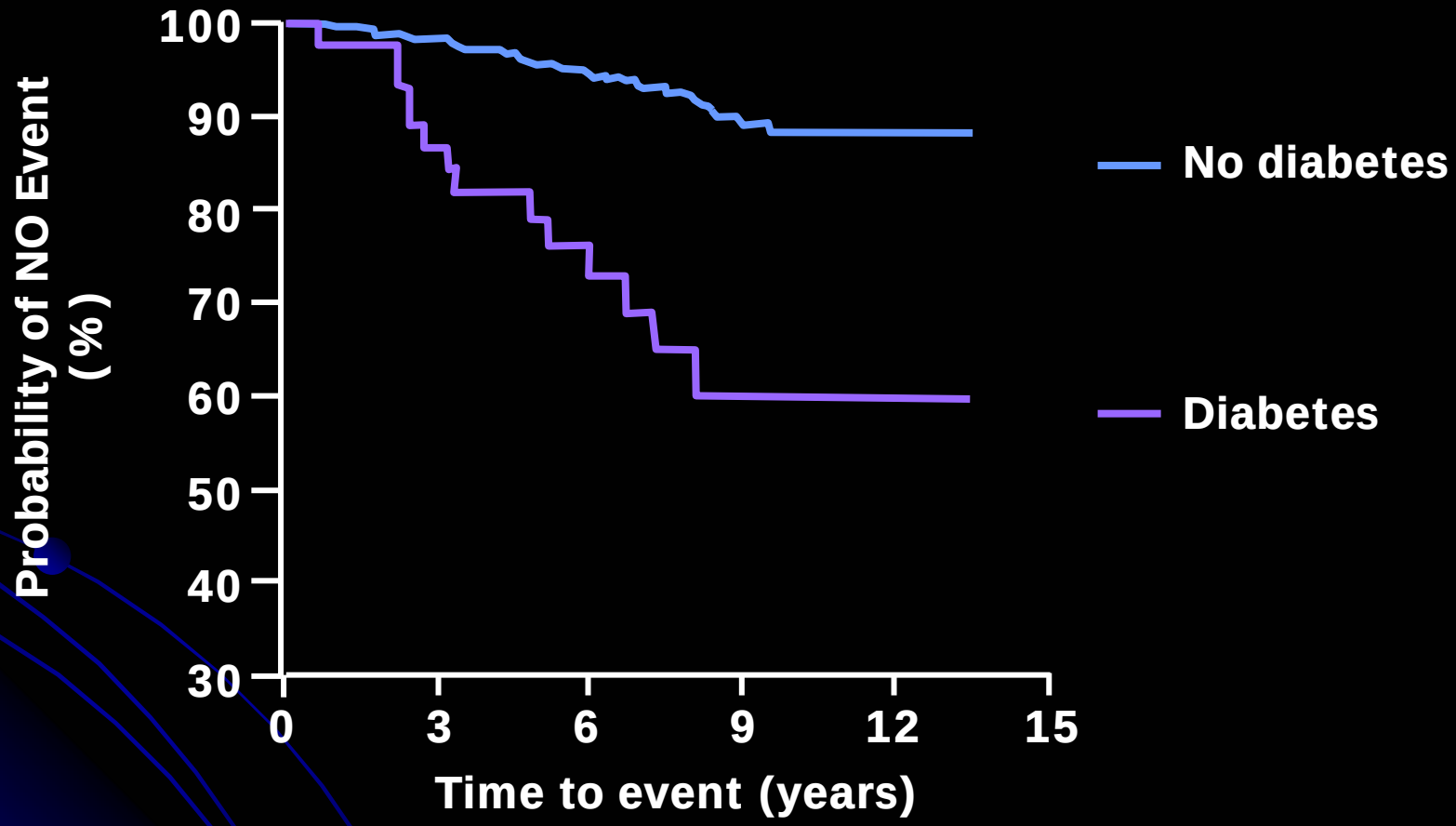
Survival in relation to glucose tolerance



European Heart Journal (2004) 25, 1880–1890

Cardiovascular events in hypertensive & Diabetes

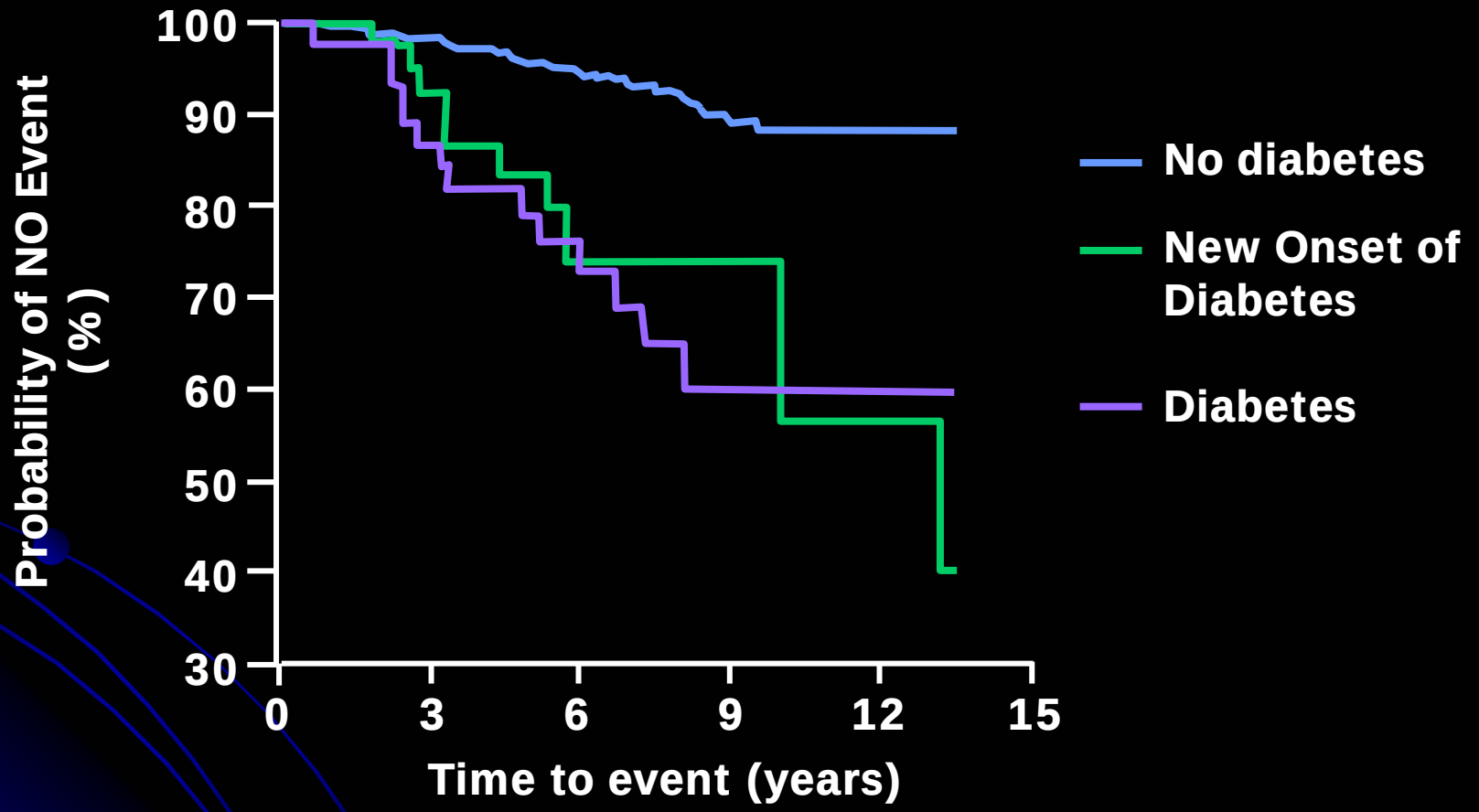


Diabetic patients 3 times more probability of suffering an event than non diabetics

Verdecchia P et al. *Hypertension.* 2004;43:963–969.

CV events in HT & Diabetes.

NOD is NOT quite innocent !!



Diabetic patients 3 times more probability of suffering an event than non diabetics

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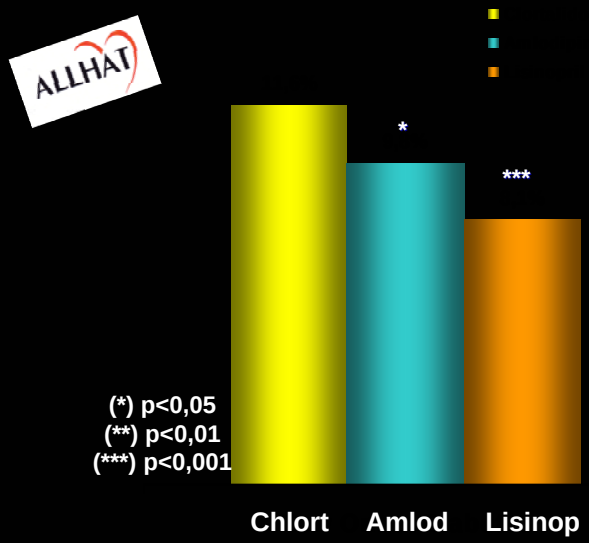
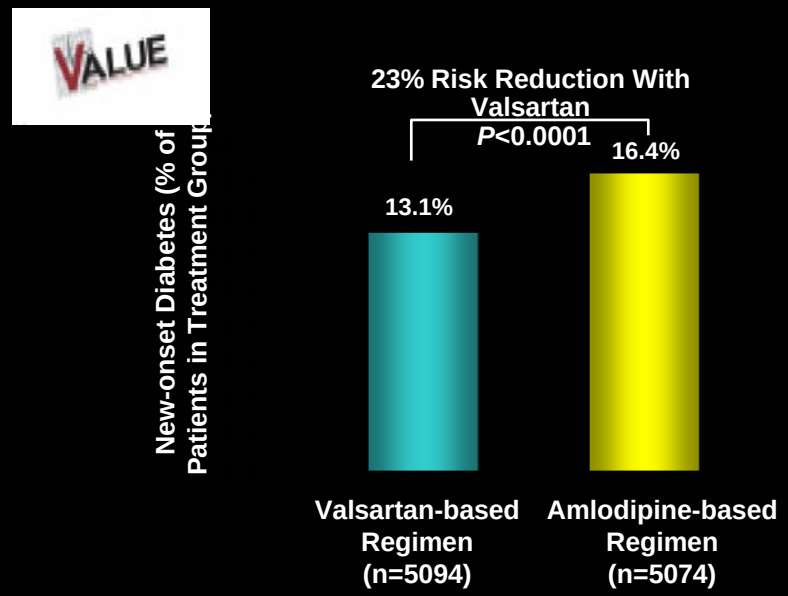
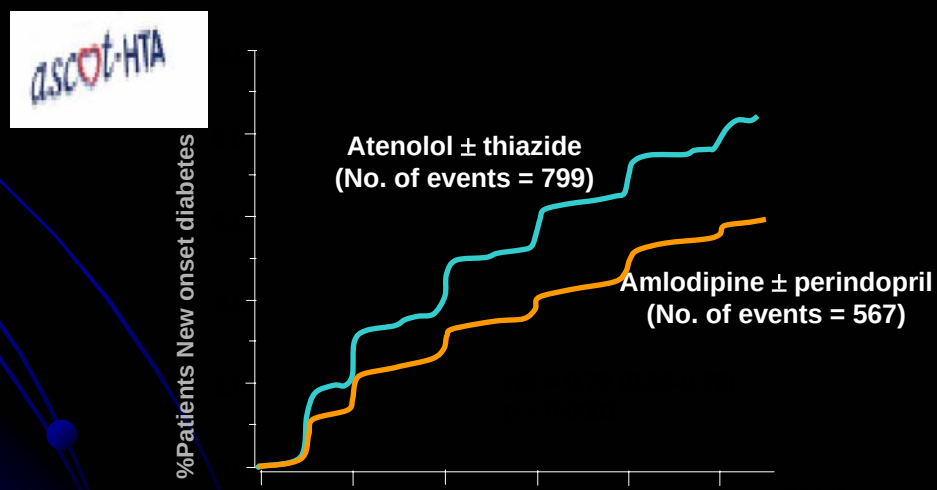
New-onset Diabetes Mellitus



ALLHAT. JAMA. 2002;288:2981-2997.



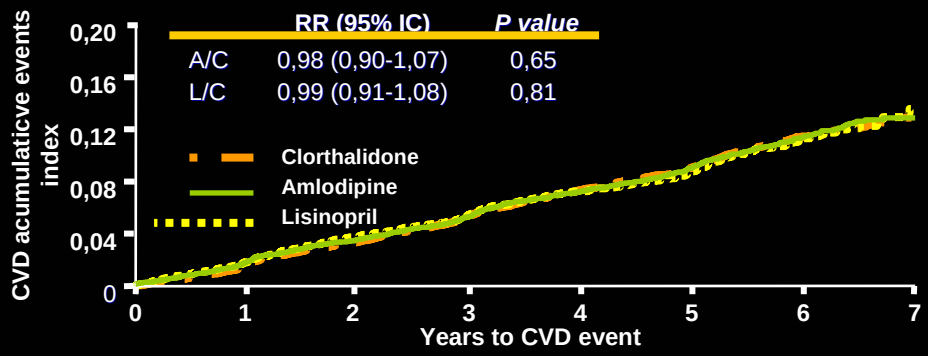
Julius S et al. *Lancet*. June 2004;363.



Dahlöf B et al, for the ASCOT Investigators. *Lancet*. 2005;366:895-906.

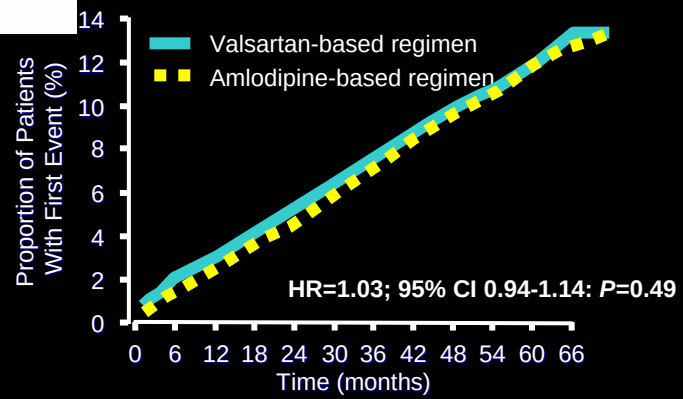
Primary end points outcomes

Non-fatal MI, fatal CHD



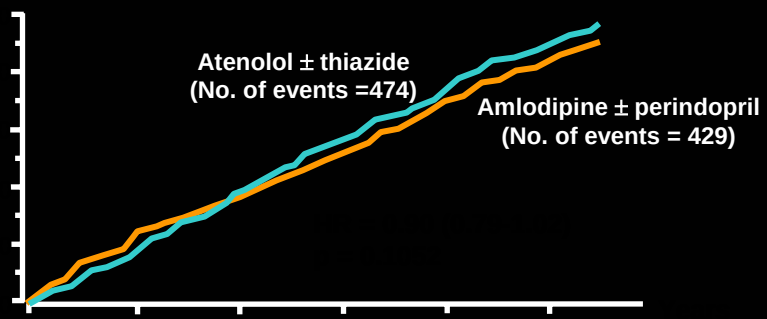
ALLHAT. *JAMA*. 2002;288:2981-2997.

Primary Composite Cardiac Endpoint



Julius et al. Lancet. June 2004;363.

Non-fatal MI, fatal CHD



Number at risk						
Amlodipine ± perindopril	9639	9475	9337	9168	8966	7863
Atenolol ± thiazide	9618	9470	9290	9083	8858	7743

Dahlöf B et al, for the ASCOT Investigators. *Lancet*. 2005;366:895-906.

What have we learned from ASCOT ?

- 1366 patients developed diabetes [hazard ratio 0.69 (95% CI 0.62-0.77, p<0001. Amlodipine vs atenolol)
- It seems that Amlodipine has neutral effect in such effect (ASCOT and other trials).
- Consider :
  - **All of the 34% difference in the two treatment groups cannot be due to ACE in amlodipine+/-perindopril group, simply because not all received perindopril.**
  - **Also this difference is much more than 20% which is being suggested in metanalysis on ACE/ARB's.**
  - **Consequently, certain proportion of the final effect must also lies on the atenolol+/- thiazide group particularly atenolol**

Calculating the risk of development of new onset of diabetes !

- Combining the 11 most important risk factors for NOD it is possible to **calculate a risk score** which was extremely good at discriminating between risk groups presented in quartiles

(strongest baseline predictors were fasting blood sugar levels, BMI, triglycerides and antihypertensive drug, while HDL had a protective effect).

Decision Making

Clinical Conditions	Diur.	ß-blockers	ACEi	ARAbs	CCBs.	Aldosterone Antag.
HF	●	●	●	●		●
Post AMI		●	●			●
High risk CAD	●	●	●		●	
Diabetes	●	●	●	●	●	
Renal failure			●	●		

Chobanian, et al JAMA, 2003;289-19:2560-2572

Decision Making. Final message

Clinical Conditions	Diur.	ß-blockers	ACEi	ARAbs	CCBs.	Aldosterone Antag.
HF	●	●	●	●		●
Post AMI		●	●			●
High risk CAD	●	●	●		●	
Diabetes	●	●	●	●	●	
Renal failure			●	●		
NEW ONSET DIABETES	no	no				no

Chobanian, et al JAMA, 2003;289-19:2560-2572