

MPI Risk Markers

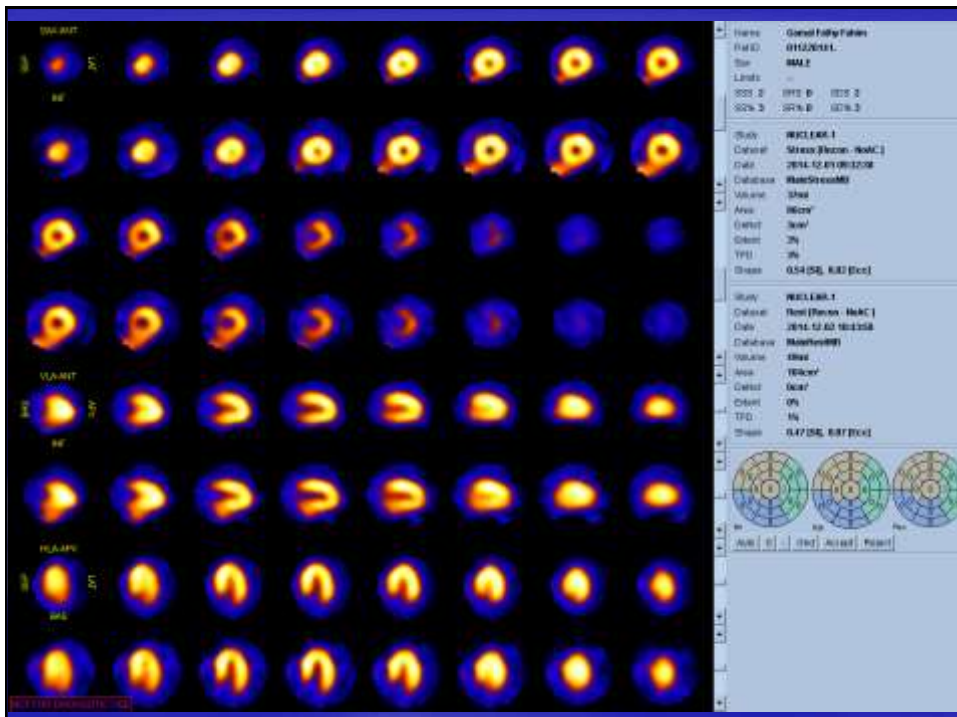
By

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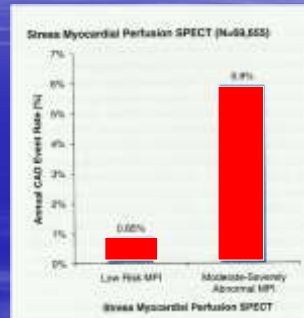
Cardiology Dept. Faculty of Medicine

Alexandria University



Prognosis: Normal Vs. Abnormal Nuclear Scans

Review of 14 studies
12 fold risk of nonfatal MI or death with abnormal study



Shaw LJ, Iskandrian AE. Prognostic value of gated myocardial perfusion SPECT. *J Nucl Cardiol* 2004;11:171-85.

High risk markers during SPECT Study

Myocardial Perfusion markers:

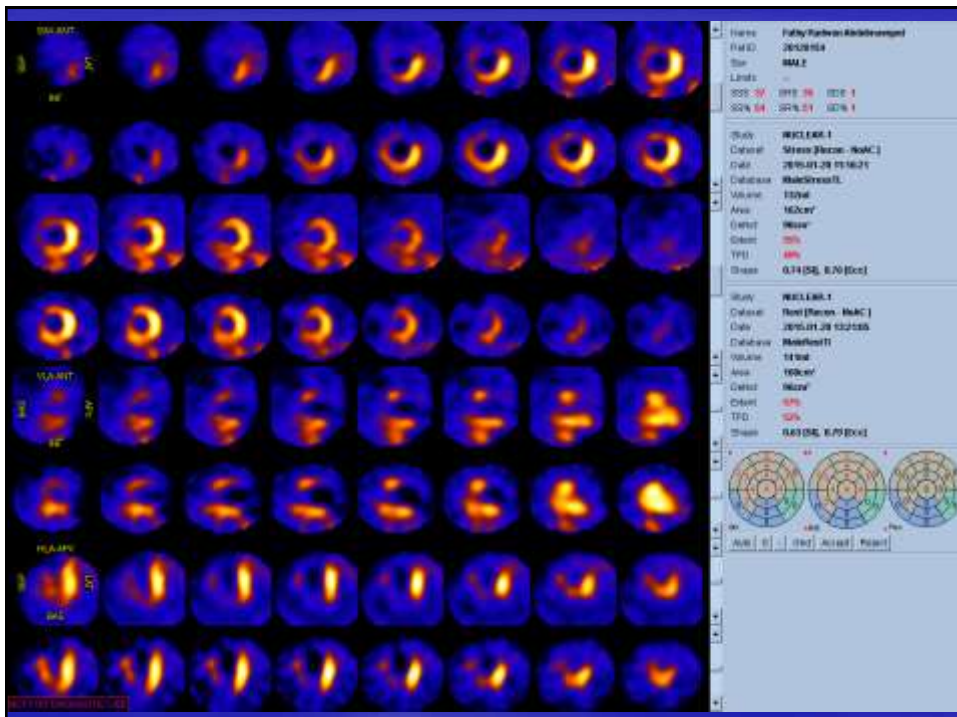
- 1-Size
- 2-Multiplicity
- 3-Distribution

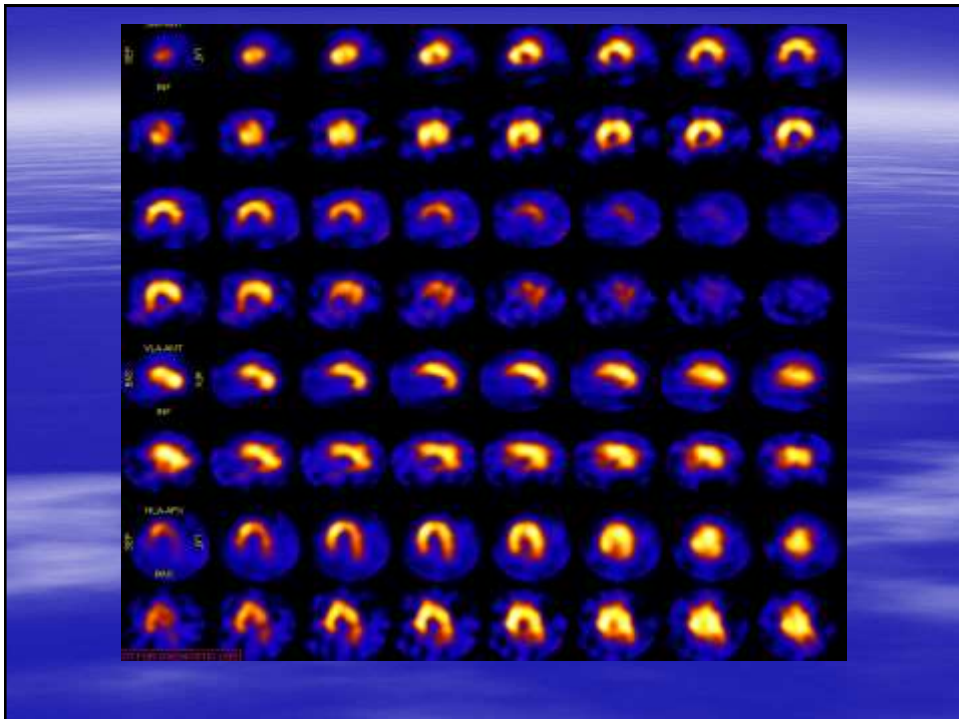
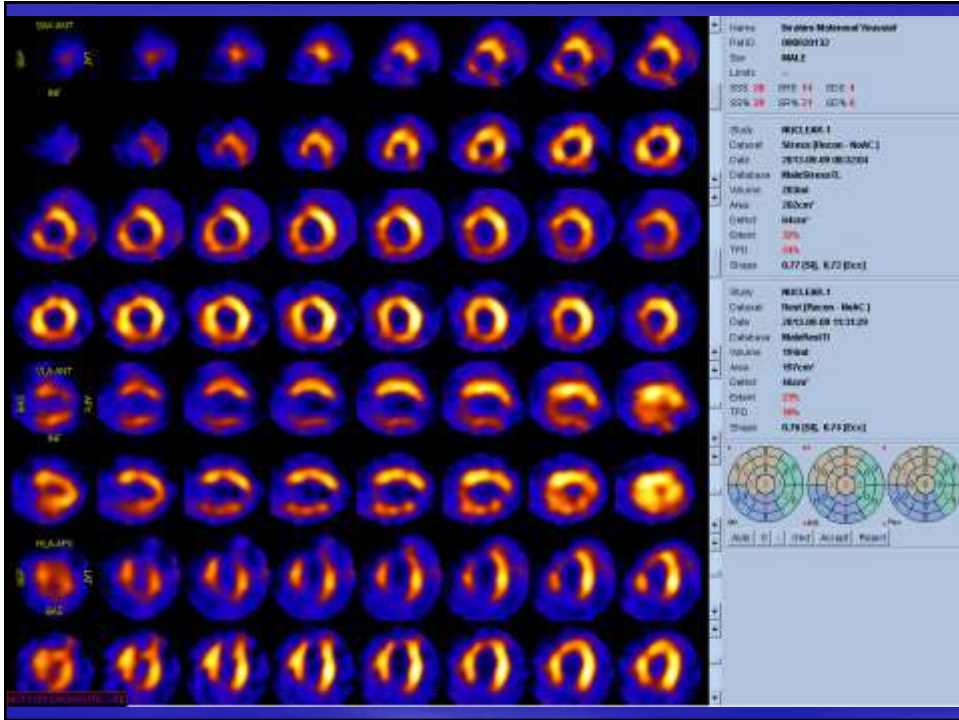
Extra perfusion markers

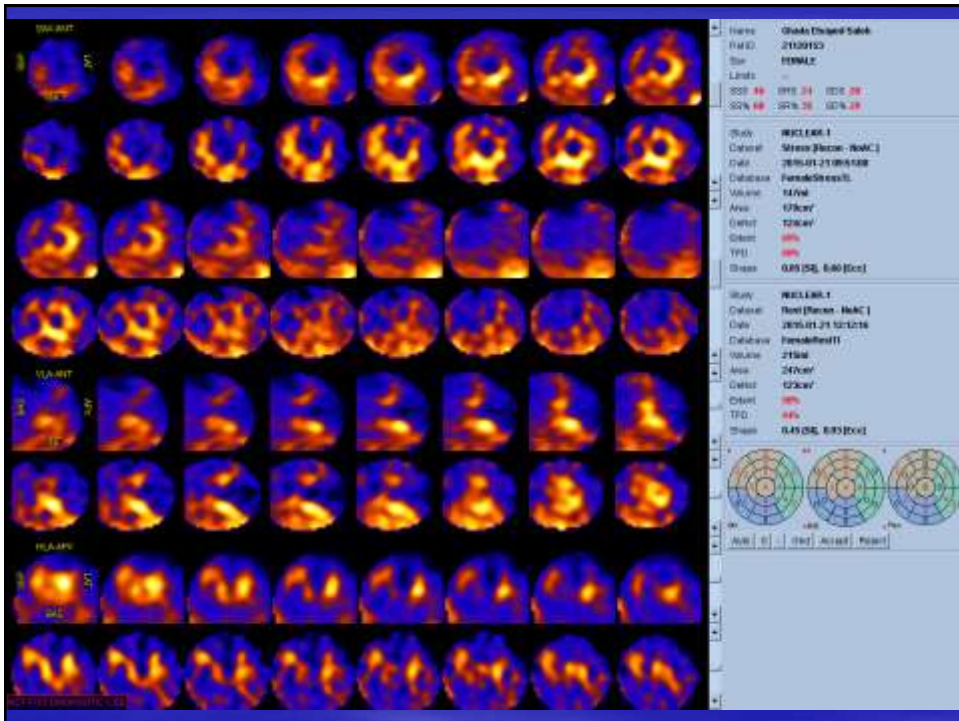
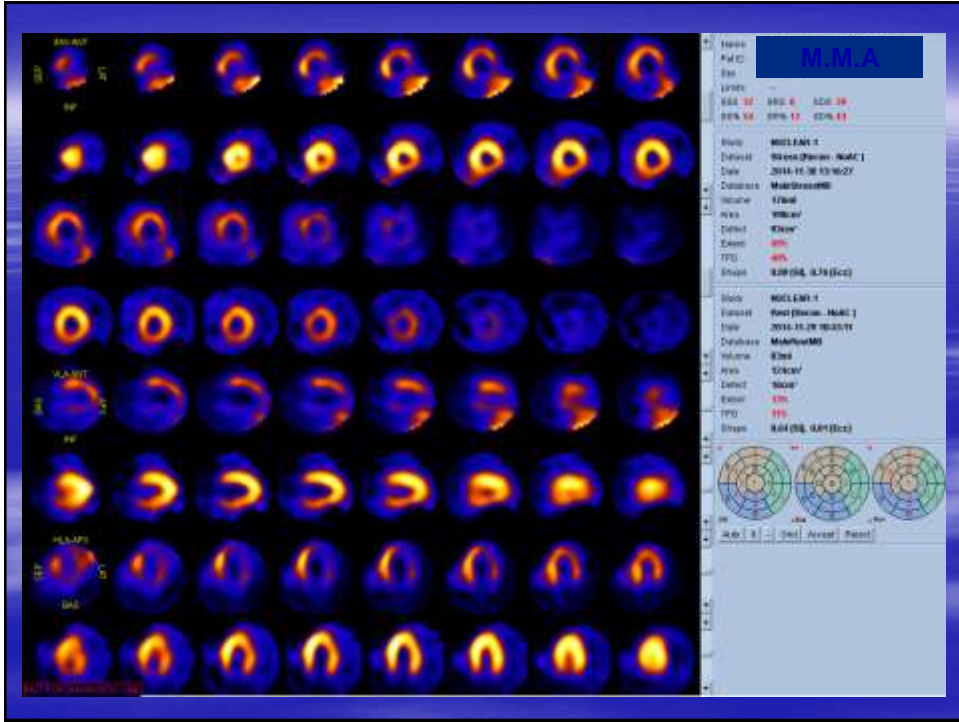
- 1-LV size
 - ↓ Persistent dilatation
 - ↓ Transient dilatation
- 2-LV EF during stress
- 3-Apical Aneurysm; transient or persistent
- 4-Visualization of RV during stress
- 5-Thal.Lung uptake > Tc

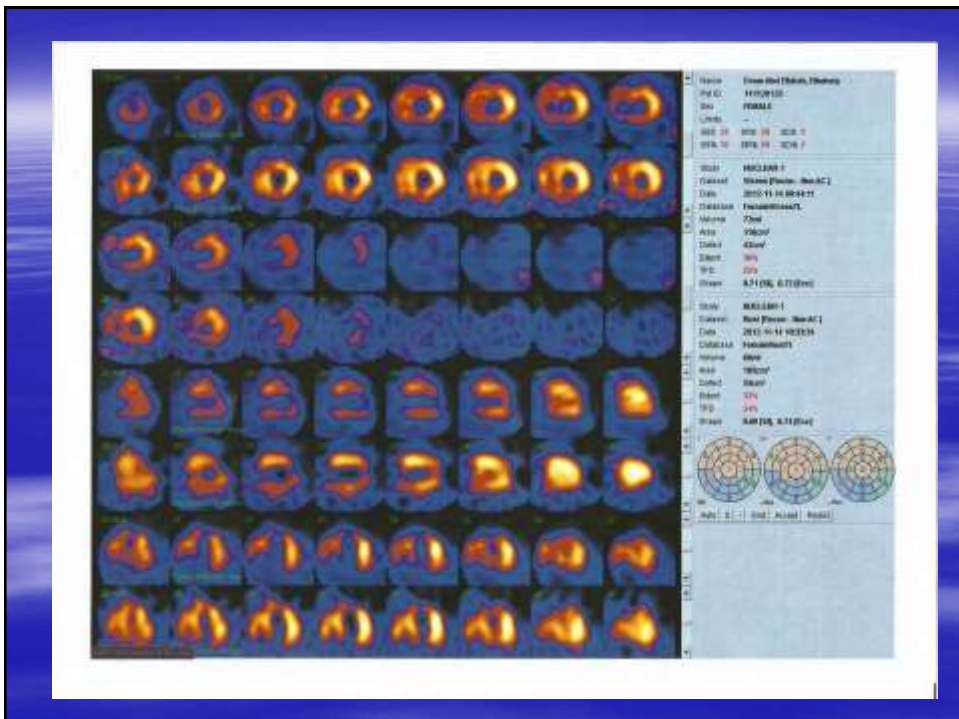
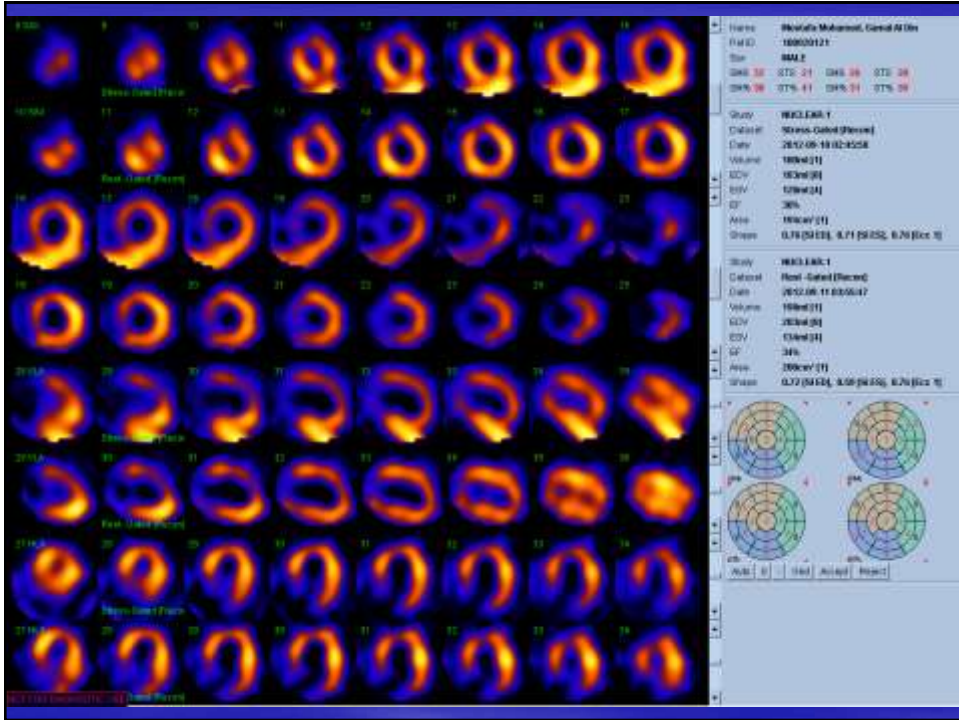
Abnormal MPI

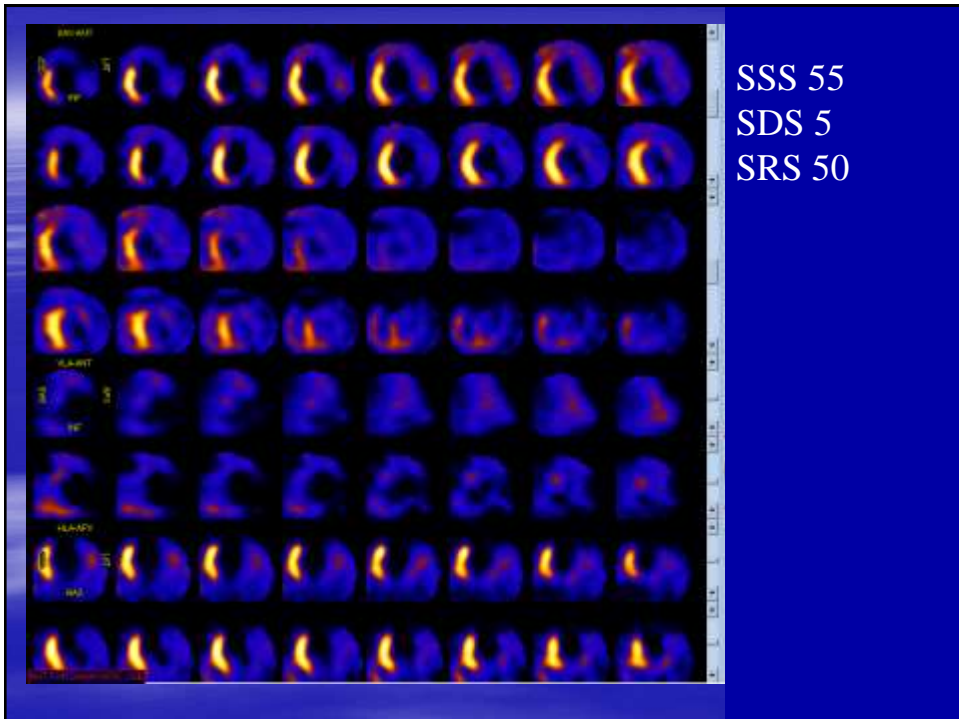
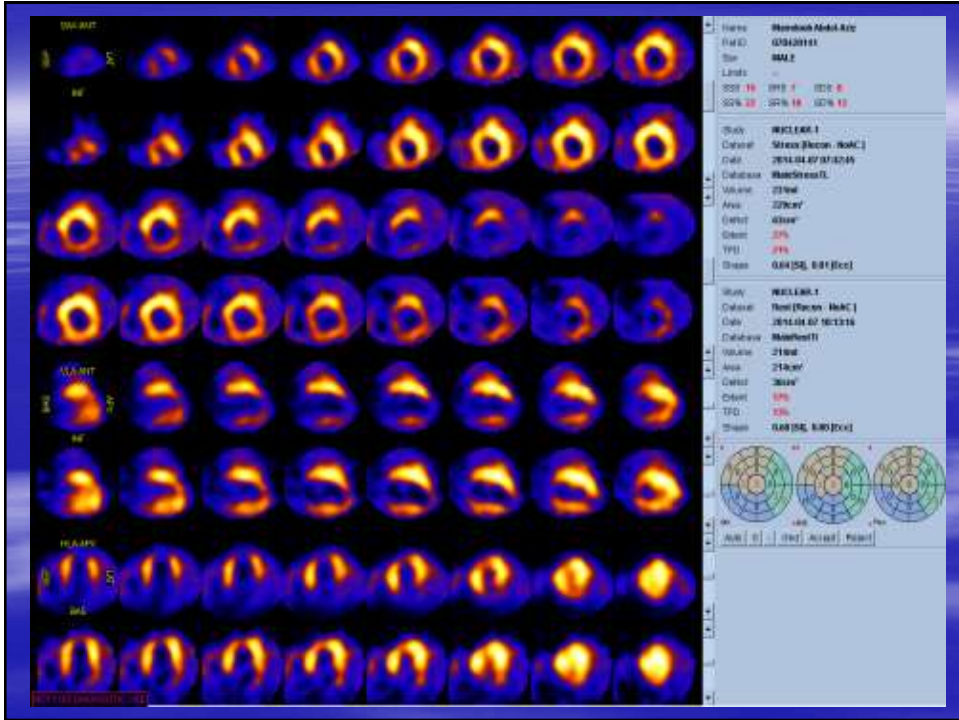
The evidence continues to unfold that **not only abnormal stress images** are highly prognostic **but** also that the **burden of ischemia** and the resting perfusion abnormalities are also highly predictive of pt. outcome.

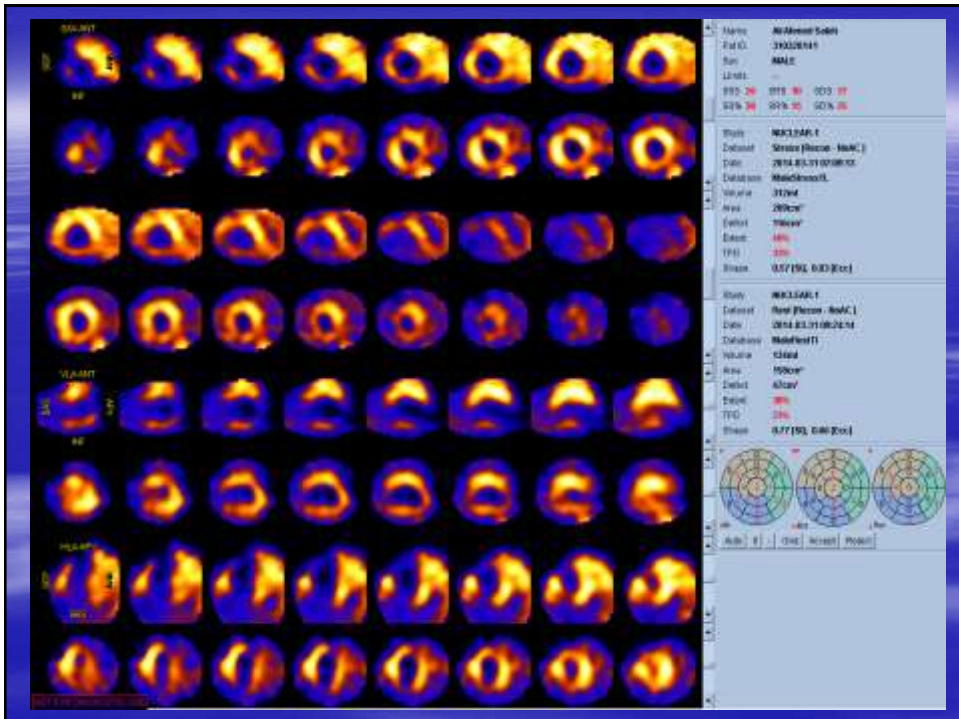
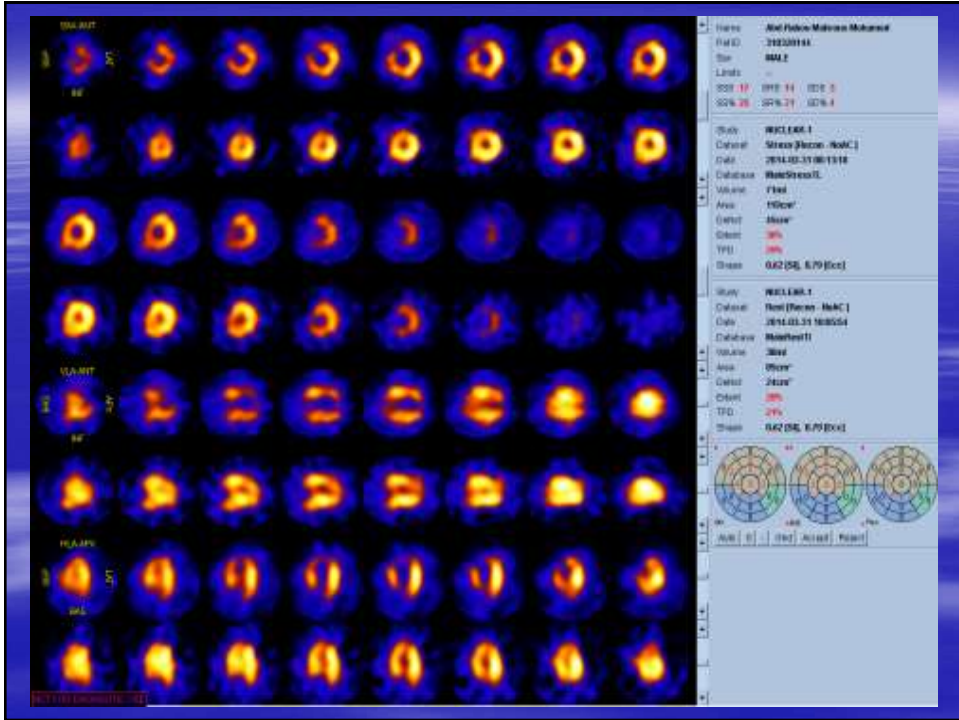


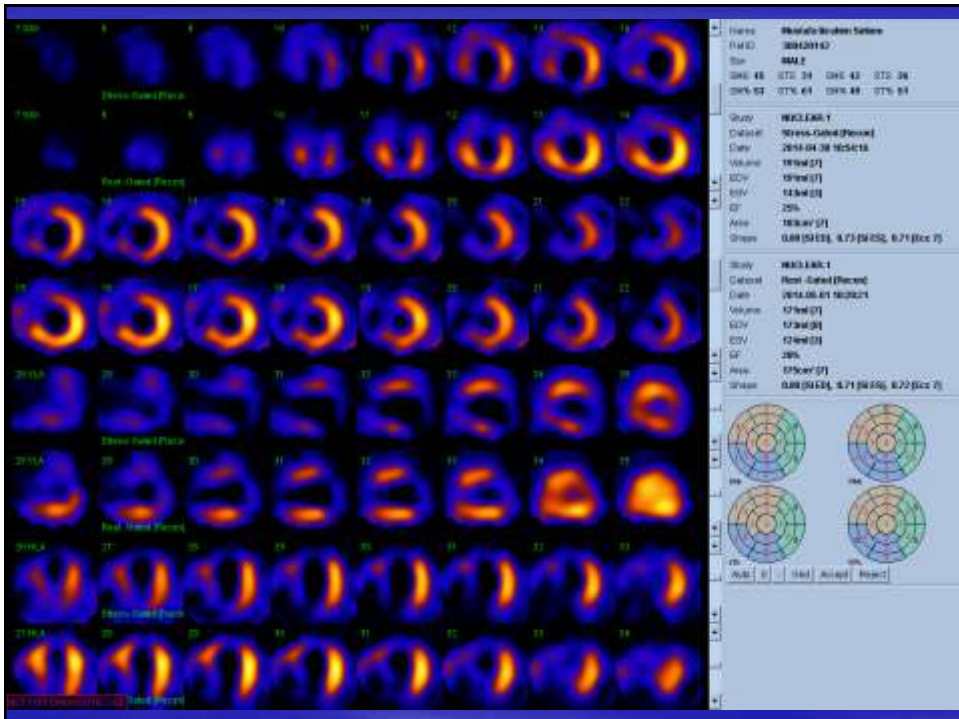
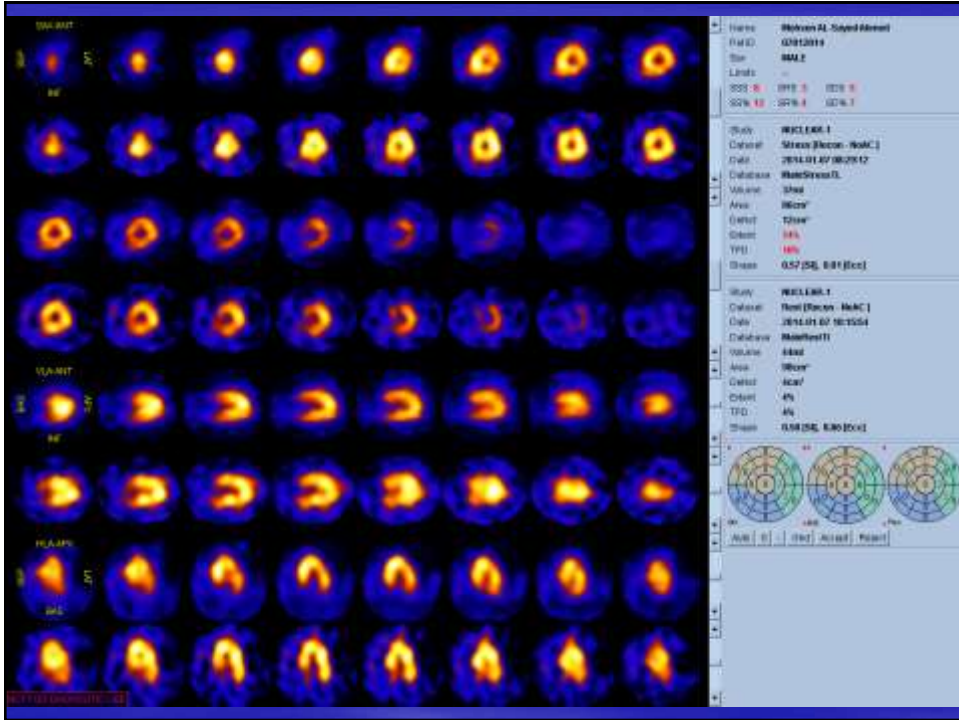


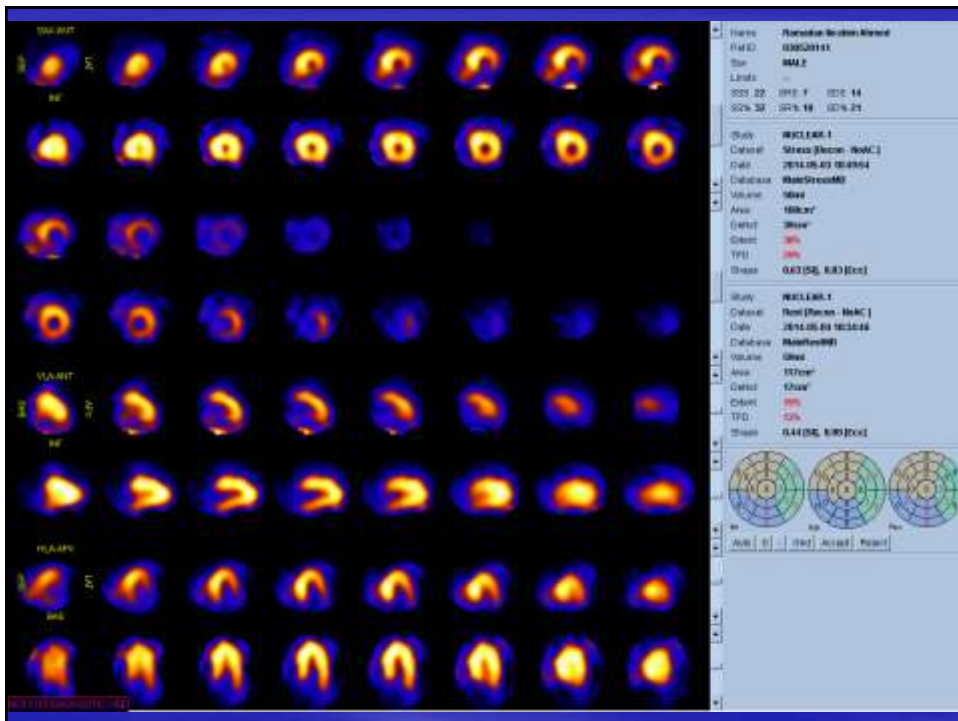
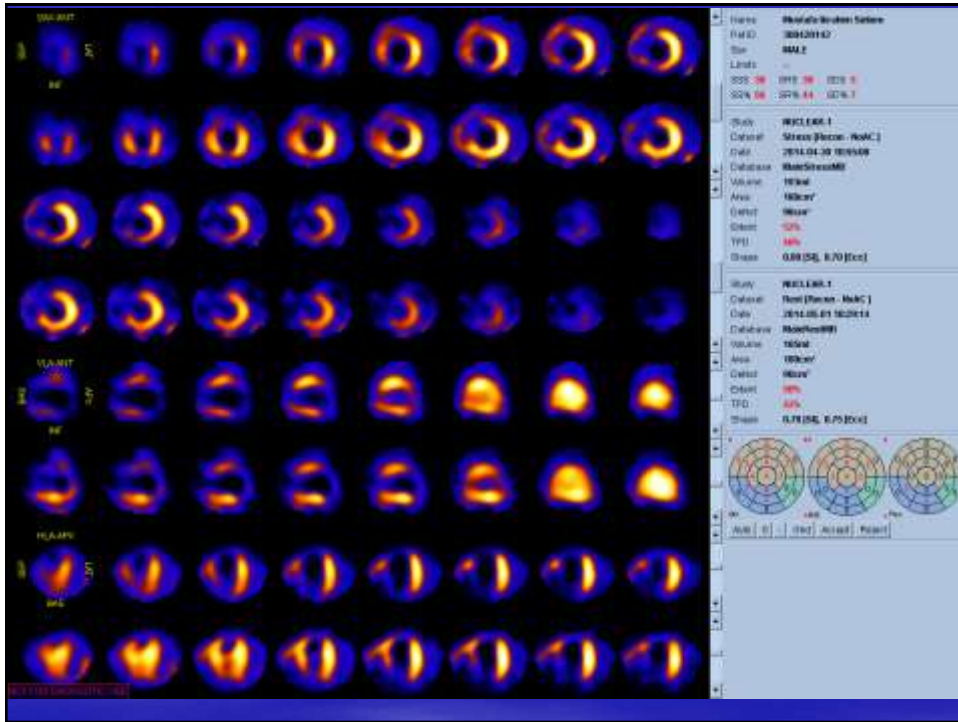


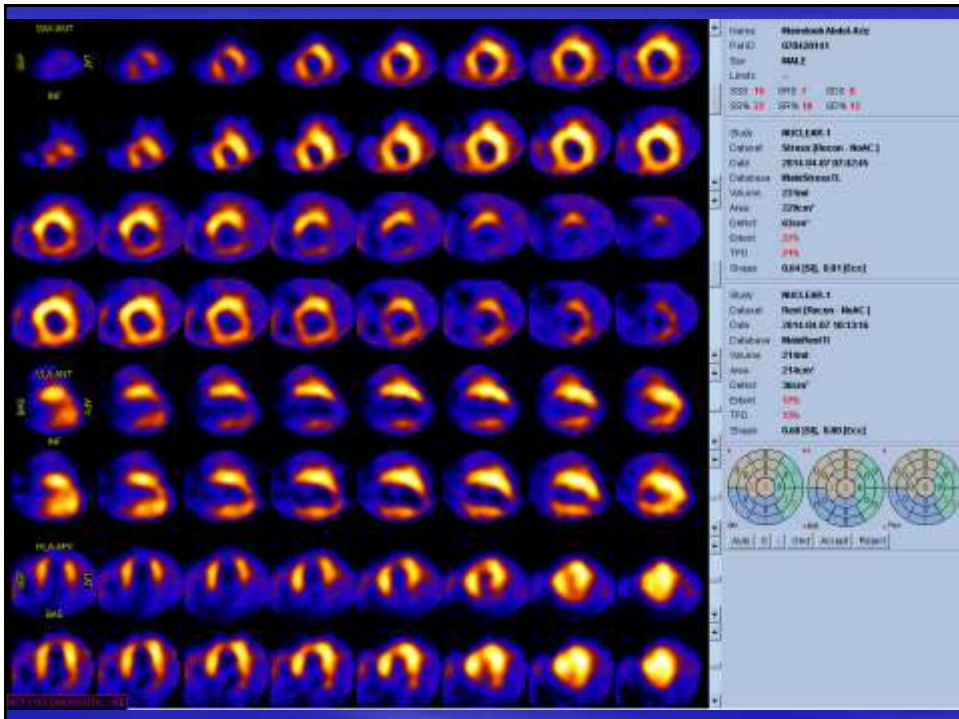
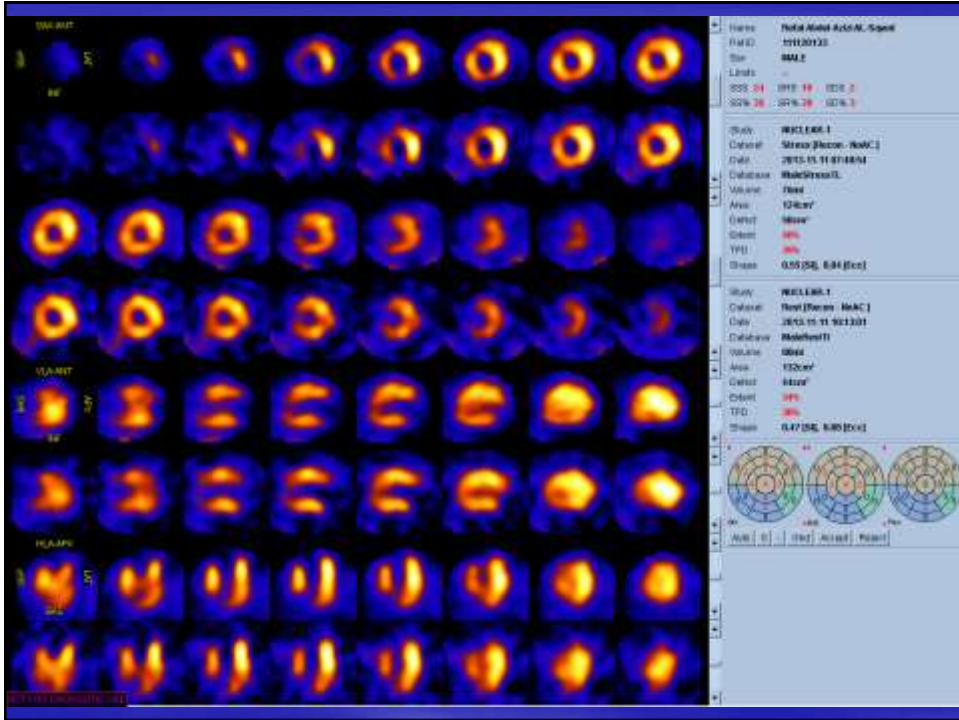












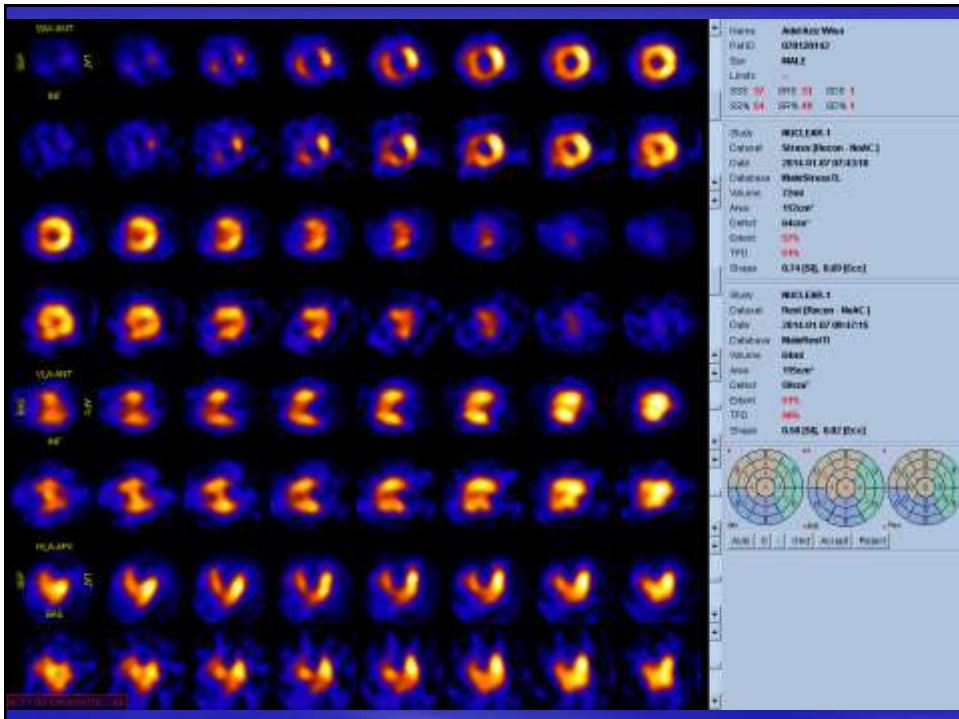
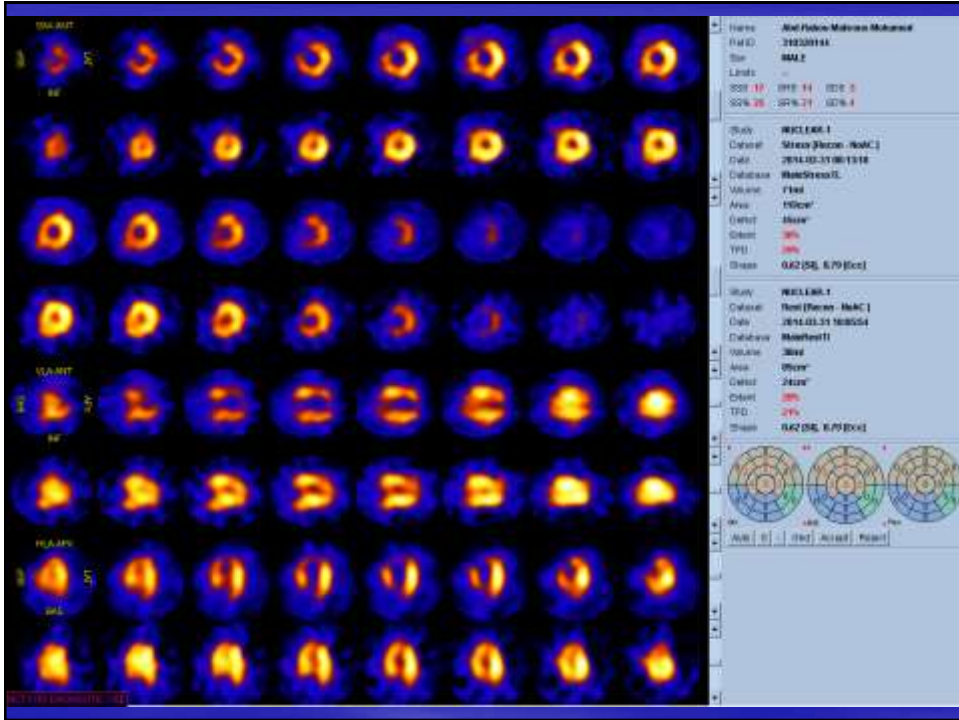


Table 2. Prognostic value of normal (low-risk) and moderately to severely abnormal (high-risk) myocardial perfusion SPECT in estimating annual rates of cardiac death and nonfatal myocardial infarction

Year	Author	n	Agent	Average follow-up (y)	Annual event rate	High risk	Low risk
2003	Elhendy ⁷²	327	MIBI	7.0	3.8	6.9	—
2003	Patel ⁷³	174	MIBI	3.5	2.0	4.3	0.9
2003	Zelwinger ⁷⁴	356	Tl-201/MIBI	4.0	4.7	17.3	4.3
2003	Berman ⁷⁵	6,173	Tl-201/MIBI	2.3	1.0	4.6	0.6
2002	Hachamovitch ⁷⁶	10,627	Tl-201/MIBI	1.0	0.7	6.7	0.7
2003	Schinkel ⁷⁷	648	Tetro	4.0	4.3	14.0	1.0
2003	Elhendy ⁷⁸	224	MIBI	7.0	3.5	7.3	—
2003	Acarmpa ⁷⁹	206	MIBI	3.1	3.8	5.8	1.0
2002	Schinkel ⁸⁰	528	MIBI	8.0	1.6	3.4	1.2
2002	De Lorenzo ⁸¹	108	MIBI	3.0	6.3	10.3	1.0
2002	Bravo ⁸²	150	Tl-201	4.3	20.0	14.7	3.0
2002	Schinkel ⁸³	721	Tetro	3.1	2.8	5.1	1.0
2002	Feola ⁸⁴	82	Tl-201	2.3	3.0	11.0	0.0
2003	Hachamovitch ⁸⁵	3,058	Tl-201/MIBI	18.0	1.4	3.0	0.4
2002	Gkoutas ⁸⁶	597	Tetro	2.0	3.0	5.3	0.7
2001	Calnon ⁸⁷	308	MIBI	1.8	5.8	10.0	2.3
2001	Galassi ⁸⁷	450	Tetro	3.2	2.5	10.7	0.9

SPECT experience:
10 years
[median (25th-
75th percentile)]

69,655* 2.3 (1.8-3.9) 3.0 (1.7-4.3) 5.9 (4.6-8.5) 0.85 (0.6-1.2)

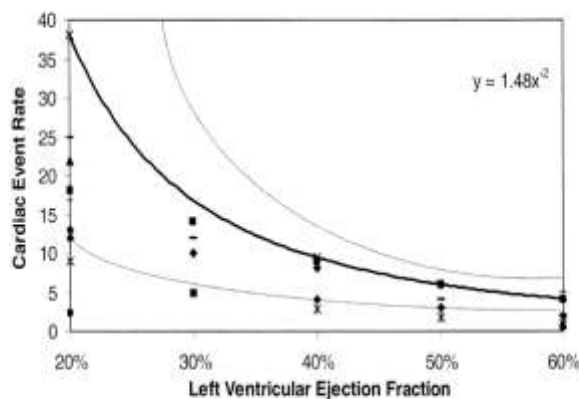


Figure 2. Cumulative evidence on prognosis associated with poststress gated SPECT measurements of left ventricular function. The line of best fit (solid line) is based on a power regression function (95% CI, dotted lines) optimizing explanatory variation.

