

Risk stratification in Brugada syndrome

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Brugada syndrome

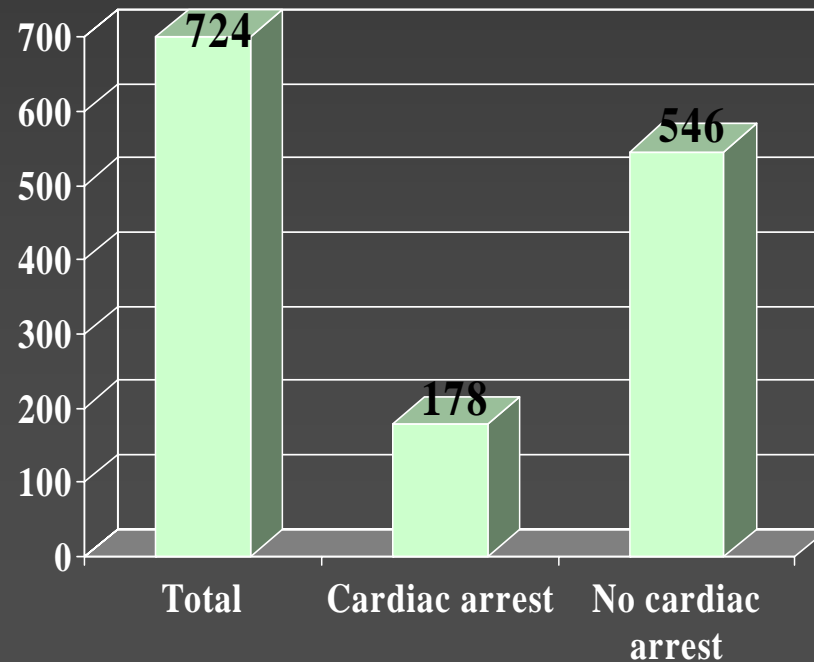
Patient characteristics

- 724 patients
- 548 males, 176 females
- Mean age at diagnosis: 41 ± 14 years
- Family history in 403, no family history in 321
- Basal abnormal ECG in 548, class I AAD abnormal ECG in 176
- Inducible in 244, non inducible in 291, not done in 189

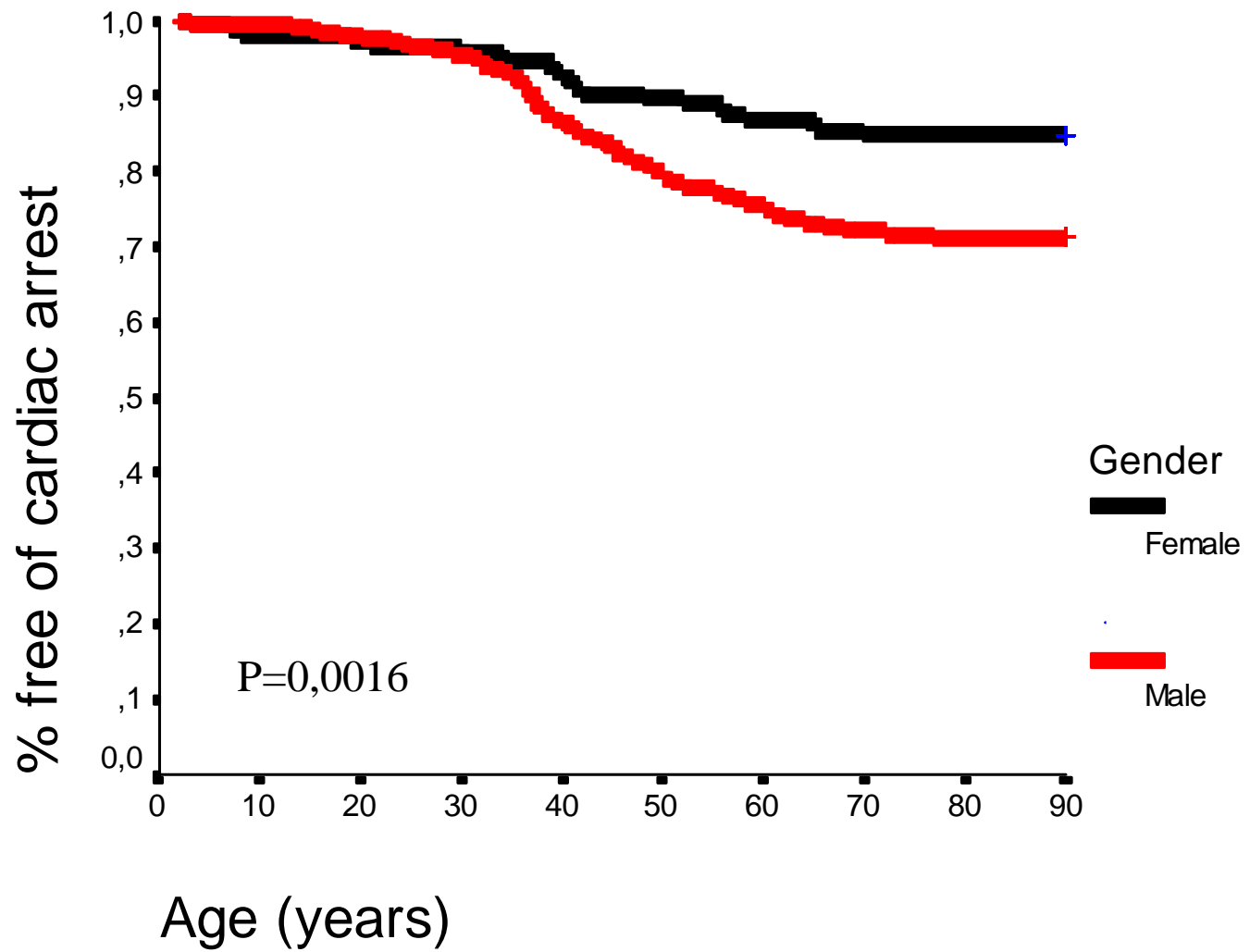
Brugada syndrome

Cardiac arrest during life-time

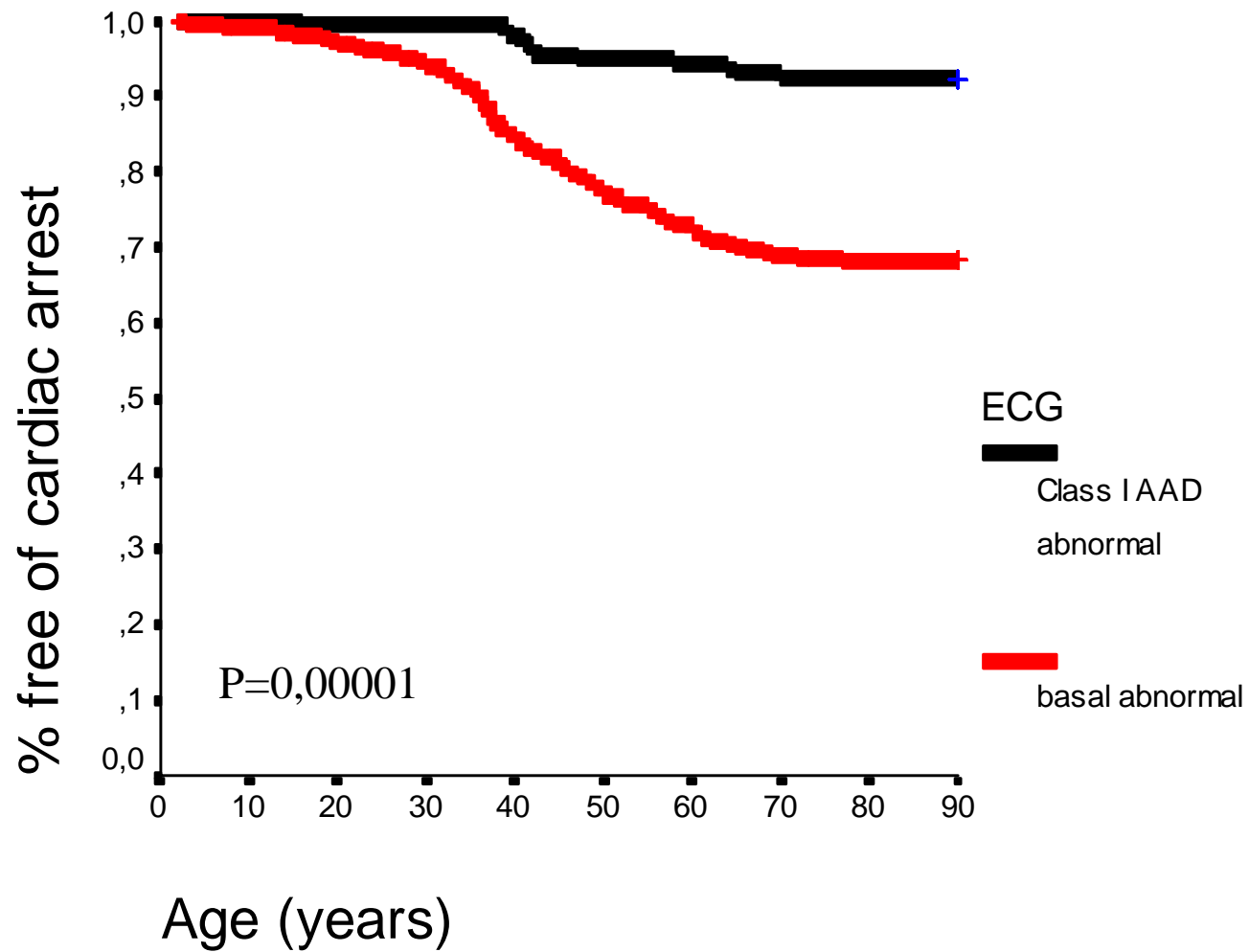
- Cardiac arrest in 178/724 patients (25%)
- Mean age at cardiac arrest: 42 ± 15 years



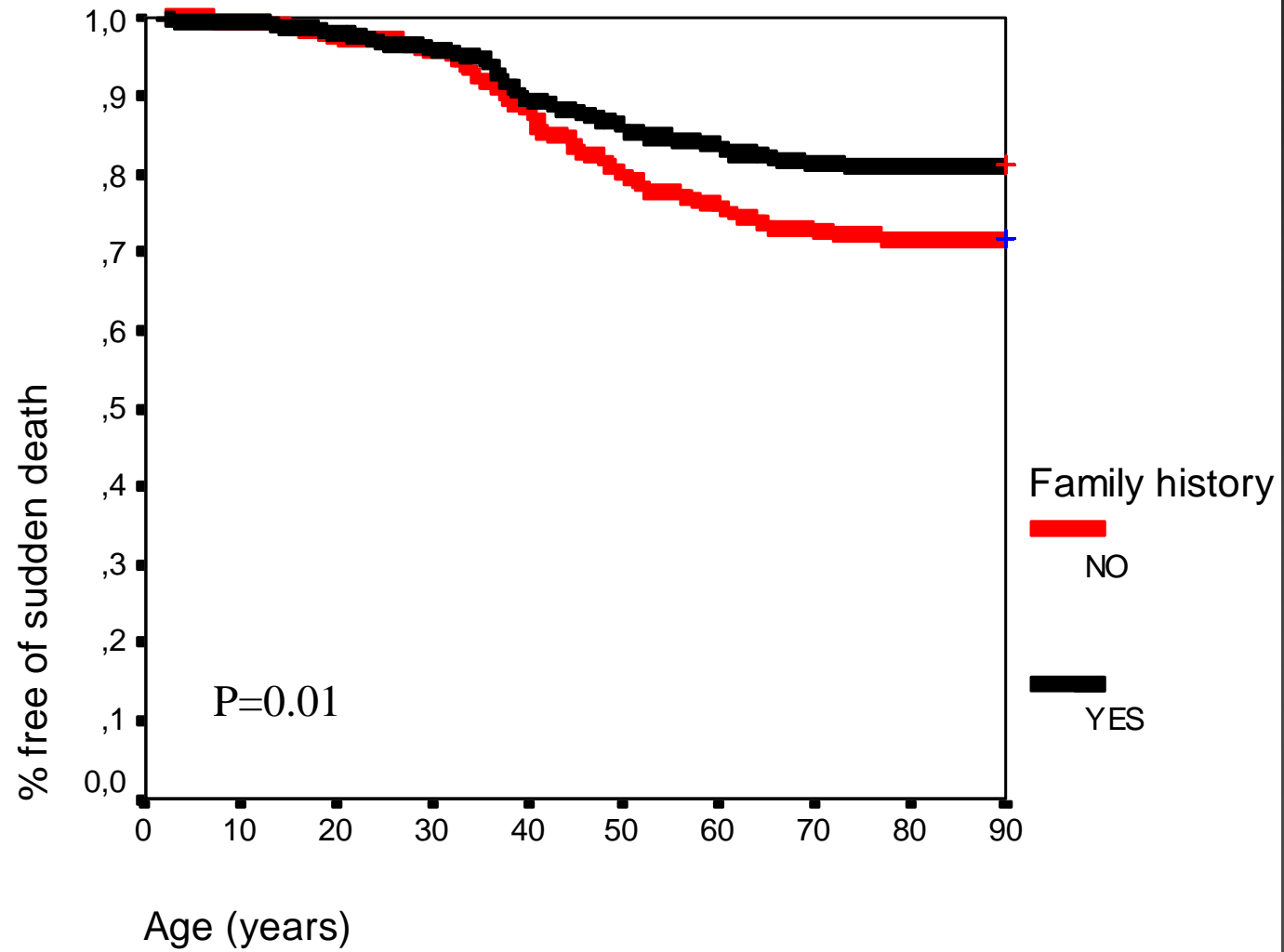
Survival depending on gender



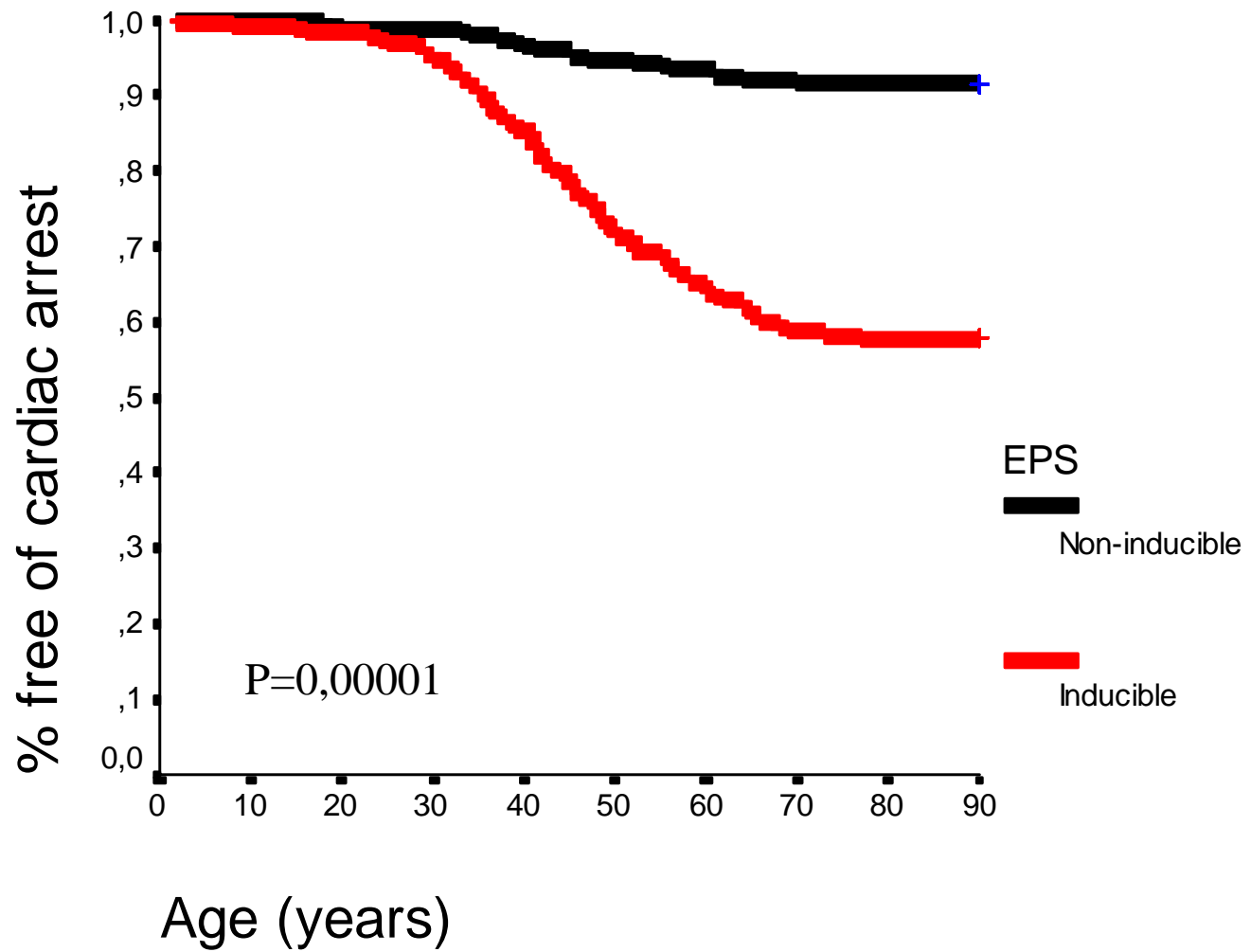
Survival depending on ECG



Survival depending on family history of SD



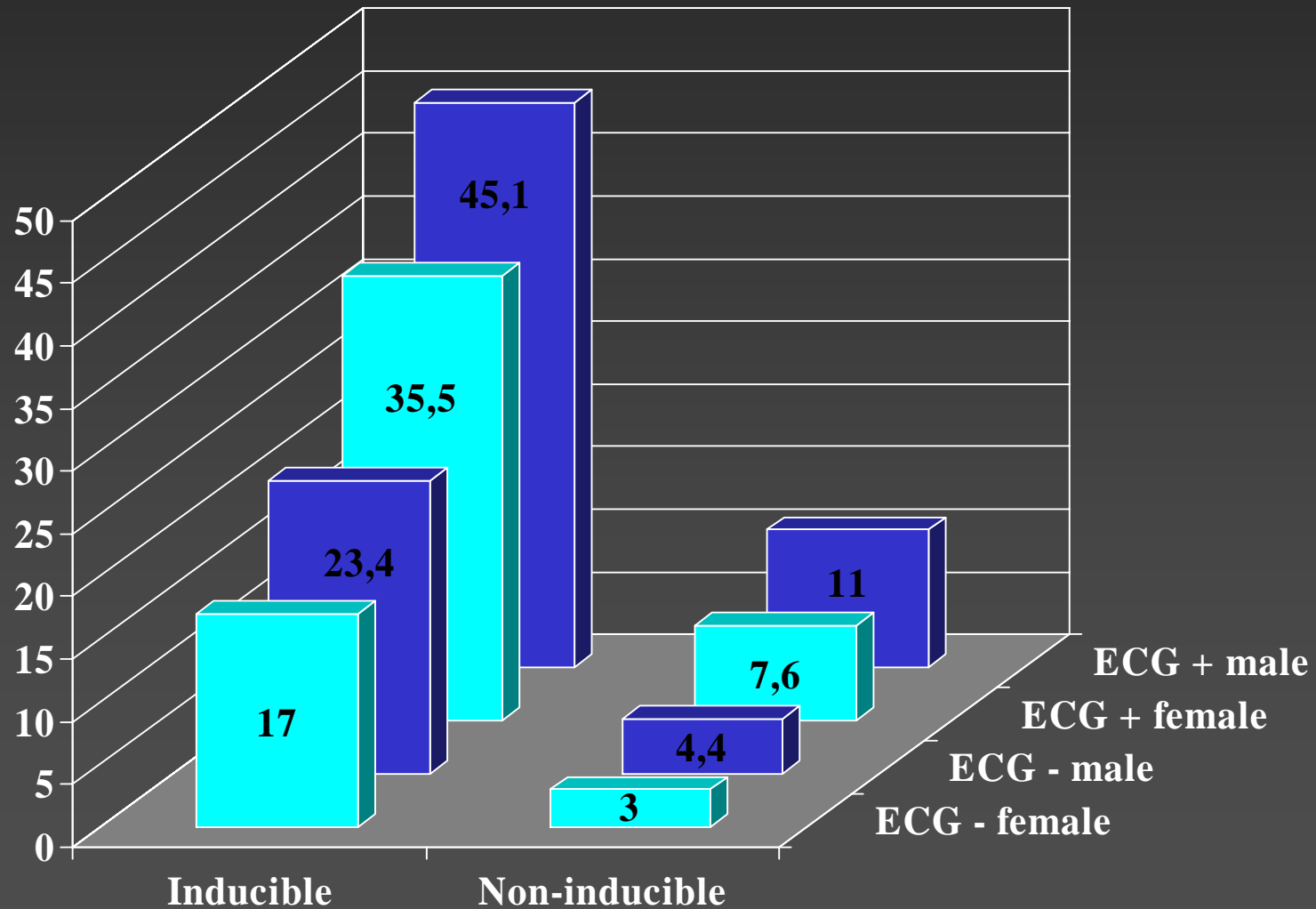
Survival depending on inducibility



Multivariate analysis

	Hazard ratio	95% CI	p
Inducible	3.85	2.3-6.2	0.0001
Basal ECG	1.89	1.1-3.7	0.05
Male	1.90	1.2-3.4	0.02

Logistic regression analysis. Probability of sudden death during life-time



Clinical presentation

124 patients identified after an episode of
aborted sudden death

SUDDEN DEATH PATIENTS

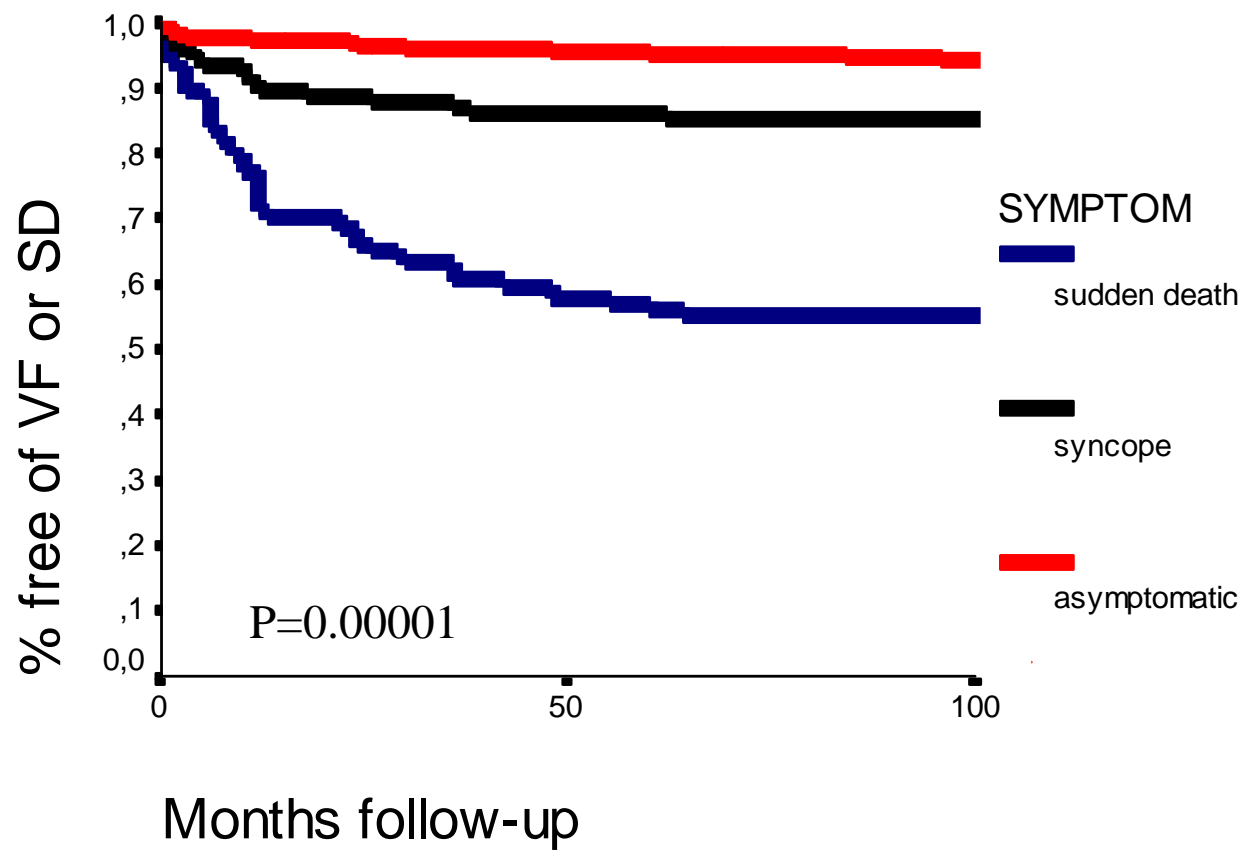
177 patients identified after an episode of
syncope of unknown origin

SYNCOPE PATIENTS

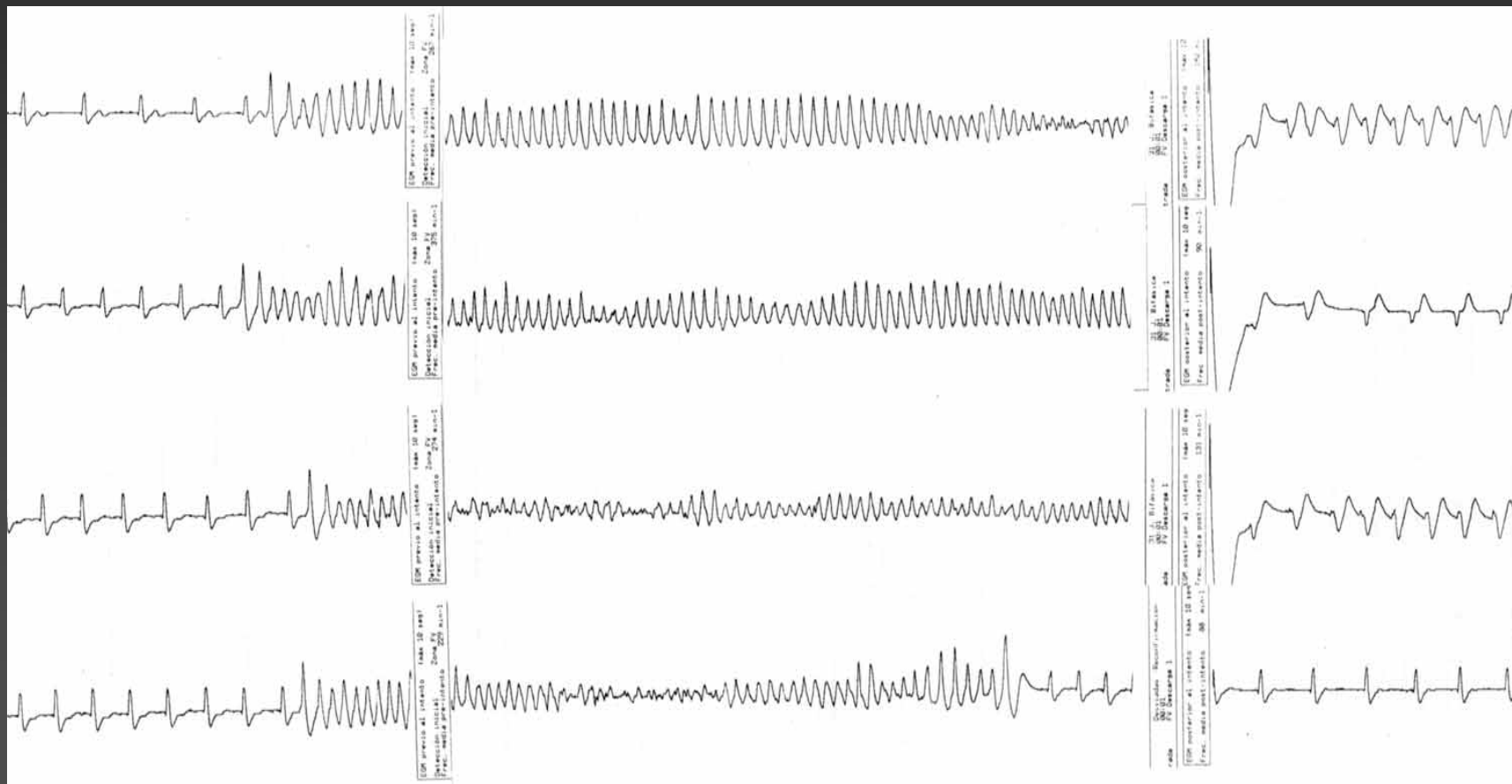
423 patients without previous cardiac history

ASYMPTOMATIC PATIENTS

Survival since diagnosis depending
on presenting symptom



Appropriate ICD therapies



Brugada syndrome in patients without previous cardiac arrest

Patient characteristics

- 547 patients
- 408 males, 139 females
- Mean age at diagnosis: 41 ± 15 years
- Family history in 302, no family history in 245

Diagnosis

- 124 during study of a syncope
- 253 because of familial history of BS
- 170 routine ECG

Patients

- Basal abnormal ECG in 391, class I AAD abnormal ECG in 156
- Inducible in 163, non inducible in 245, not tested 139

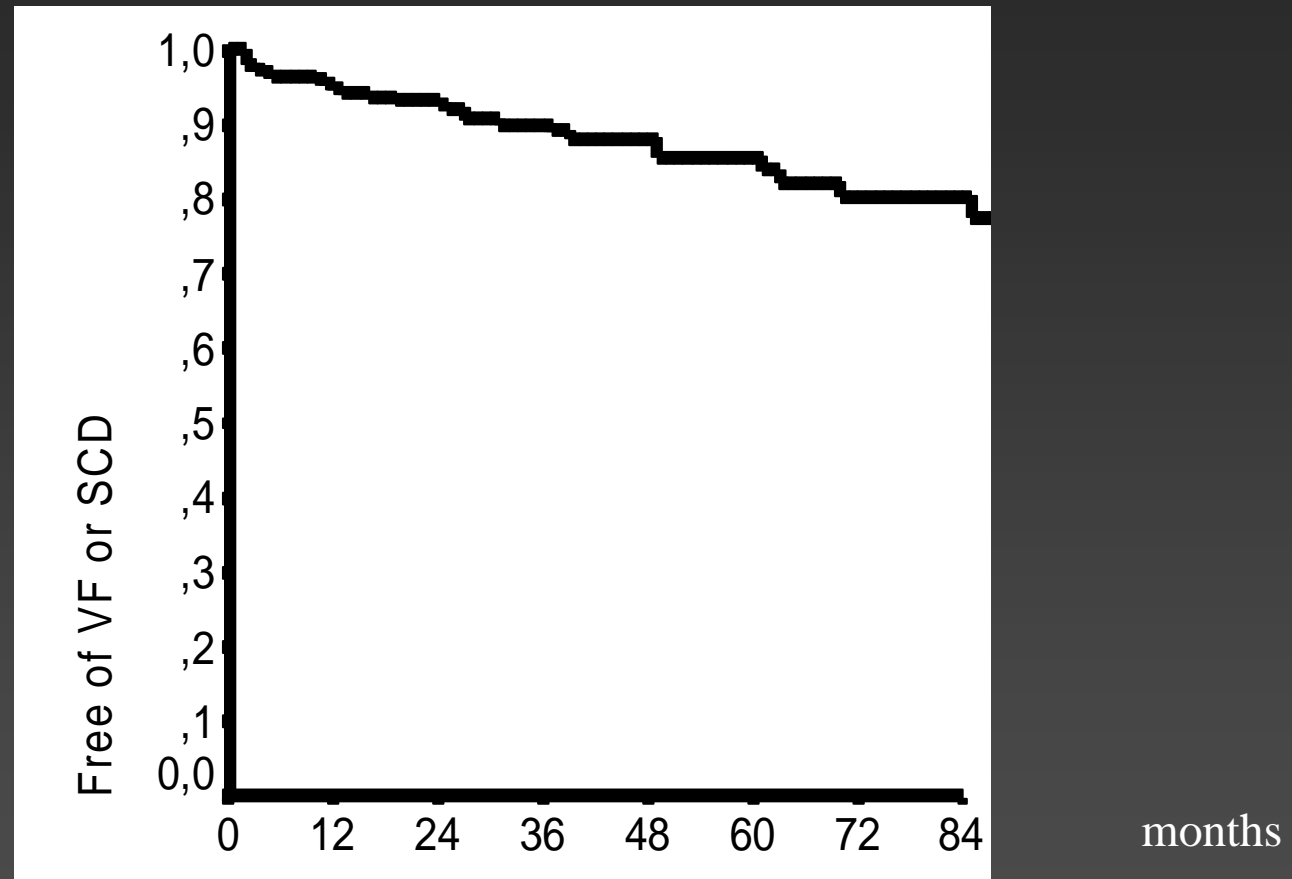
Treatment

- ICD in 177
 - 138 inducible patients
 - 39 non-inducible patients
 - 15 with family history
 - 10 with syncope
 - 14 with both

Follow-up

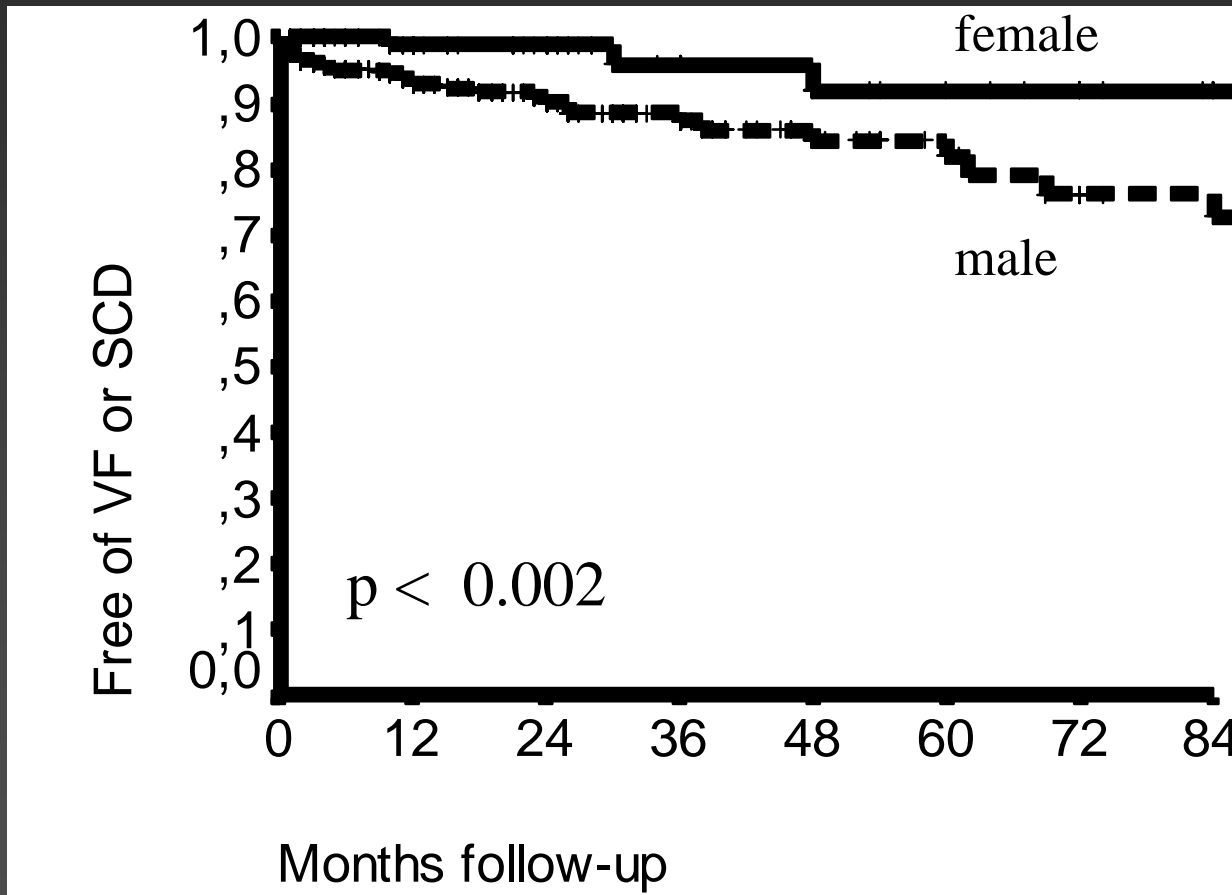
- Mean follow-up 36 ± 31 months
- 45 patients (8%) had events
 - 16 SCD
 - 29 documented VF

VF or SCD during follow-up

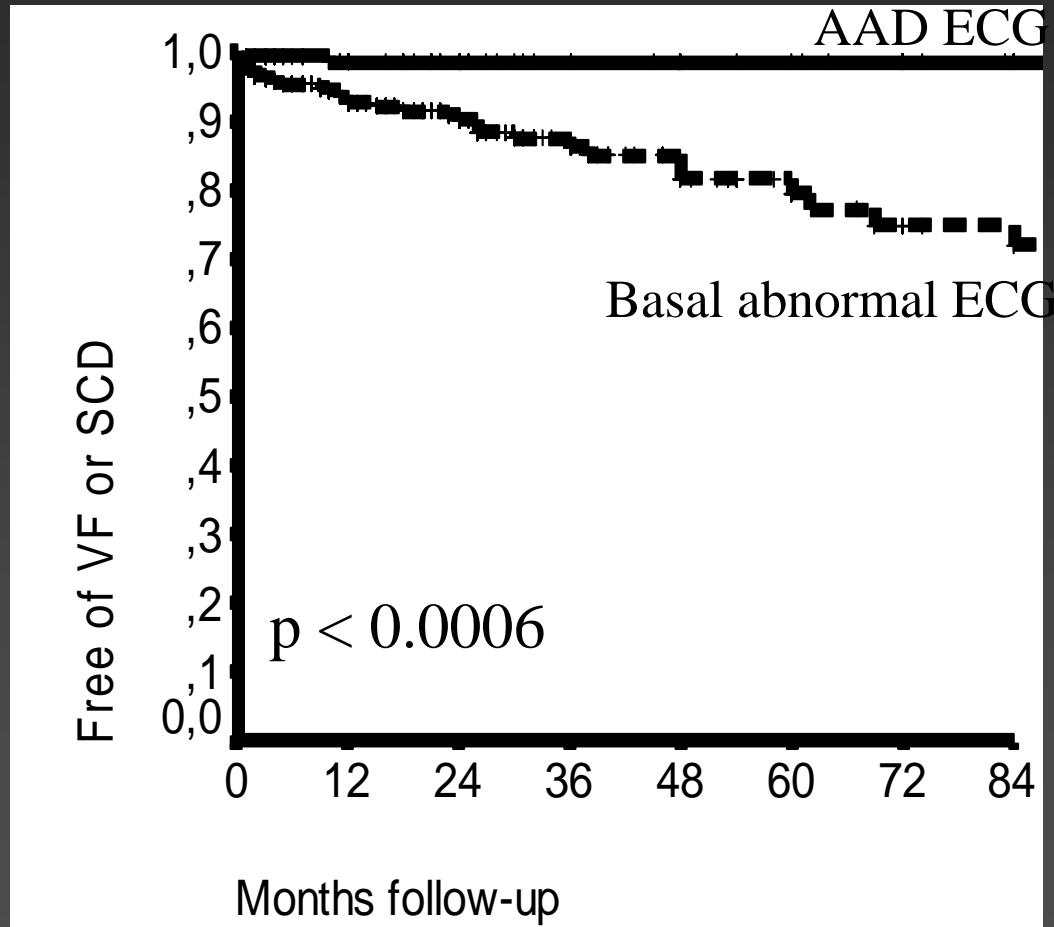


n 547 329 179 106 78 53 42 33

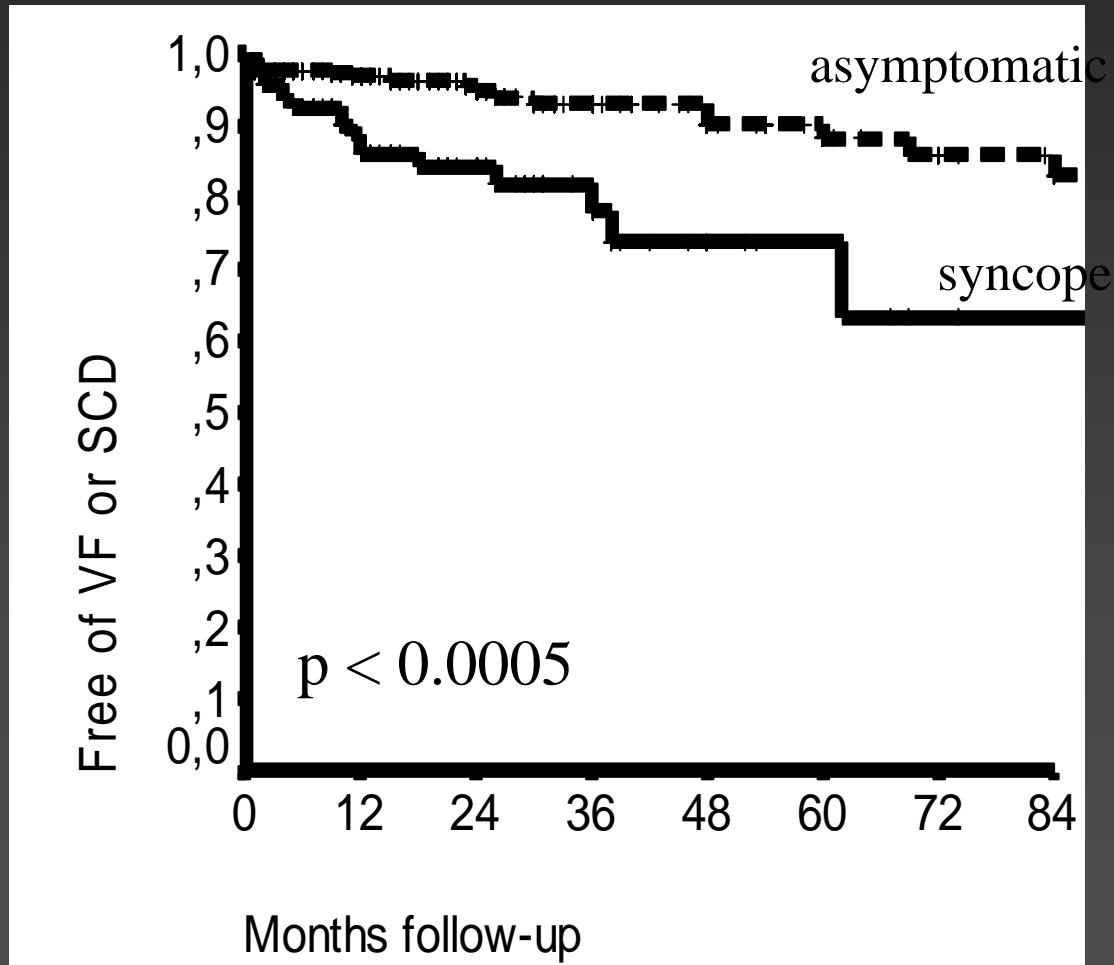
VF or SCD during follow-up depending on gender



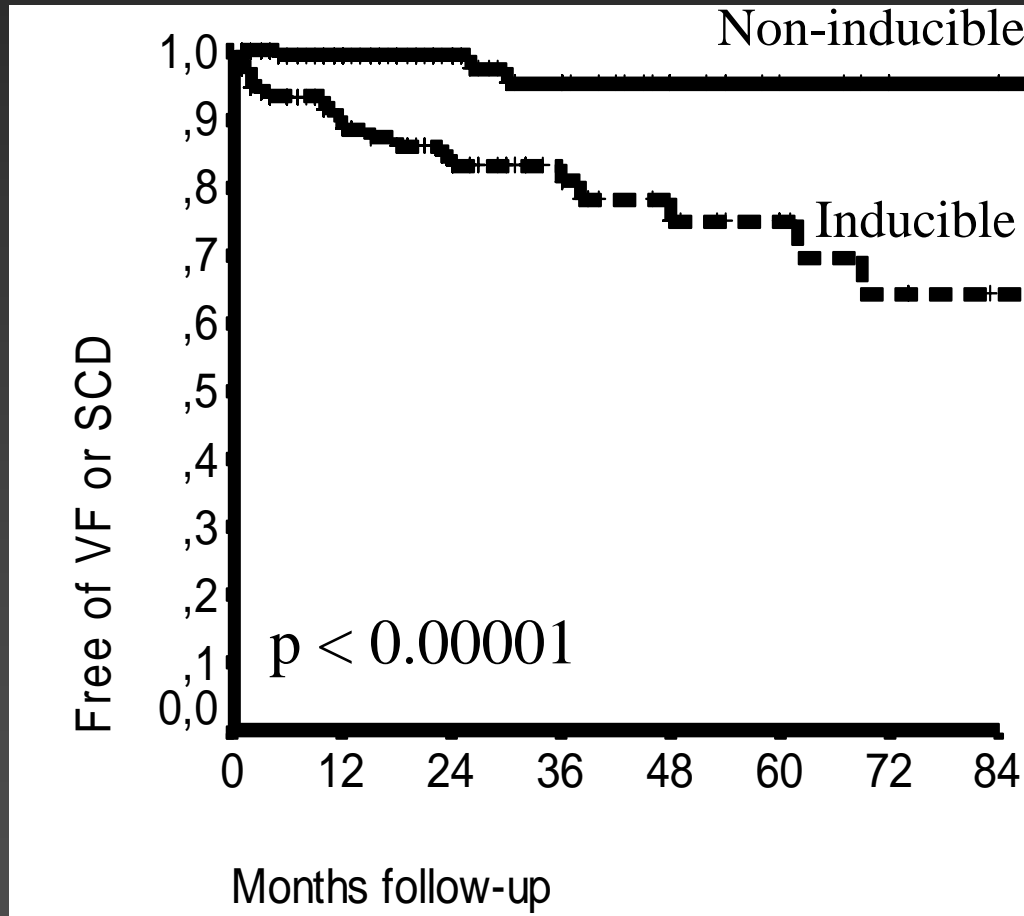
VF or SCD during follow-up depending on ECG



VF or SCD during follow-up depending on symptoms



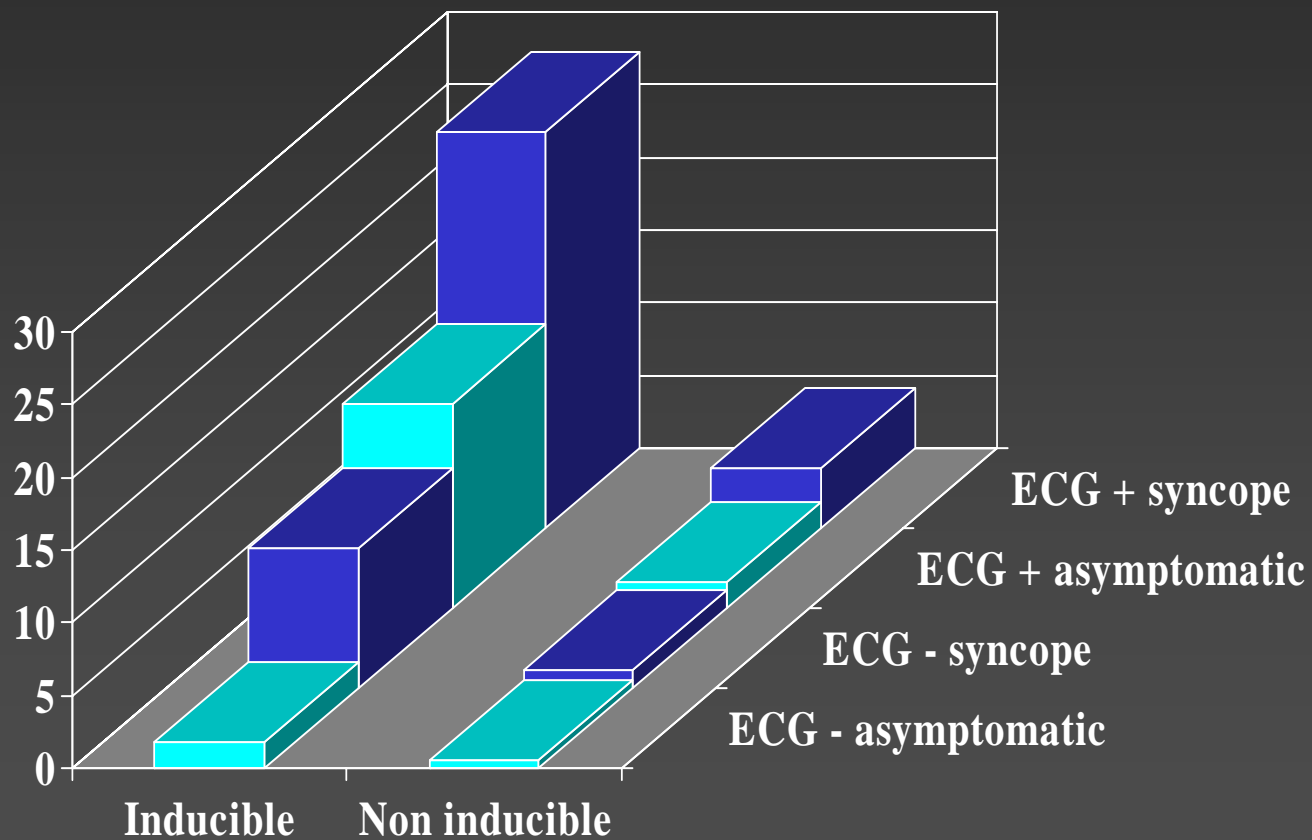
VF or SCD during follow-up depending on inducibility



Multivariate analysis

	Hazard ratio	95% CI	p
Inducible	5.88	2.0-16.7	0.0001
Syncope	2.51	1.2-5.3	0.017
Basal ECG	2.86	0.7-12.3	0.103

**Logistic regression analysis.
Probability of SD or VF after the diagnosis
in patients without previous SD**

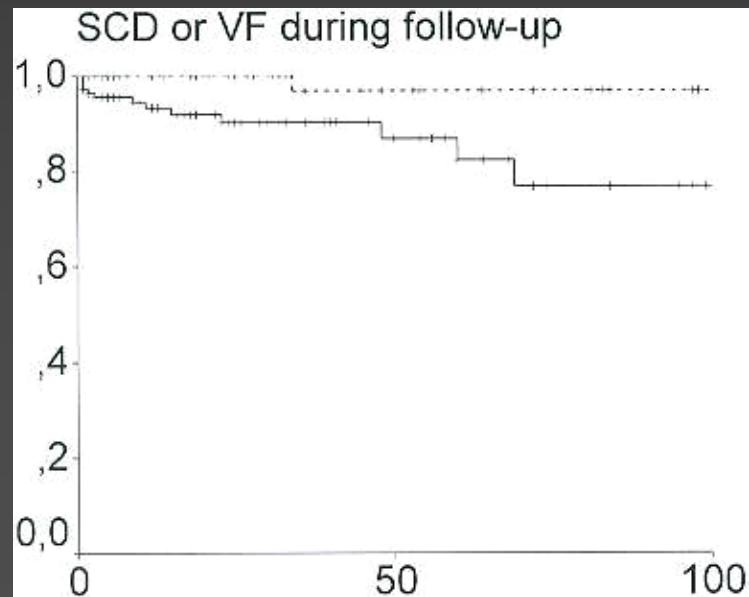


Family members

- 267 asymptomatic individuals with familial forms
 - 136 with a basal abnormal ECG
 - 131 diagnosed after ajmaline-flecainide test
 - 64 inducible, 122 non inducible, 81 not tested
 - 65 ICD, 202 no treatment

Family members Follow-up

- 16/267 (6%) individuals had an event (33 ± 31 months)
- 9 sudden cardiac death, 7 VF documented by ICD
 - 15/136 with basal ECG + (11%)
 - 1/131 with basal ECG – (0.7%)



Events during follow-up vs inducibility

	VF	SCD	No event	Total
Inducible	7	1	56	64
Non inducible	0	1	121	122
Not done	0	7	74	81
Total	7	9	251	267

What to do with asymptomatic children family members?

- 30 individuals < 18 years old, family members of a Brugada syndrome patient
- 16 males, 14 females
- 8 ECG +, 22 ECG -
- 4 inducible, 12 non inducible, 14 not tested
- 2 ICD implanted
- 0 events during 31 ± 24 months follow-up

Conclusions

- The Brugada syndrome registry has allowed recognition of high risk patients with the syndrome
 - Male
 - Basal abnormal ECG
 - Inducible

45% chances of suffering VF or sudden death

Conclusions

- The Brugada syndrome registry has allowed recognition of very low risk patients with the syndrome
 - Asymptomatic
 - Basal normal ECG
 - Non-inducible

0,5% events during 4 years follow-up