ISRAEL HEART SOCIETY האיגוד הקרדיולוגי בישראל
החוג הישראלי לקיצוב ואלקטרופיזיולוגיה
THE ISRAELI WORKING GROUP ON PACING AND ELECTROPHYSIOLOGY

The Israeli ICD Registry- Update

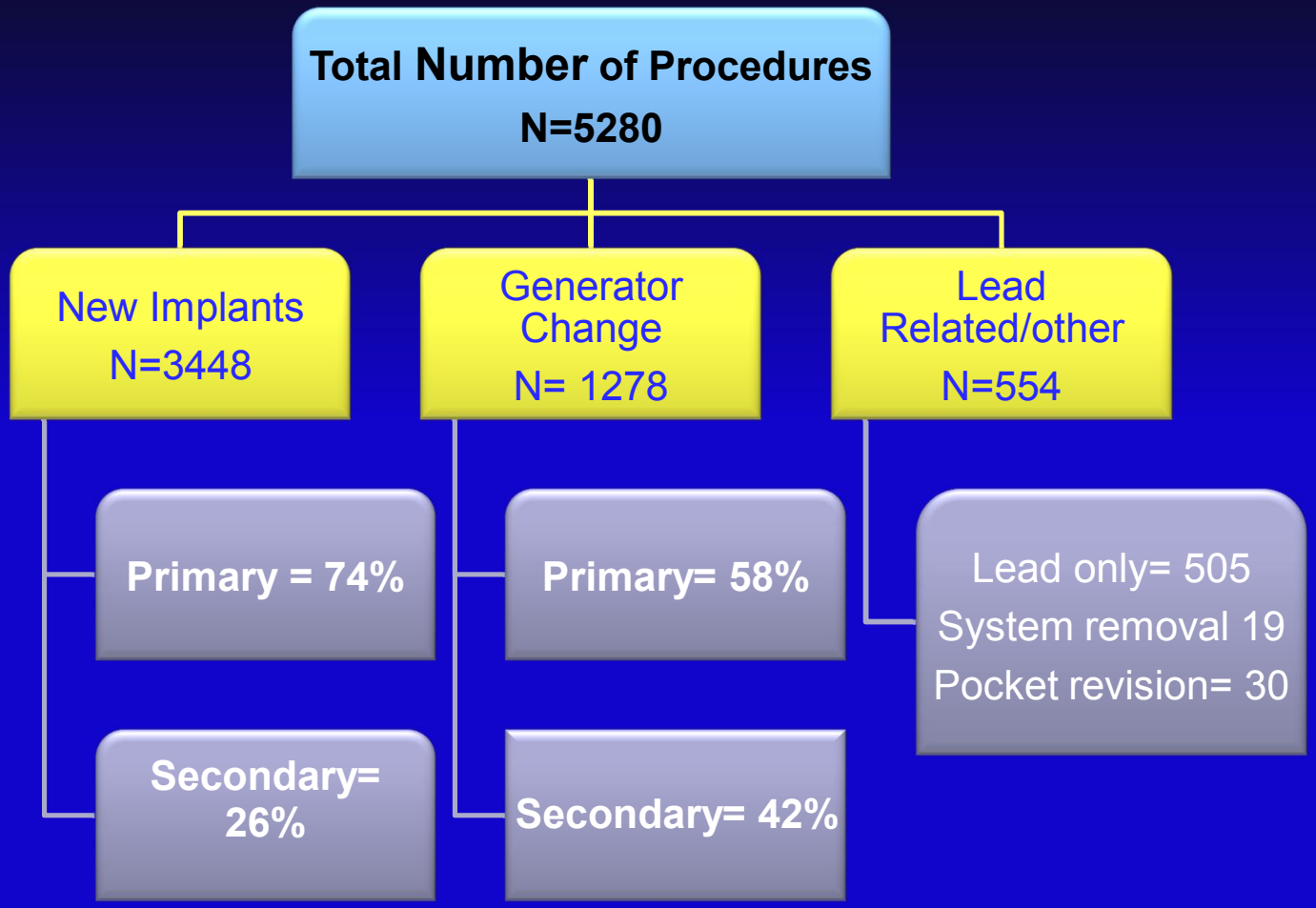
Mahmoud Suleiman MD

On behalf of the Israeli ICD Registry Scientific Committee

Jan 11, 2013

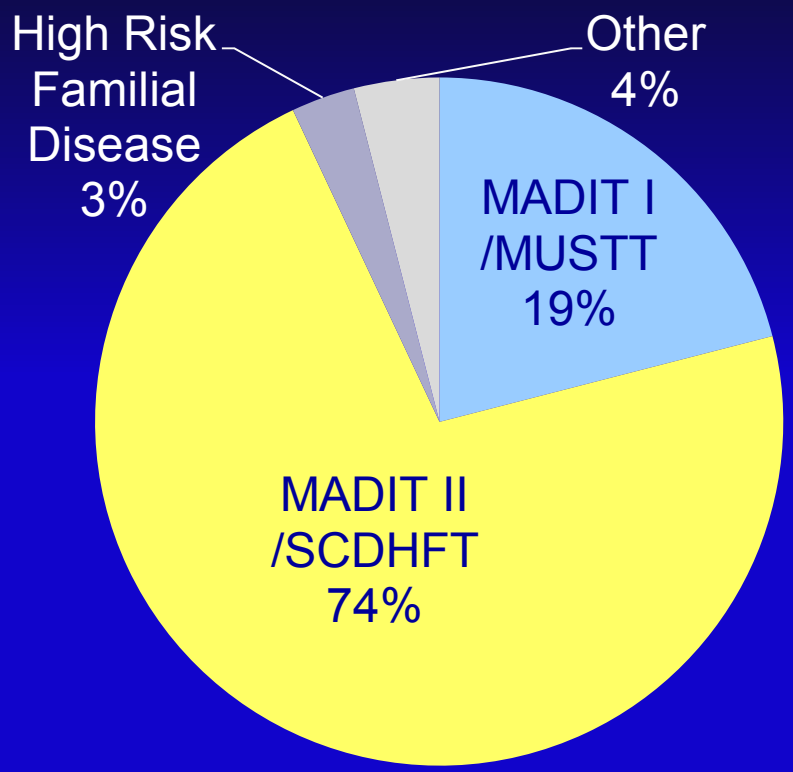
National ICD Registry

Jul 2010-Dec 2012

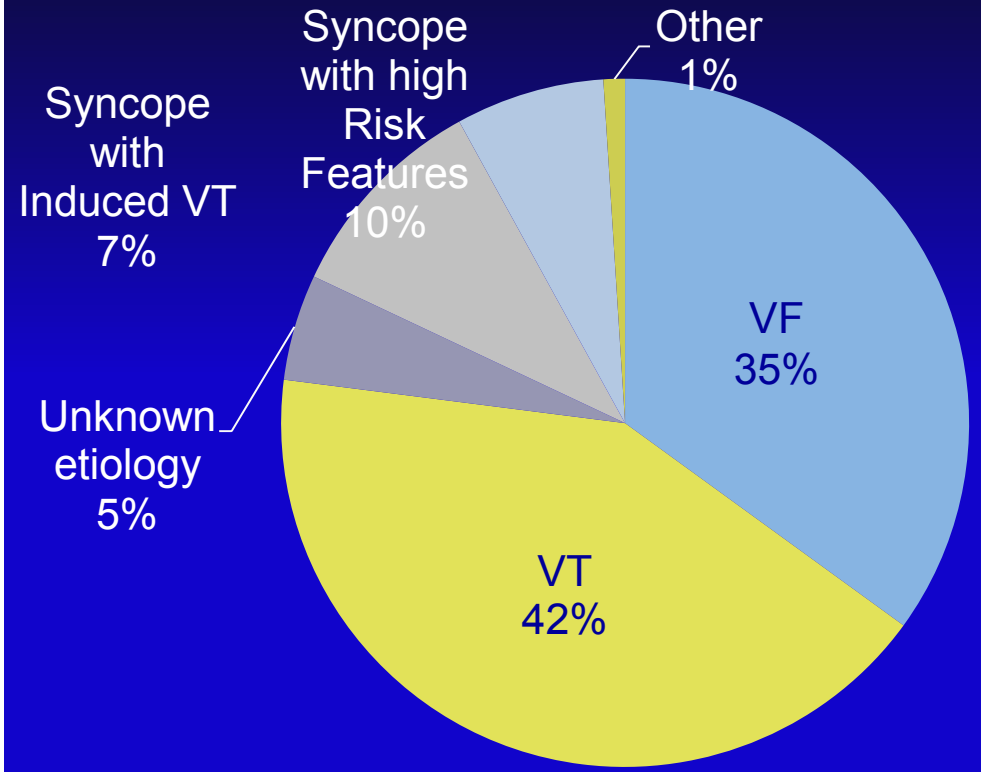


Reason(s) for ICD Implantation

Primary Prevention



Secondary Prevention



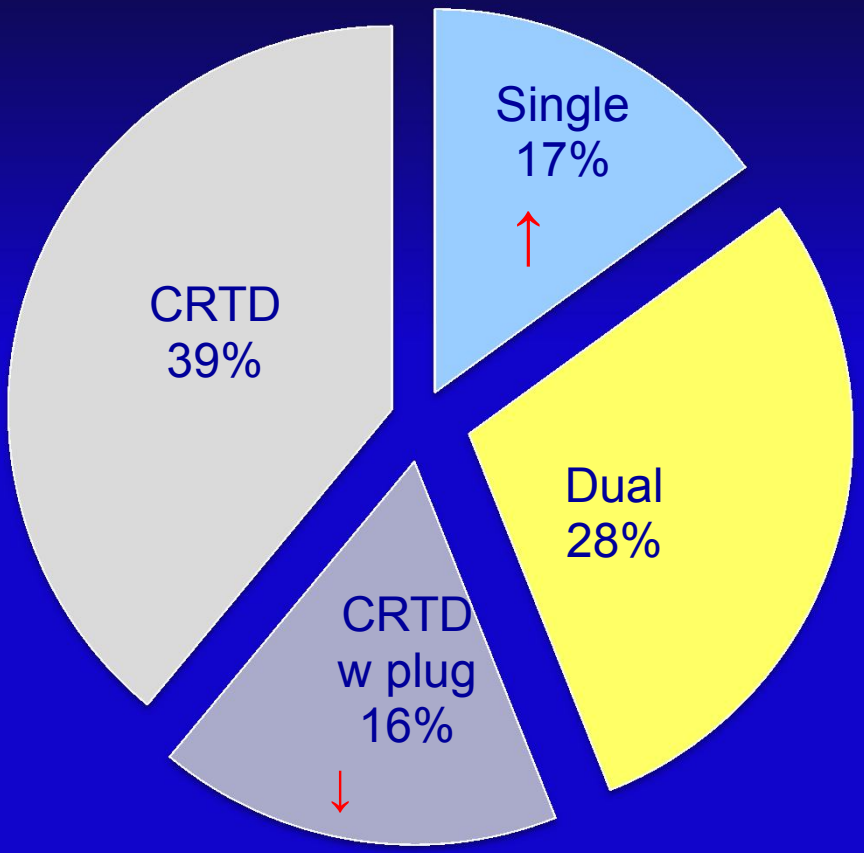
National ICD Registry

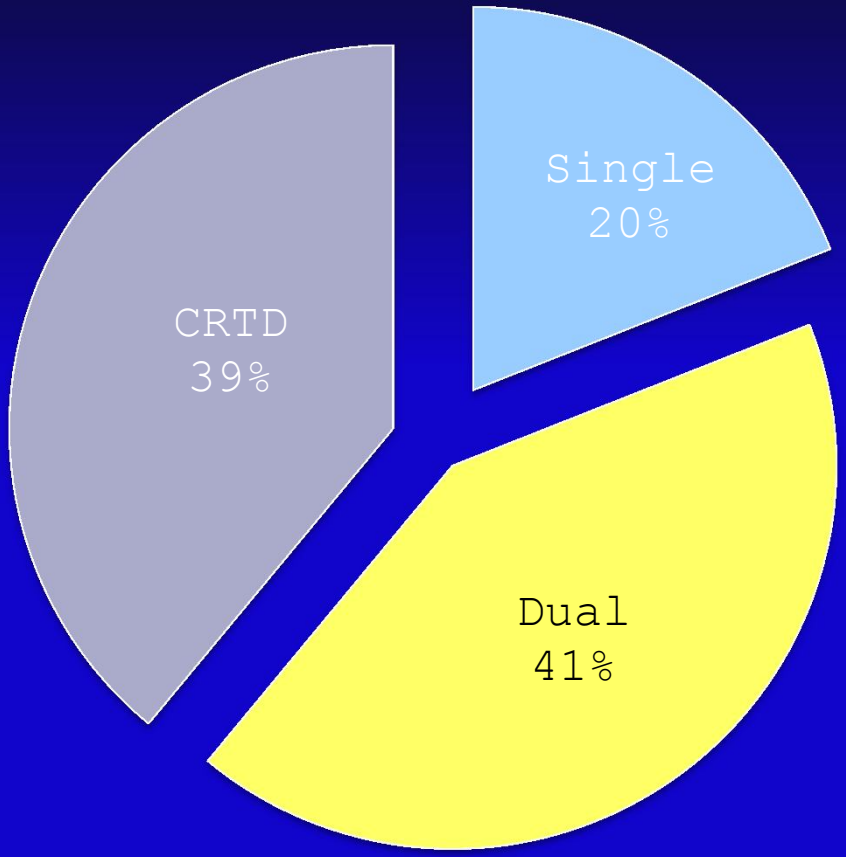
Baseline Characteristics of New Implants

variable	All n= 2388	Primary n= 1743	Secondary n= 645	P
Age	64±13	64±15	64±12	0.86
Female	17	18	16	0.4
Old MI	64	65	63	0.3
< 40 days	8	6	13	<0.001
Non ischemic CM	22	25	14	<0.001
HCM	6	6	7	0.3
ARVD	0.6	0.3	1.5	0.001
Primary Electrical Disease	3	1.4	8	<0.001
Atrial Fibrillation	21	20	22	0.44
Diabetes Mellitus	36	38	31	0.003
Hypertension	60	61	56	0.04
Dialysis	2	2	2	0.9
Smoking	31	30	32	0.57

New Implants

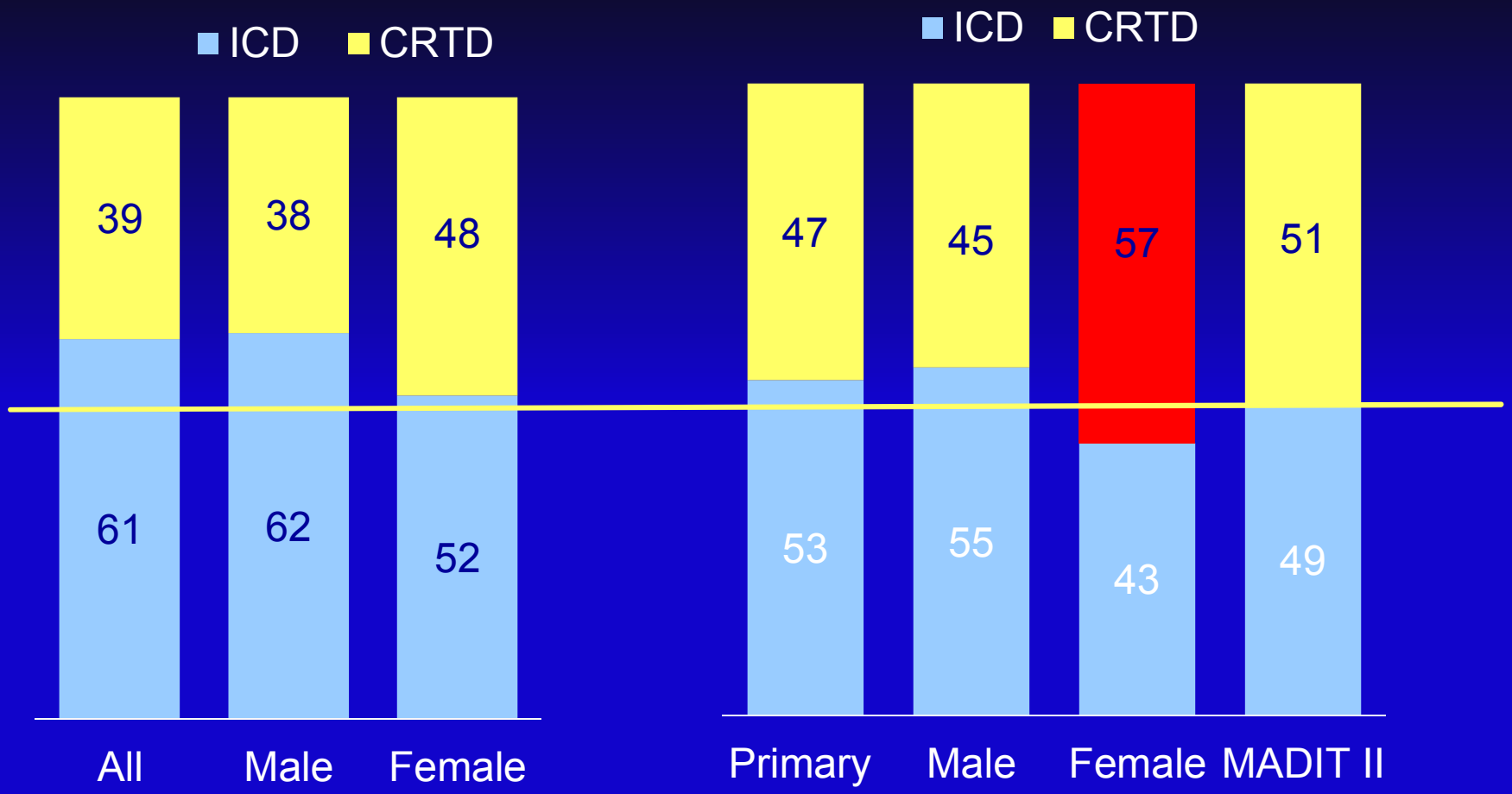
Device Type





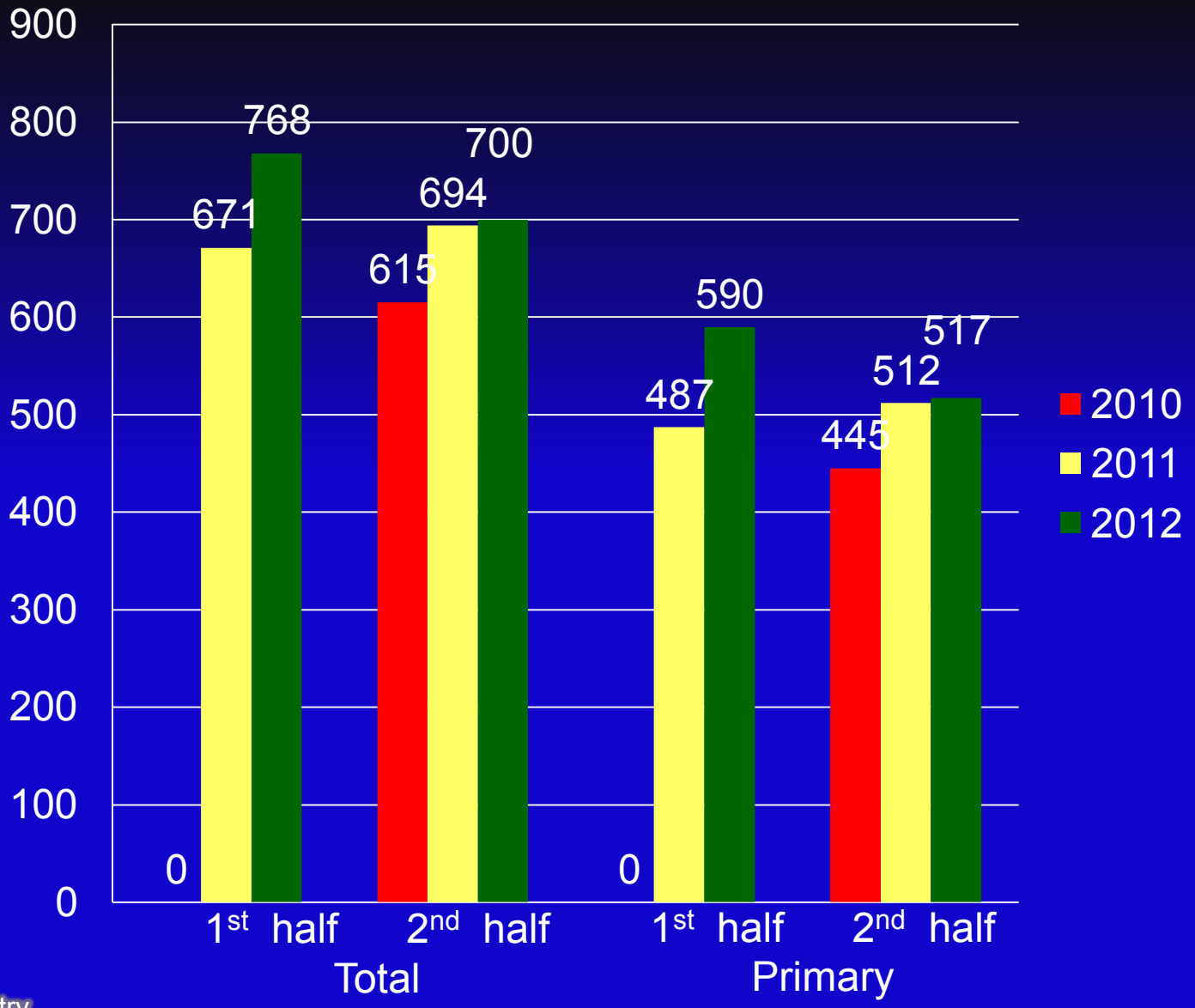
National ICD Registry

Device Type and Gender



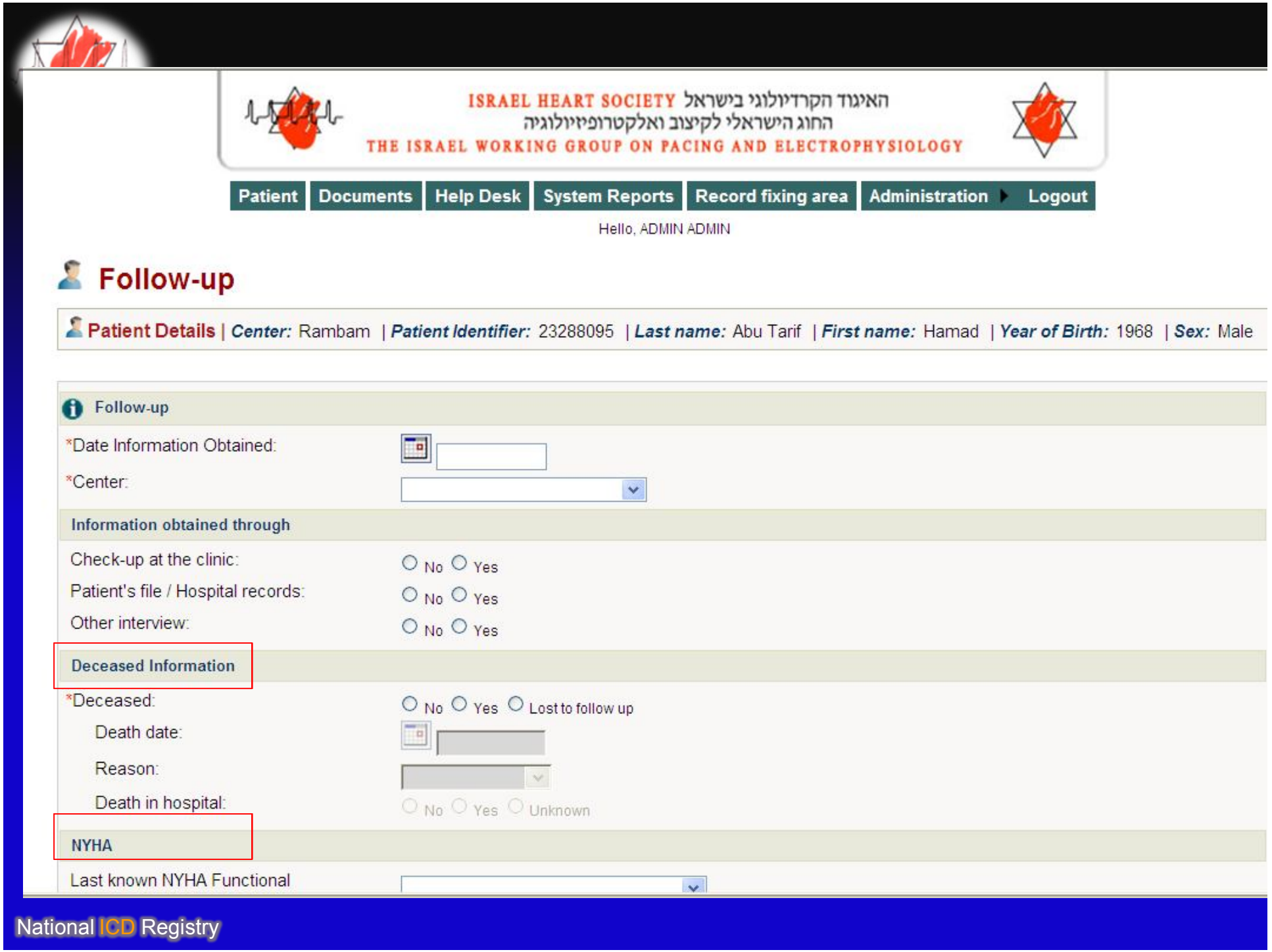
National ICD Registry

Trends of New Implants



National ICD Registry

Follow-up Studies


ISRAEL HEART SOCIETY האיגוד הקרדיולוגי בישראל
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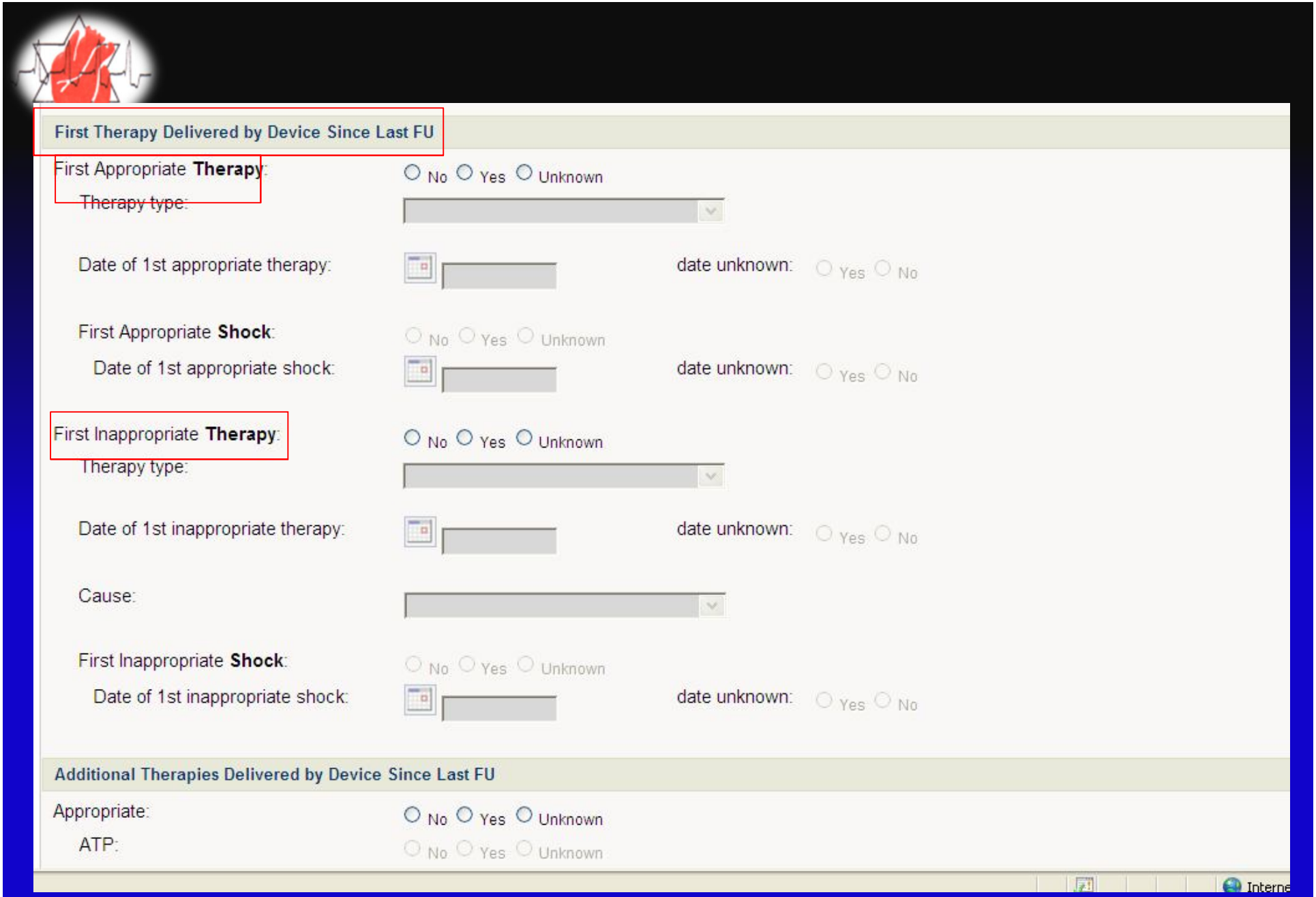
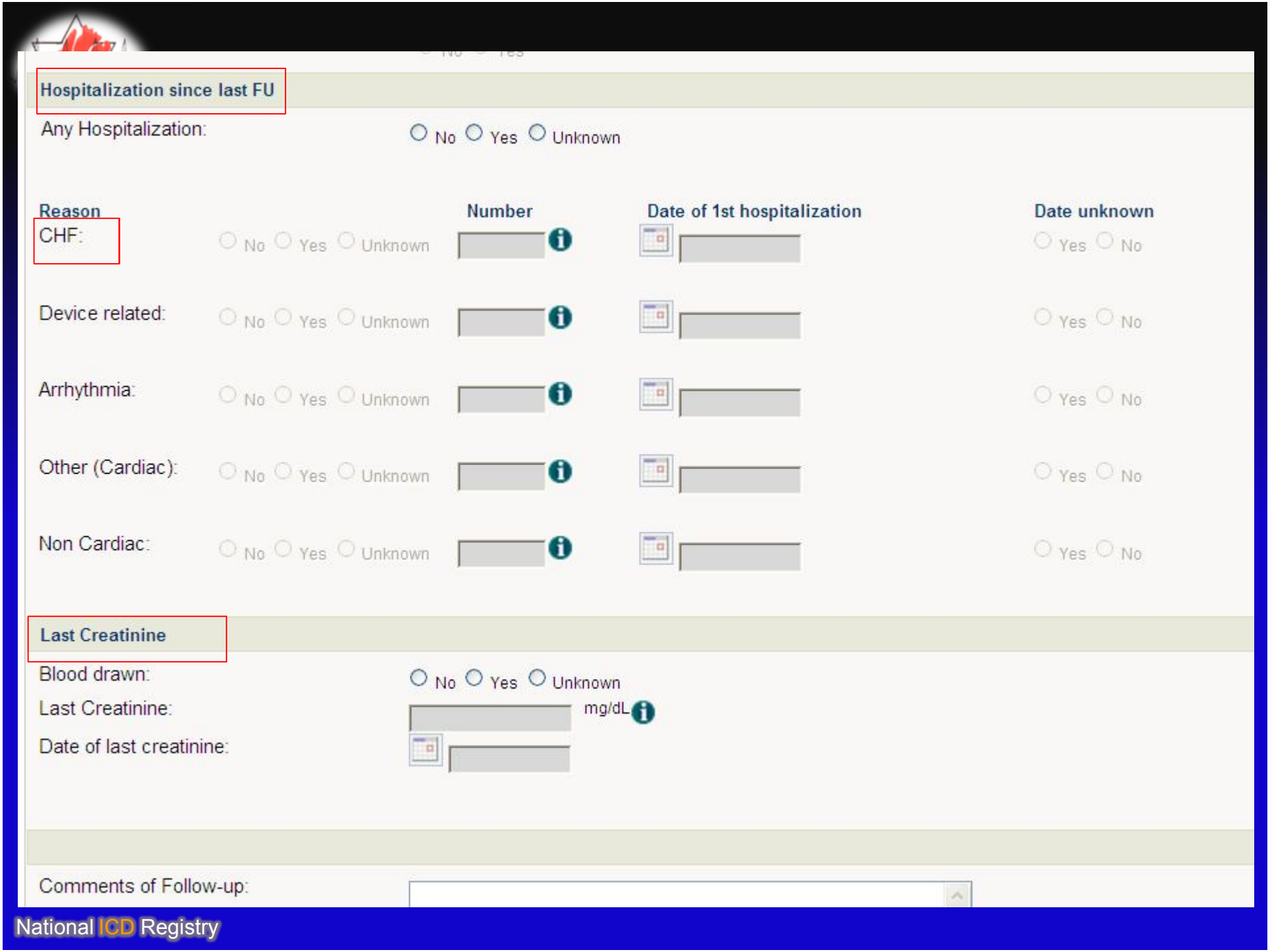
Patient
Documents
Help Desk
System Reports
Record fixing area
Administration
Logout
Hello, ADMIN ADMIN
Follow-up
Patient Details | Center: Rambam | Patient Identifier: 23288095 | Last name: Abu Tarif | First name: Hamad | Year of Birth: 1968 | Sex: Male
Follow-up
*Date Information Obtained:
*Center:
Information obtained through
Check-up at the clinic: No Yes
Patient's file / Hospital records: No Yes
Other interview: No Yes
Deceased Information
*Deceased: No Yes Lost to follow up
Death date:
Reason:
Death in hospital: No Yes Unknown
NYHA
Last known NYHA Functional
National ICD Registry


First Therapy Delivered by Device Since Last FU
First Appropriate Therapy:
No Yes Unknown
Therapy type:
Date of 1st appropriate therapy:
date unknown: Yes No
First Appropriate Shock:
No Yes Unknown
Date of 1st appropriate shock:
date unknown: Yes No
First Inappropriate Therapy:
No Yes Unknown
Therapy type:
Date of 1st inappropriate therapy:
date unknown: Yes No
Cause:
First Inappropriate Shock:
No Yes Unknown
Date of 1st inappropriate shock:
date unknown: Yes No
Additional Therapies Delivered by Device Since Last FU
Appropriate:
No Yes Unknown
ATP:
No Yes Unknown


Hospitalization since last FU
Any Hospitalization:
No
Yes
Unknown
Reason
Number
Date of 1st hospitalization
Date unknown
CHF:
Device related:
Arrhythmia:
Other (Cardiac):
Non Cardiac:
Last Creatinine
Blood drawn:
Last Creatinine:
mg/dL
Date of last creatinine:
Comments of Follow-up:
National ICD Registry

Completed Sub-studies

1. Sex Differences in Implantable Cardioverter Defibrillator Implantation Indications and Outcomes: Lessons from the Nation-wide Israeli-ICD Registry	*Guy Amit*
2. Role of defibrillation threshold testing prior to ICD implantation	*Moti Haim*
3. Renal Function and Clinical Outcomes of Patients Undergoing ICD or CRTD Implantation	*Moti Haim*
4. Prognostic Value of Programmed Electrical Stimulation for Primary Prevention Implantable Cardioverter-Defibrillator Implantation	*JE. Schliamser*
5. Clinical Characteristics and Outcomes of Elderly Patients Treated with ICD and CRTD in a Real World Setting	M. Suleiman
6. Outcome of Patients with Advanced Heart Failure who Receive Device-Based Therapy for Primary Prevention of Sudden Cardiac Death	M. Suleiman

Suggested sub-Studies

1. Outcomes of Patients who Received Appropriate Shocks as Compared to Patients who Received Inappropriate Shock or no Shock
2. Is Dual-Chamber ICDs Associated with Increased Long Mortality when Compared with Single-Chamber Defibrillators: a subanalysis of the Israeli ICD Registry?
3. Do Patients with End-Stage Kidney Disease Benefit from Prophylactic ICD Therapy ?
4. Syncope Significance in Patients Implanted with ICDs for Primary Prevention of Sudden Death
5. Development of Models for the 6 Months and one Year Mortality after ICD Implantation

Suggested sub-Studies

6. Frequency of inappropriate shocks in patients with single vs dual chamber ICD
7. Rates of upgrade of plugged CRT-D device to full CRT in clinical practice and the potential clinical and economic impact of the use of plugged CRT-D device at initial implant
8. Impact of lead or pocked revision on clinical outcomes in patients with ICD/CRTD
9. Prospective Comparison of Clinical Performance and Survival of Different Transvenous Defibrillation Leads
10. Atrial fibrillation (new, paroxysmal and chronic) and outcome in patients implanted with ICD/CRTD

Suggested sub-Studies

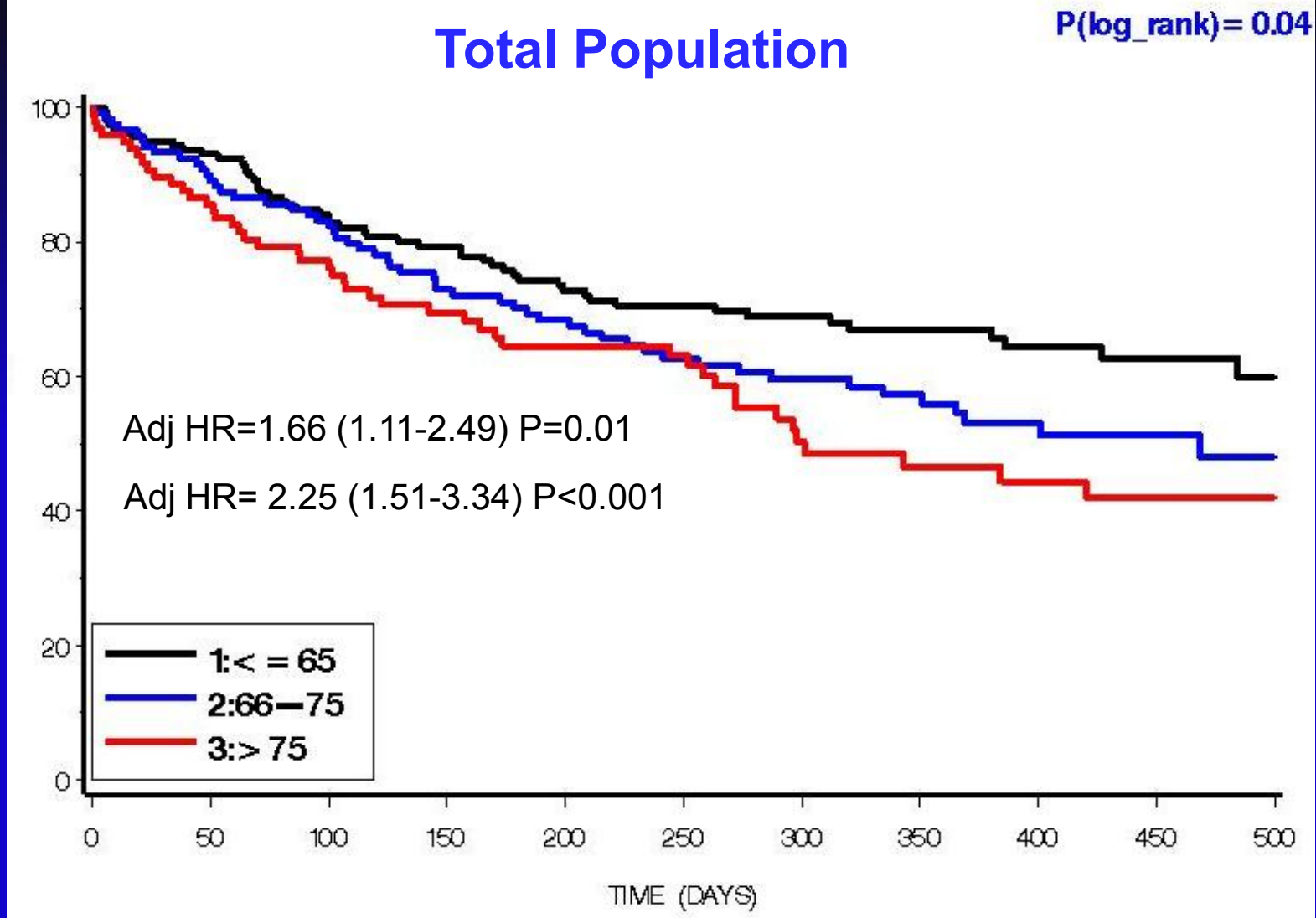
11. Outcomes in CRTD Recipients with Atrial Fibrillation
12. Outcomes in ICD recipients who have pacemaker indications
13. Racial disparity in the utilization of implantable cardioverter-defibrillators and Cardiac resynchronization therapy among Israeli patients
14. Outcomes in ICD recipients with Genetic inherited arrhythmogenic disease in the real world settings

Clinical Characteristics and Outcomes of Elderly Patients Treated with Implantable Cardioverter-Defibrillator and Cardiac Resynchronization Therapy in a Real World Setting

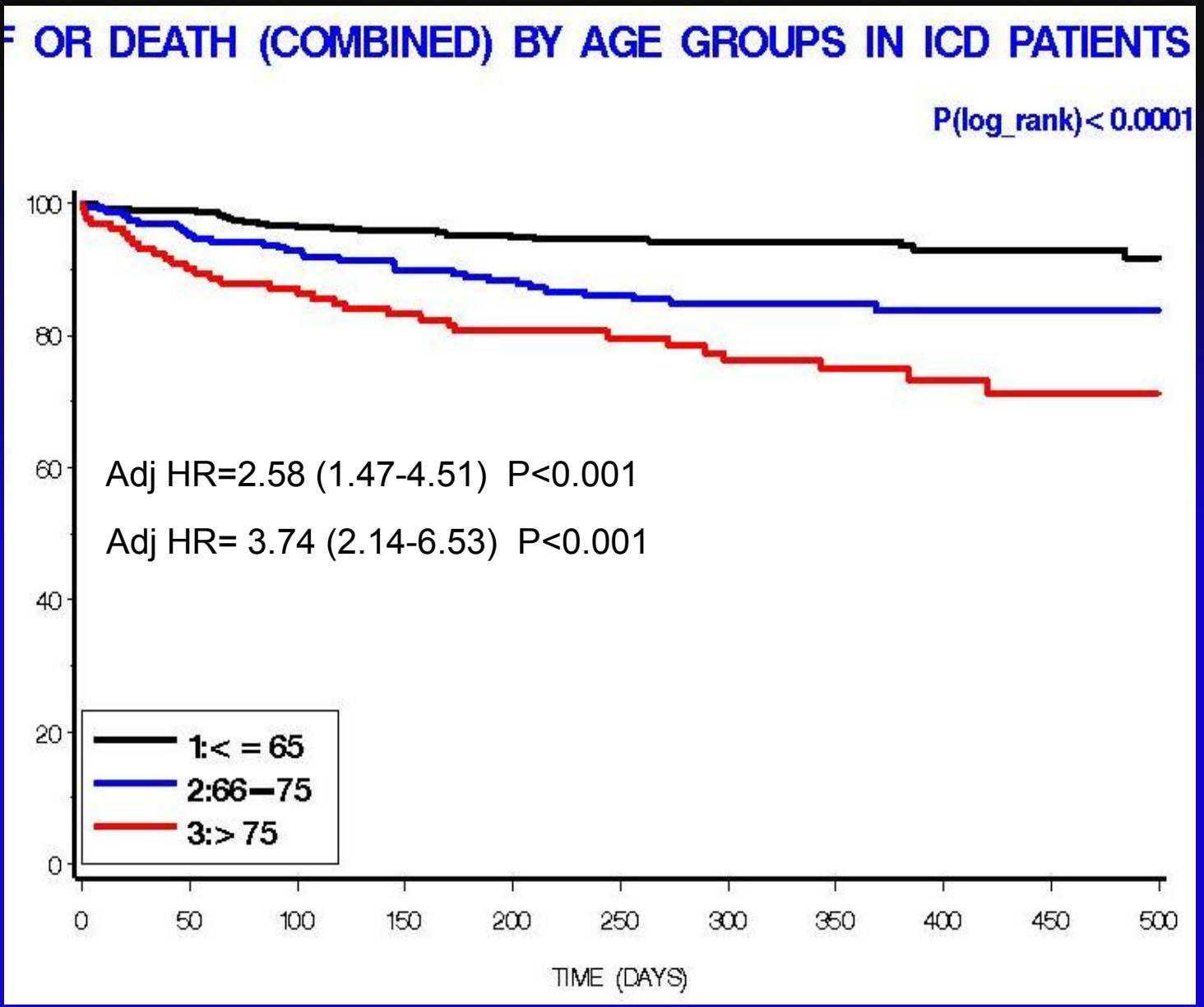
National ICD Registry

HF OR DEATH (COMBINED) BY AGE GROUPS

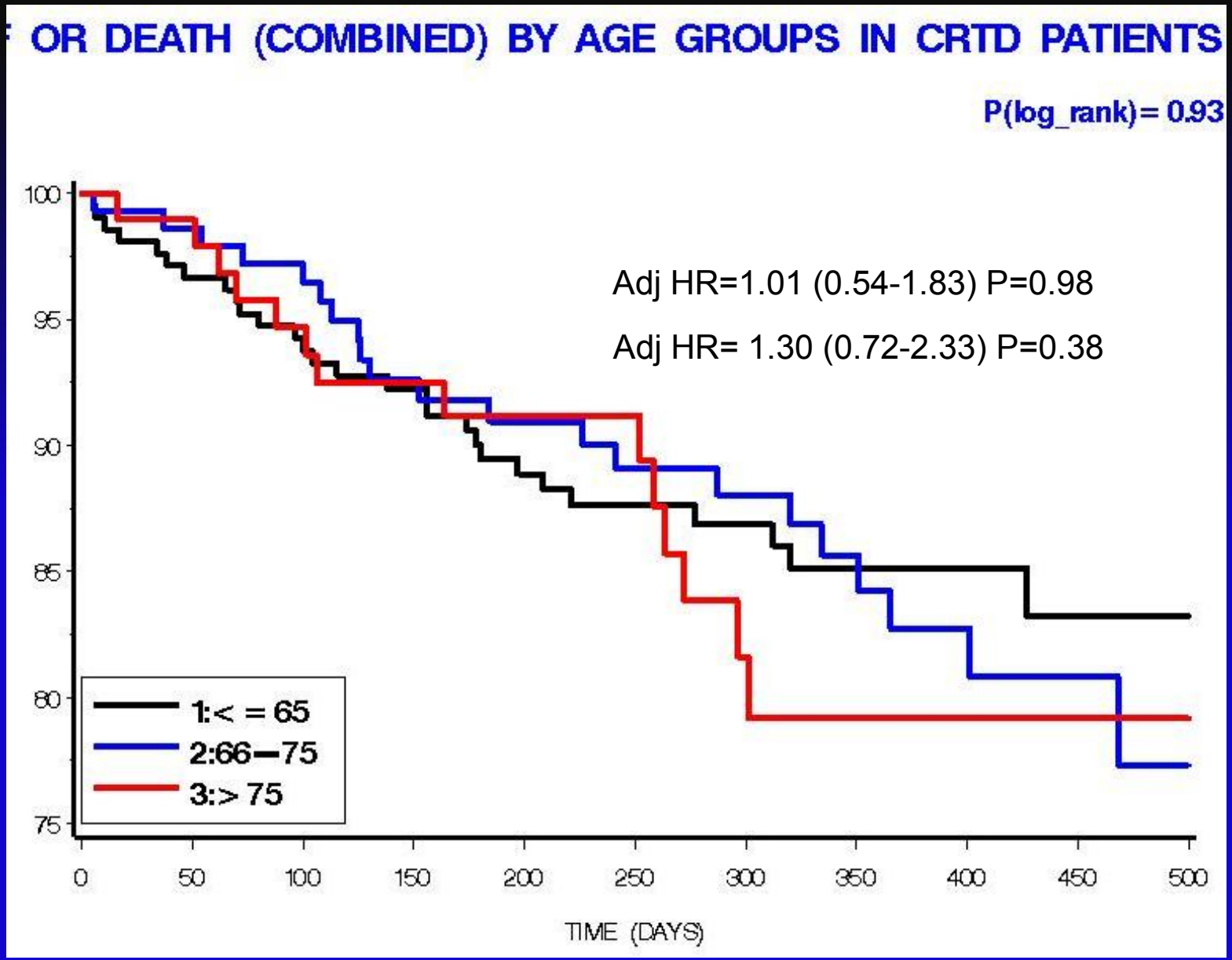
Total Population

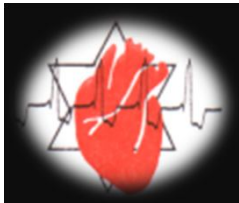


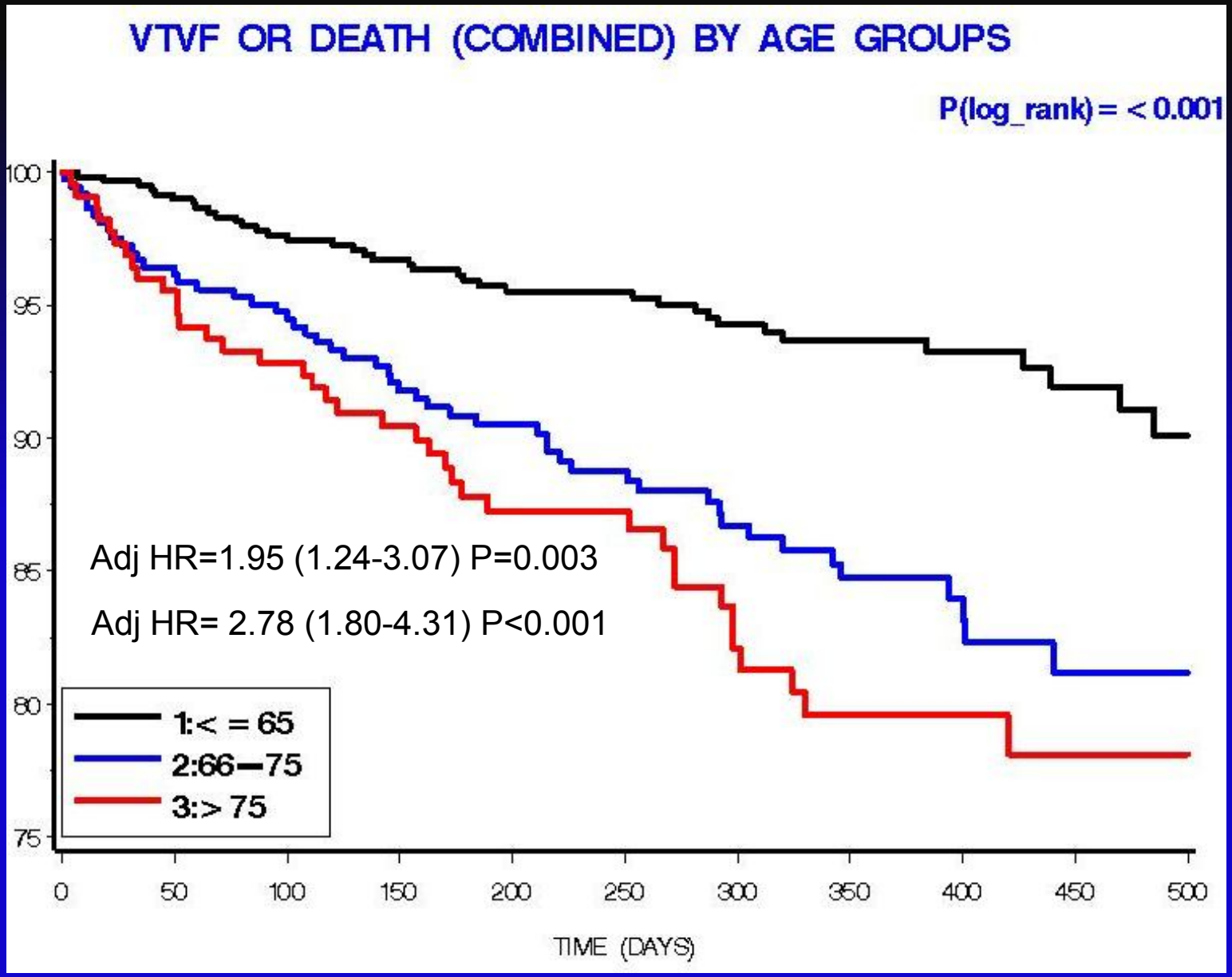
F OR DEATH (COMBINED) BY AGE GROUPS IN ICD PATIENTS



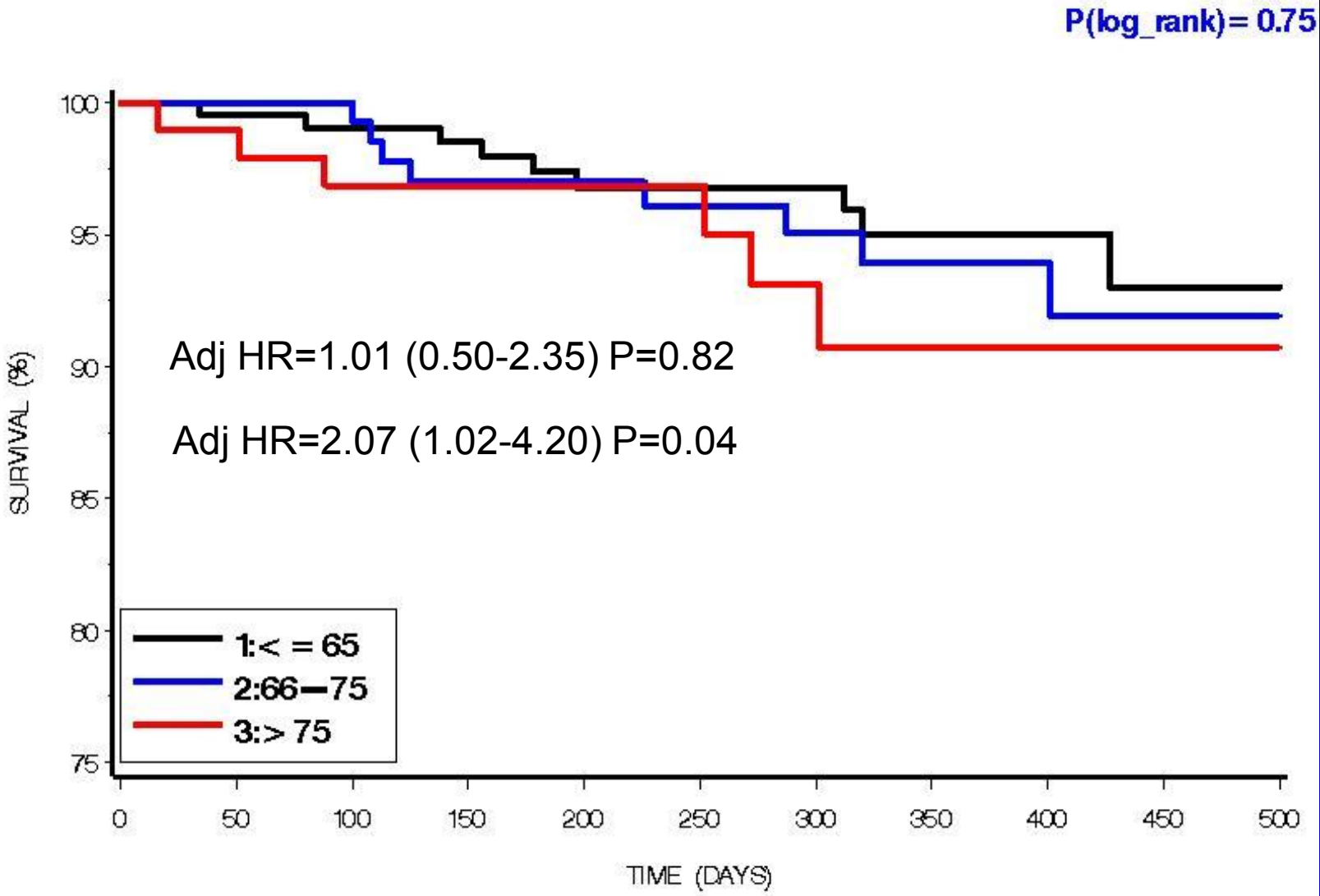
OR DEATH (COMBINED) BY AGE GROUPS IN CRTD PATIENTS



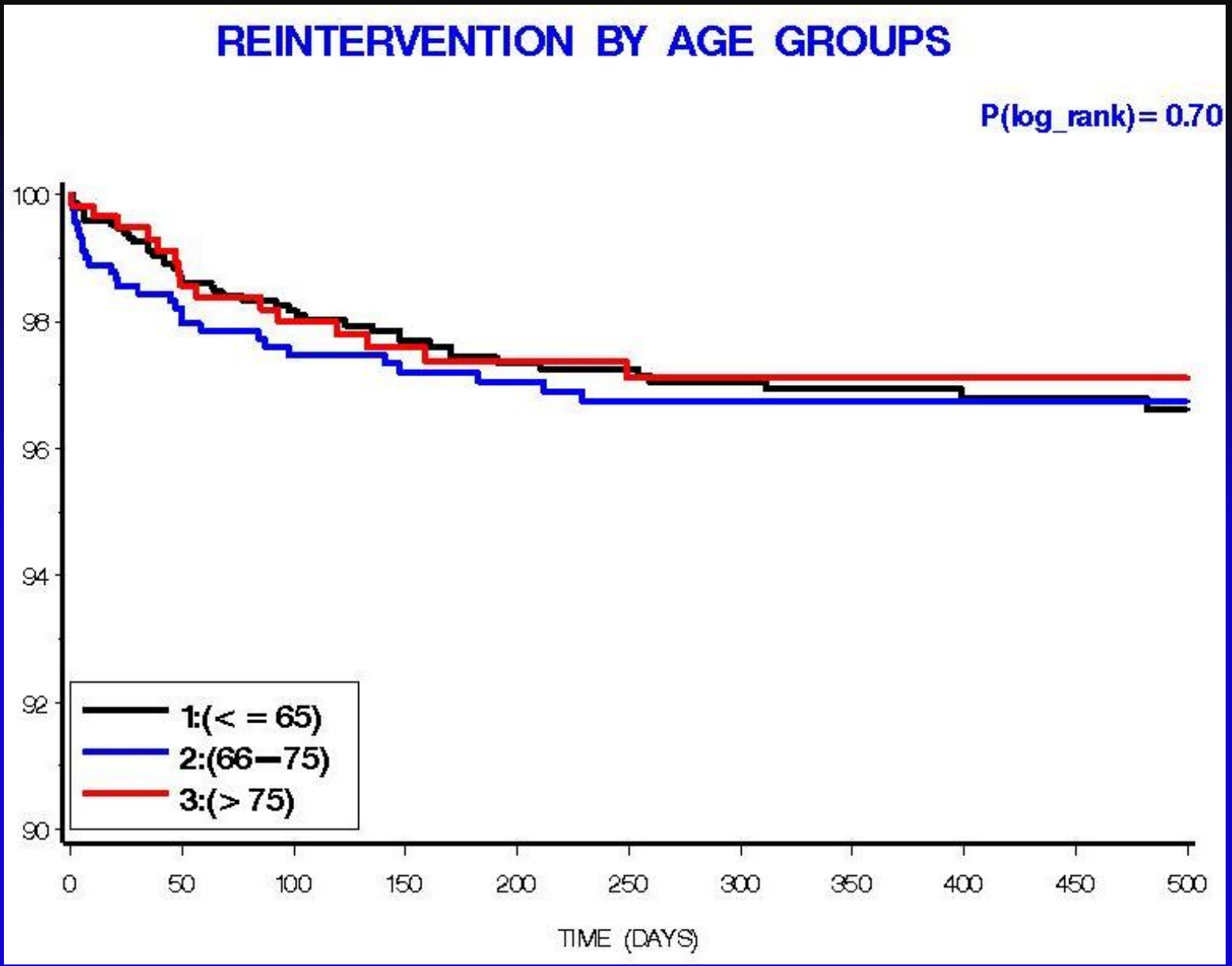



VTVF OR DEATH (COMBINED) BY AGE GROUPS
P(log_rank) = < 0.001
Event-free Survival
100
95
90
85
80
75
Adj HR=1.95 (1.24-3.07) P=0.003
Adj HR= 2.78 (1.80-4.31) P<0.001
1:< = 65
2:66–75
3:> 75
0
50
100
150
200
250
300
350
400
450
500
TIME (DAYS)

LETHAL OUTCOME BY AGE GROUPS IN CRTD PATIENTS



REINTERVENTION BY AGE GROUPS

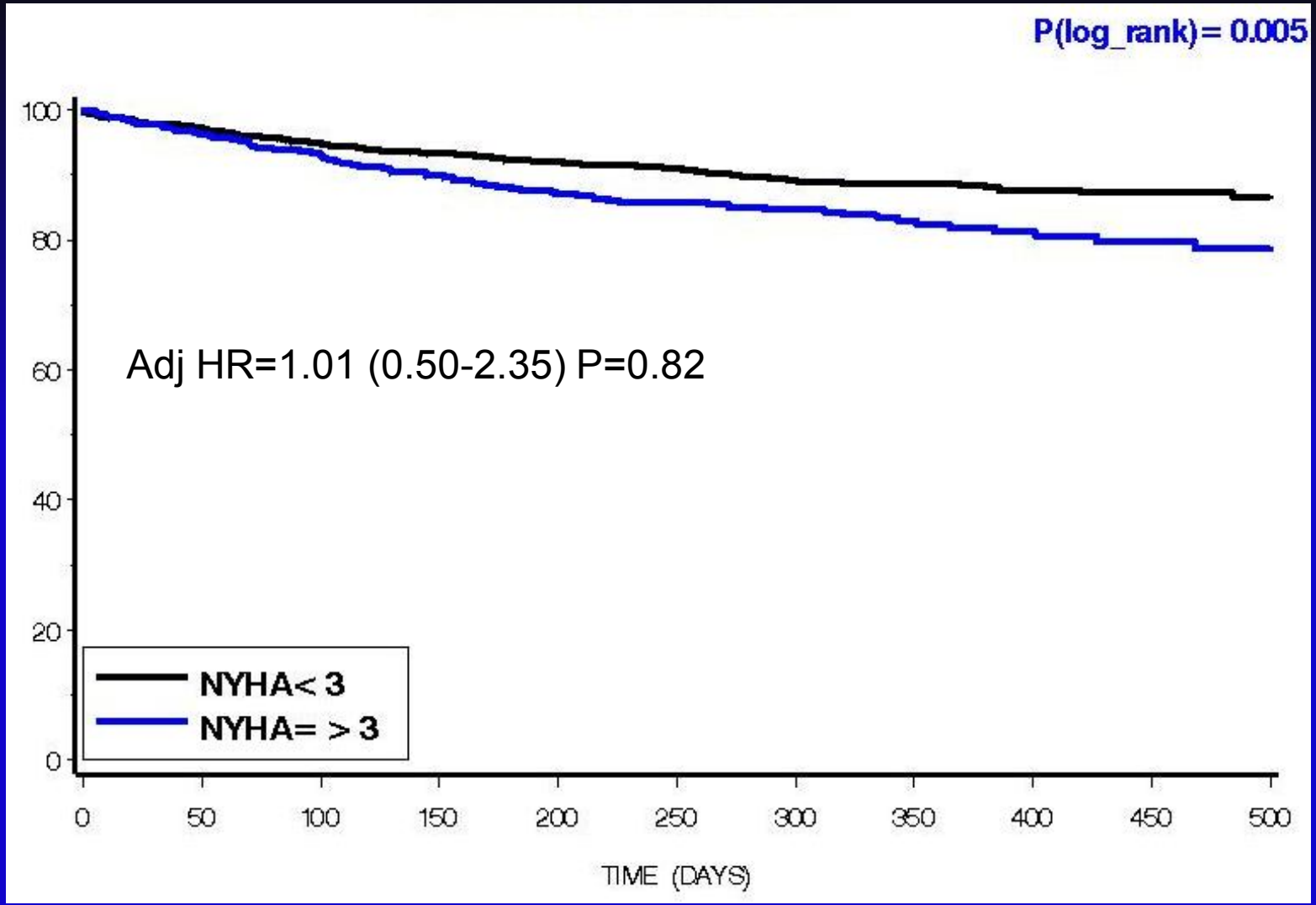


Major Findings

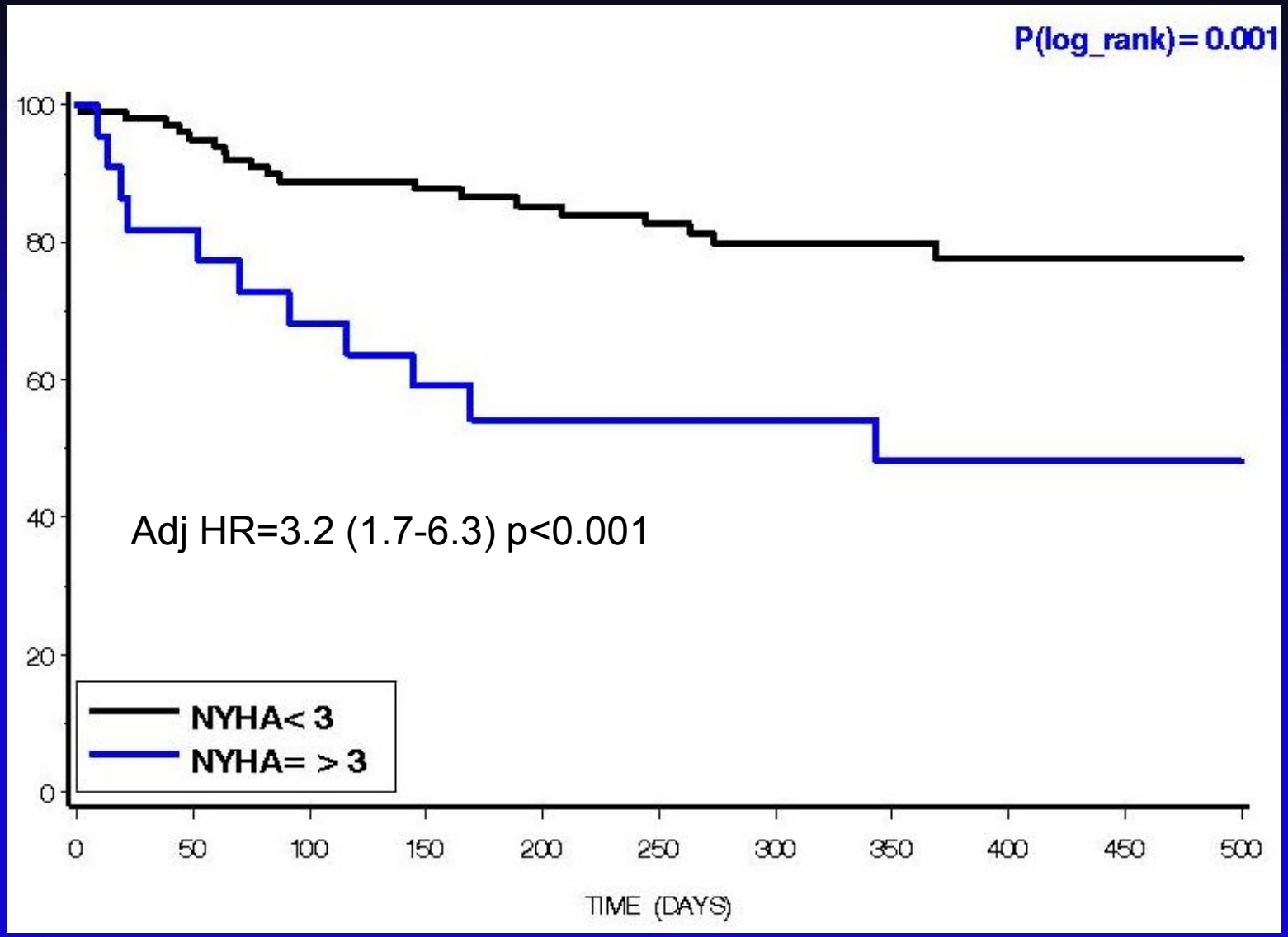
- >50% of new implants are in patients >65 yo and >20% in patients >75 yo
- Elderly patients have a higher risk profile and were more likely to receive CRTD device and have their device implanted for secondary prevention indication
- Elderly patients had a similar low re-intervention rate as younger patients.
- The risk of both HF and arrhythmic outcomes was attenuated among elderly patients implanted with CRT-D devices.

Outcome of Patients with Advanced Heart Failure who Receive Device-Based Therapy for Primary Prevention of Sudden Cardiac Death

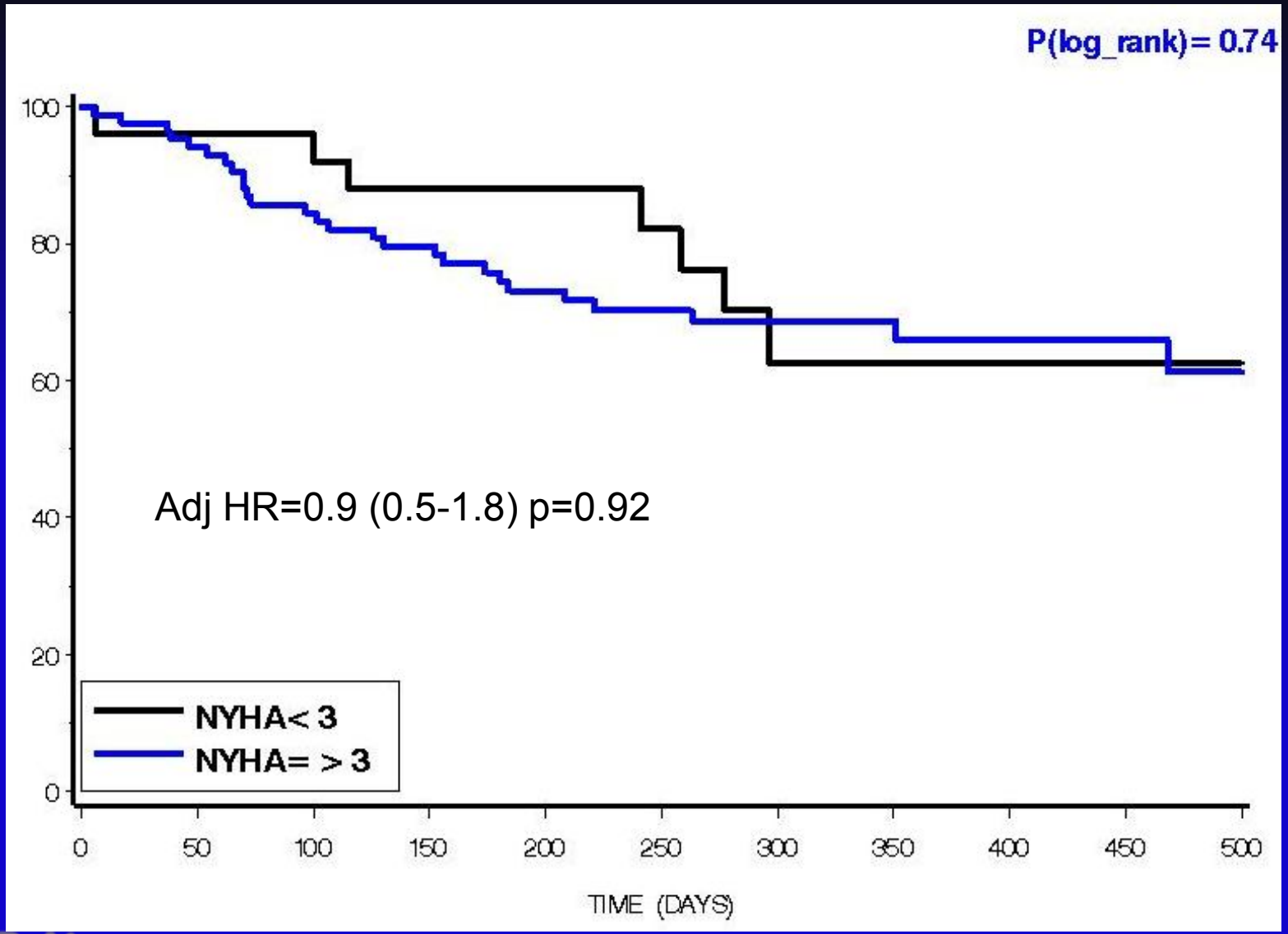
Cumulative probability of HF or Death
Total Population



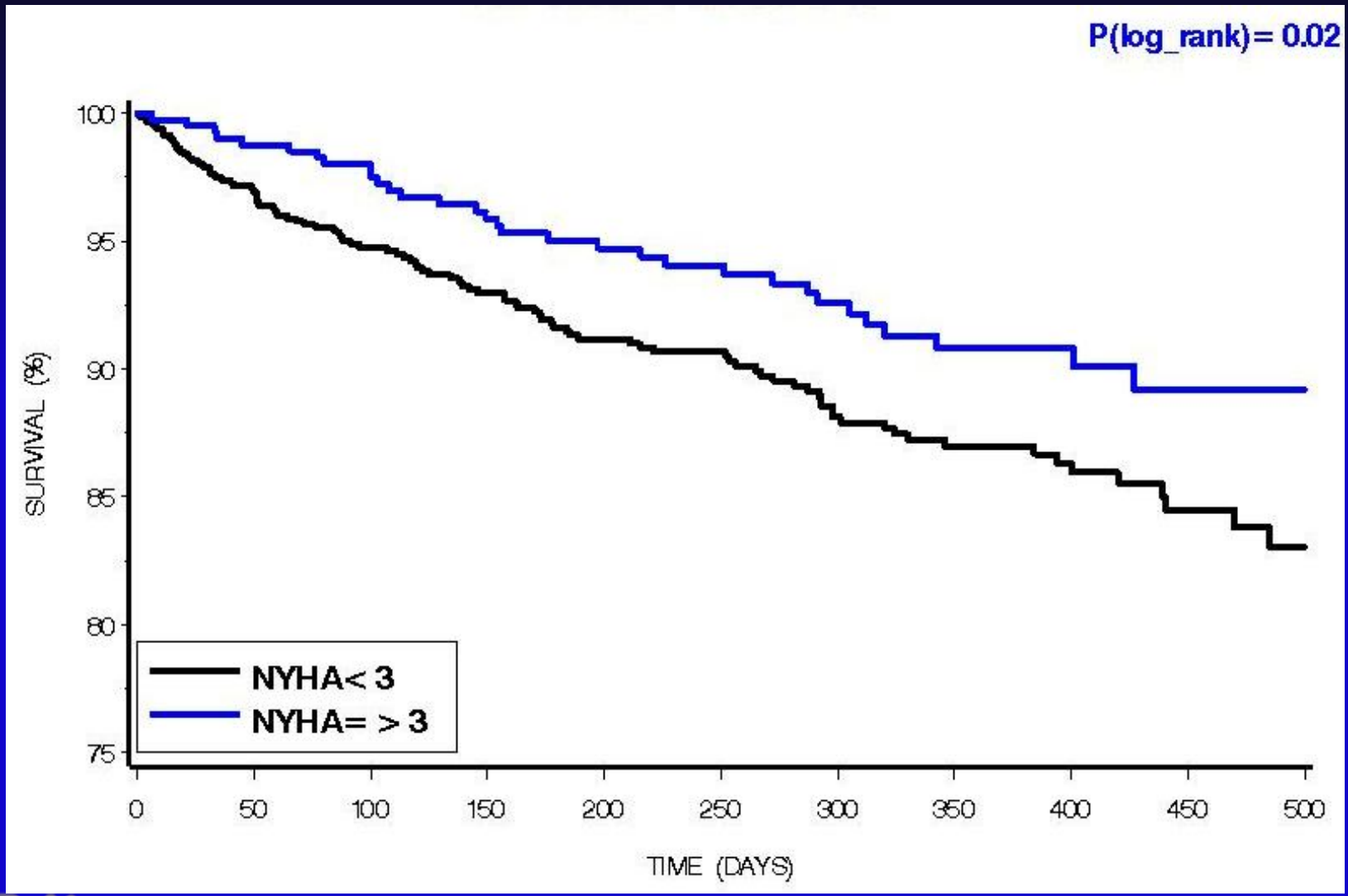
Cumulative probability of HF or death in ICD patients



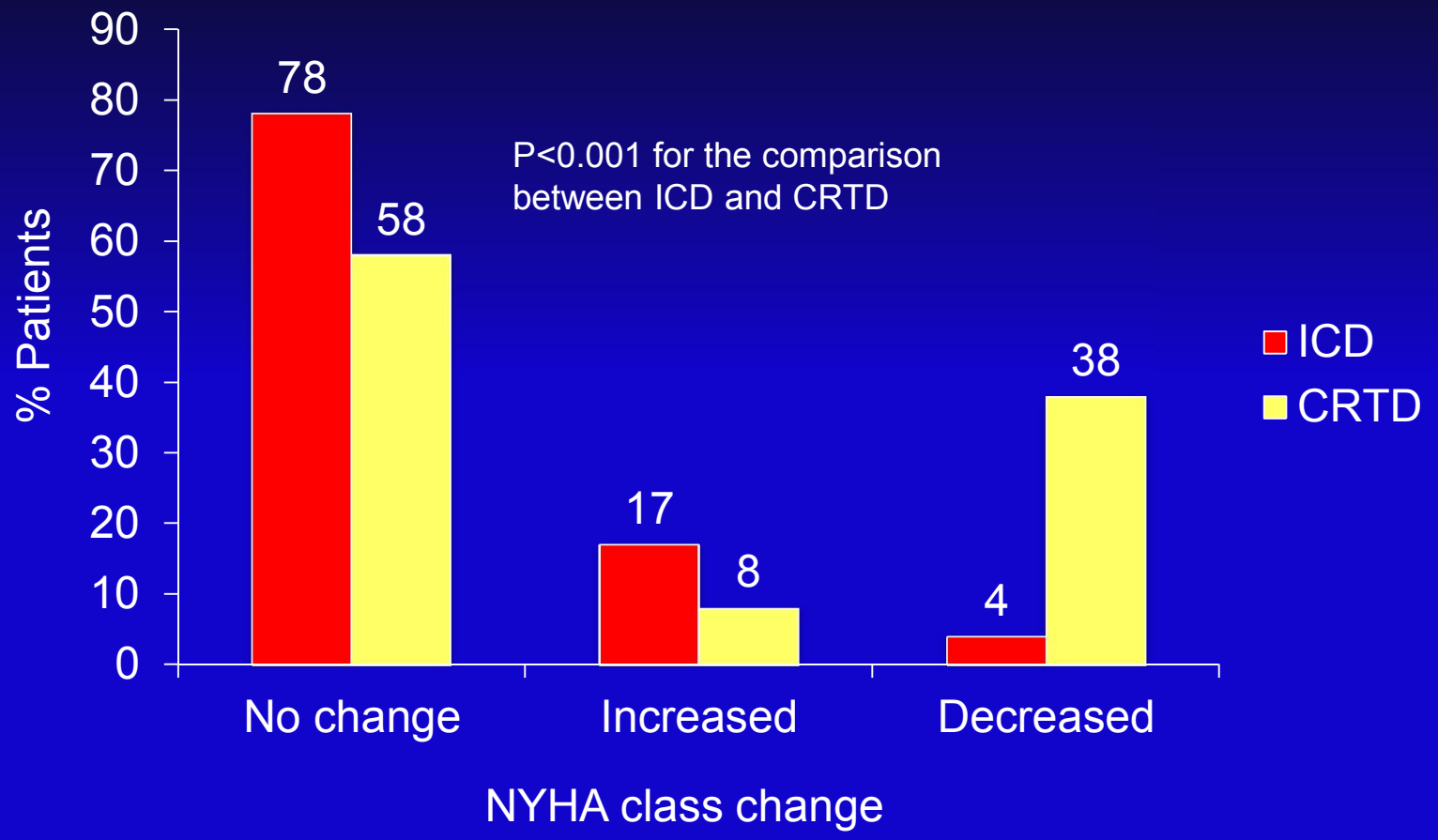
Cumulative probability of HF or death in CRTD patients



Cumulative probability of death or appropriate device therapy for VT/VF



NYHA change during FU



National ICD Registry

Major Findings

- Patients with advanced HF who receive ICD for primary prevention of SCD are at increased risk of recurrent HF hospitalization
- High baseline NYHA class was not associated with recurrent HF hospitalization in patients implanted with CRTD
- Higher baseline NYHA was associated with reduced ventricular arrhythmias risk regardless of device type
- CRTD implantation was associated with higher rate of functional class improvement as compared to implantation of an ICD

תודות

- המרכזים המשתתפים– רופאים, אחיות וטכנאים
- נציגי החברות

- העמותה למחקרי לב וכלי דם
  - פרופ' אלין גולדנברג
  - שלומית, נטלי,ליזי ואורית
- יו"ר וחברי הועד והוועדה המדעית

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