Simposio **Infarto miocardico a coronarie angiograficamente indenni**

Una patologia rara che mette in discussione i nostri paradigmi

14.40 **Stefano De Servi –** La terapia ed il follow-up. *Come impostare i controlli in una malattia che ancora ci nasconde i suoi intimi meccanismi patogenetici.*

Nessun conflitto di interesse da dichiarare

VI CONGRESSO NAZIONALE DI

ECOCARDIO CHIRURGIA

MILANO 15-17 OTTOBRE 2012

Milano, Atahotel Executive

Stefano De Servi
Dipartimento Cardiovascolare
Azienda Ospedaliera Ospedale Civile di Legnano

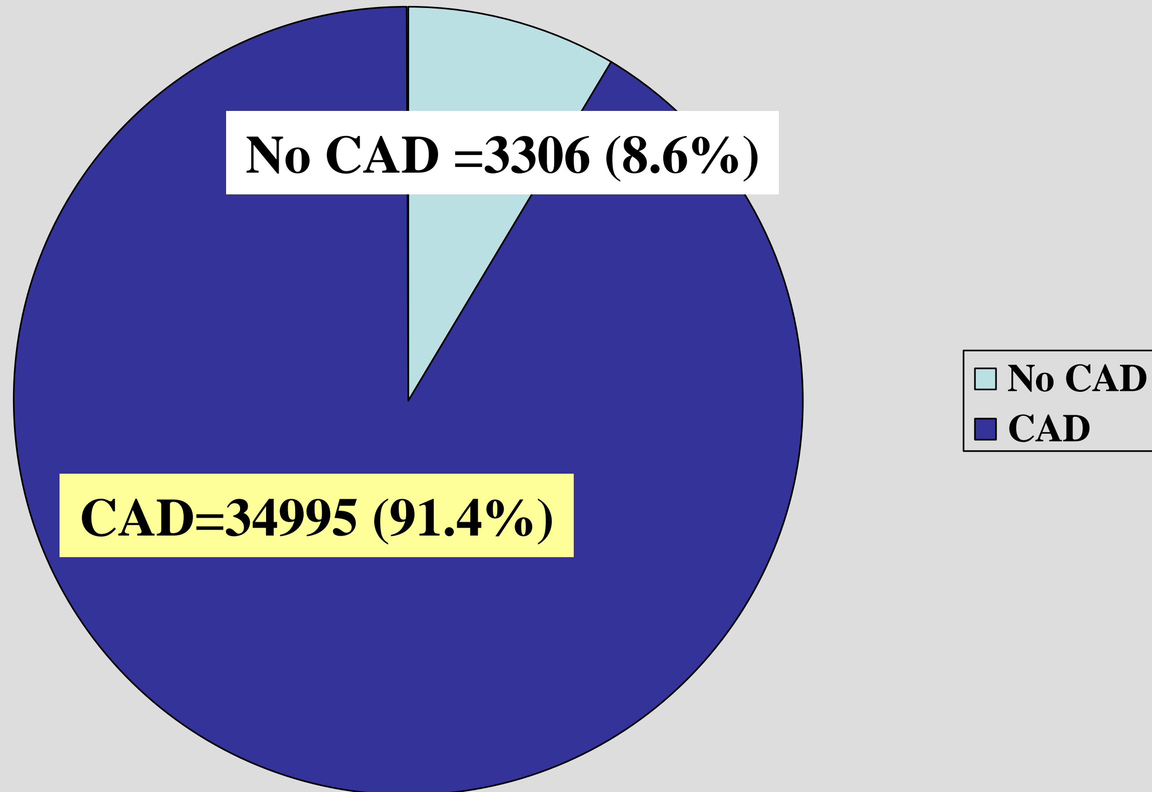
Acute Ischemic Heart Disease

Prevalence, predictors, and outcomes of patients with non–ST-segment elevation myocardial infarction and insignificant coronary artery disease: Results from the Can Rapid risk stratification of Unstable angina patients Suppress ADverse outcomes with Early implementation of the ACC/AHA Guidelines (CRUSADE) initiative

Manesh R. Patel, MD,[a] Anita Y. Chen, MS,[a] Eric D. Peterson, MD, MPH,[a] L. Kristin Newby, MD, MHS,[a] Charles V. Pollack, Jr., MD, MA,[b] Ralph G. Brindis, MD, MPH,[c] C. Michael Gibson, MD,[d] Neal S. Kleiman, MD,[e] Jorge F. Saucedo, MD,[f] Deepak L. Bhatt, MD,[g] W. Brian Gibler, MD,[h] E. Magnus Ohman, MD,[a] Robert A. Harrington, MD,[a] and Matthew T. Roe, MD, MHS[a] *Durham, NC; Philadelphia, PA; San Francisco, CA; Boston, MA; Oklahoma City, OK; and Cleveland, and Cincinnati, OH*

American Heart Journal
October 2006

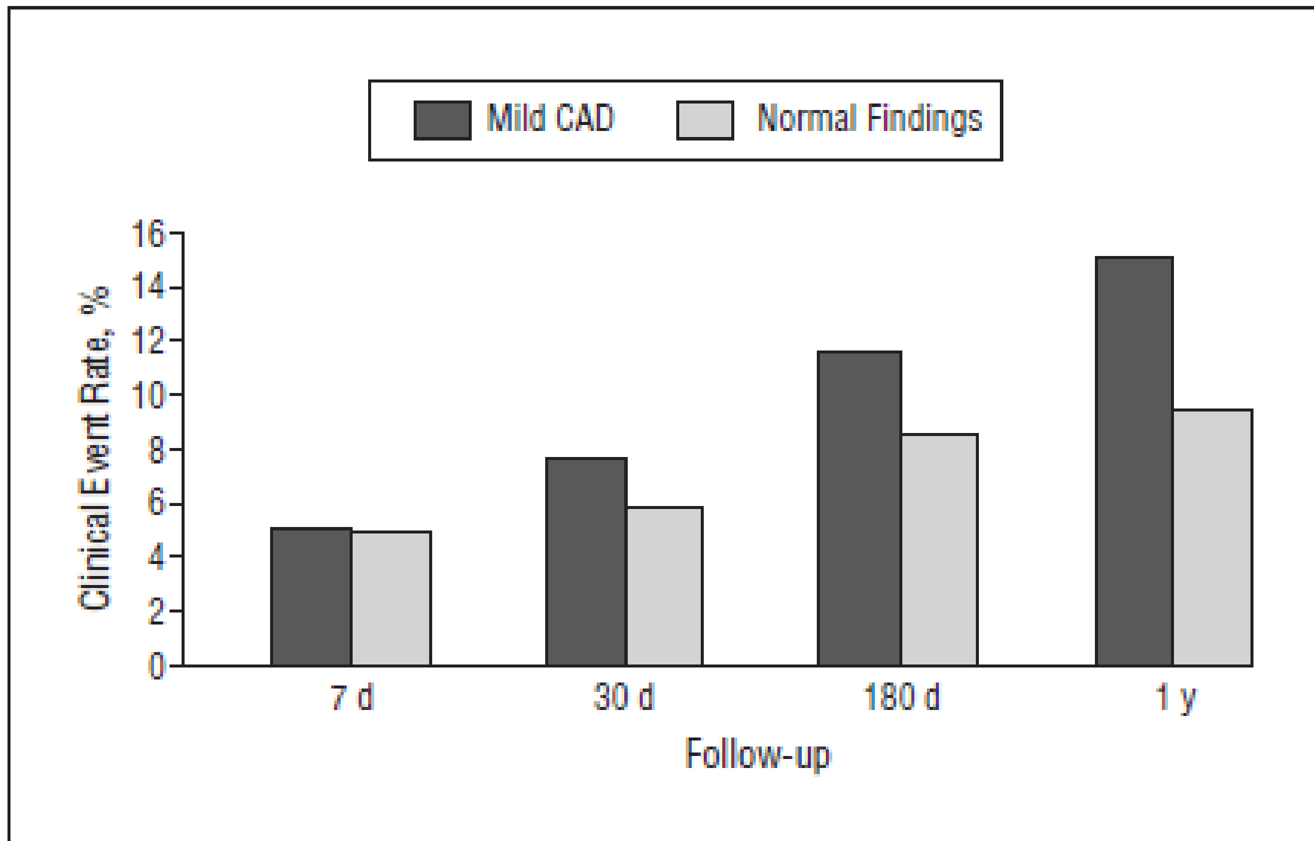
38.301 patients with NSTEMI in the CRUSADE Registry



Unanswered Questions for Management of Acute Coronary Syndrome

Risk Stratification of Patients With Minimal Disease or Normal Findings on Coronary Angiography

Raffaele Bugiardini, MD; Olivia Manfrini, MD; Gaetano M. De Ferrari, MD

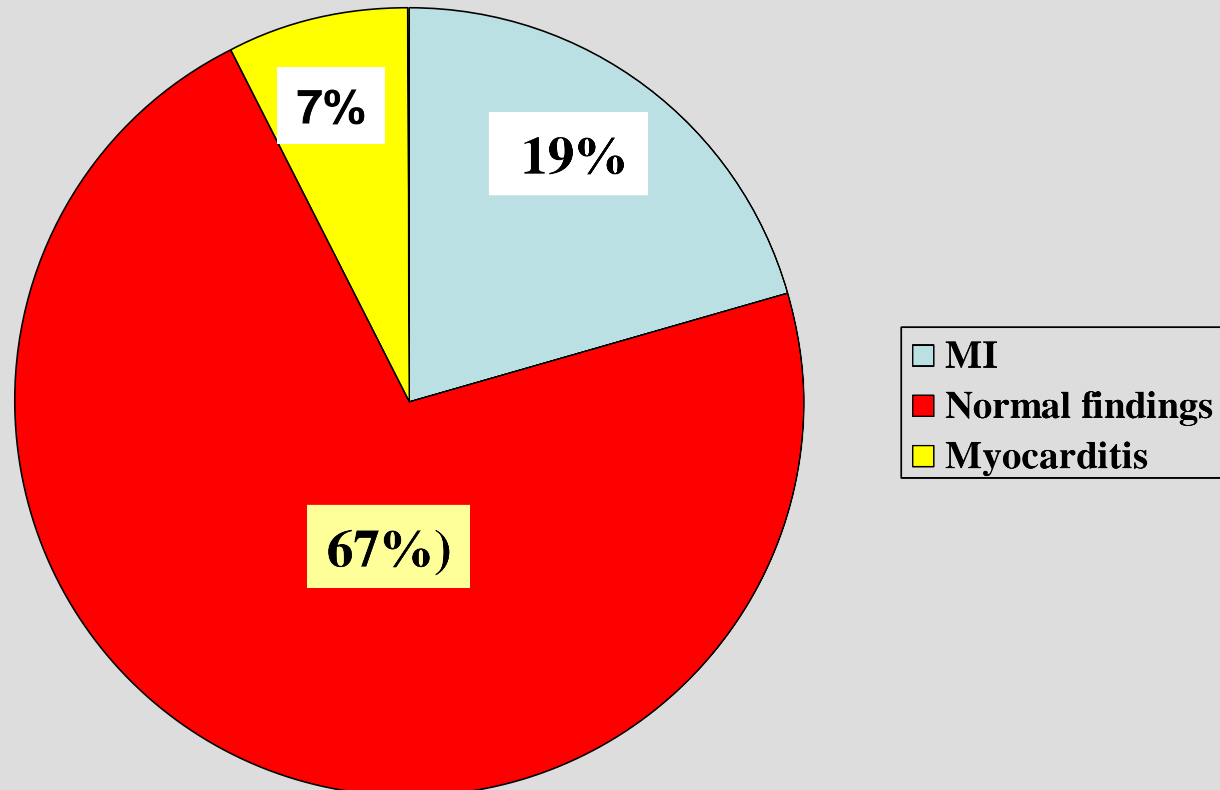


Arch Intern Med. 2006;166:1391-1395

Collste O*[‡], Sörensson P*[#], Frick M[‡], Agewall S[††], Daniel M[§], Henareh L[¶], Ekenbäck C[†], Eurenius L[§], Guiron C[†], Jernberg T[¶], Hofman-Bang C[†], Malmqvist K[†], Nagy E[#], Arheden H[¤], Tornvall P[#]

Myocardial infarction with normal coronary arteries is common and associated with normal findings on cardiovascular magnetic resonance imaging: results from the Stockholm Myocardial Infarction with Normal Coronaries study

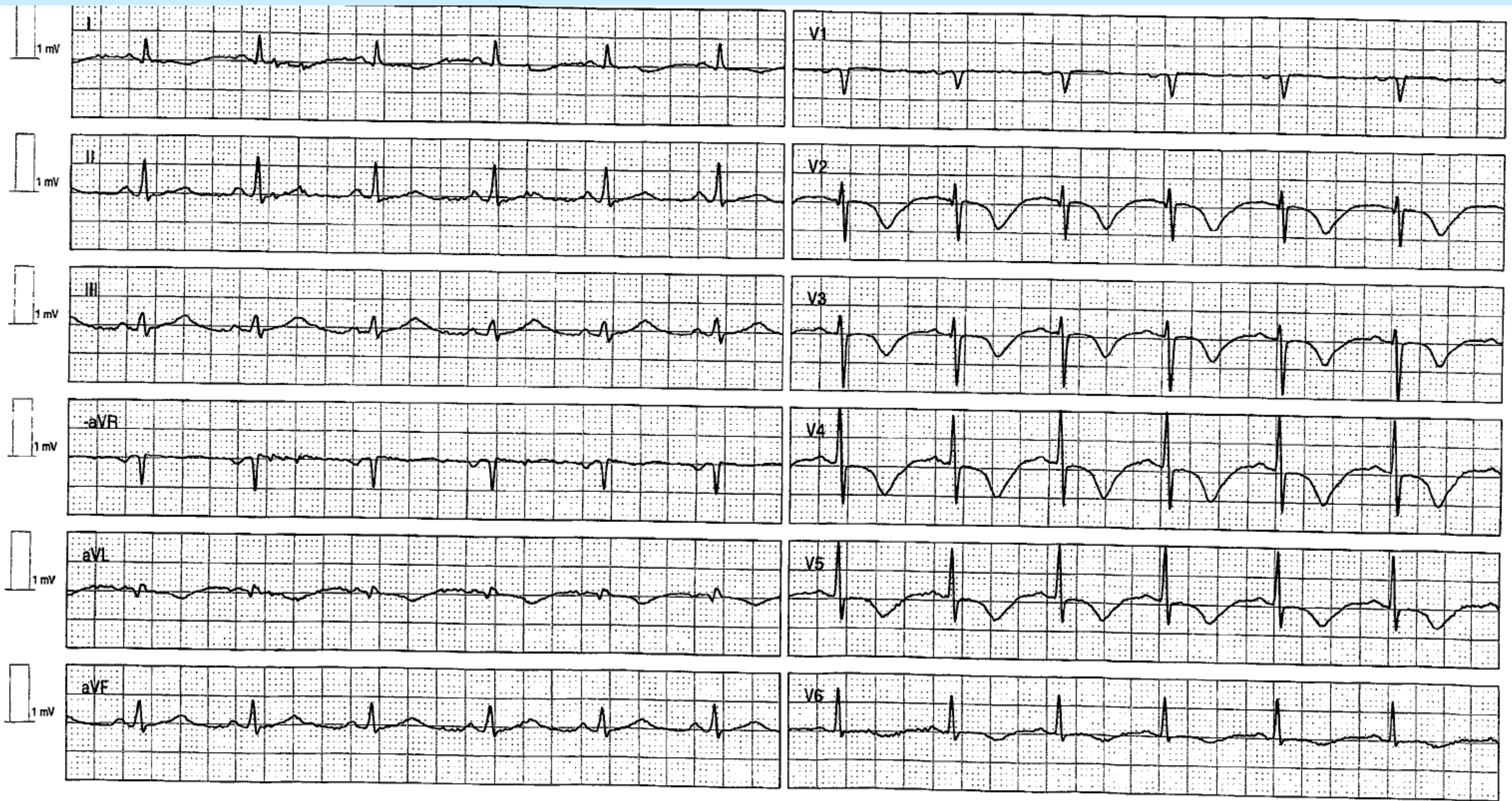
176 patients with NSTEMI and normal coronary arteries

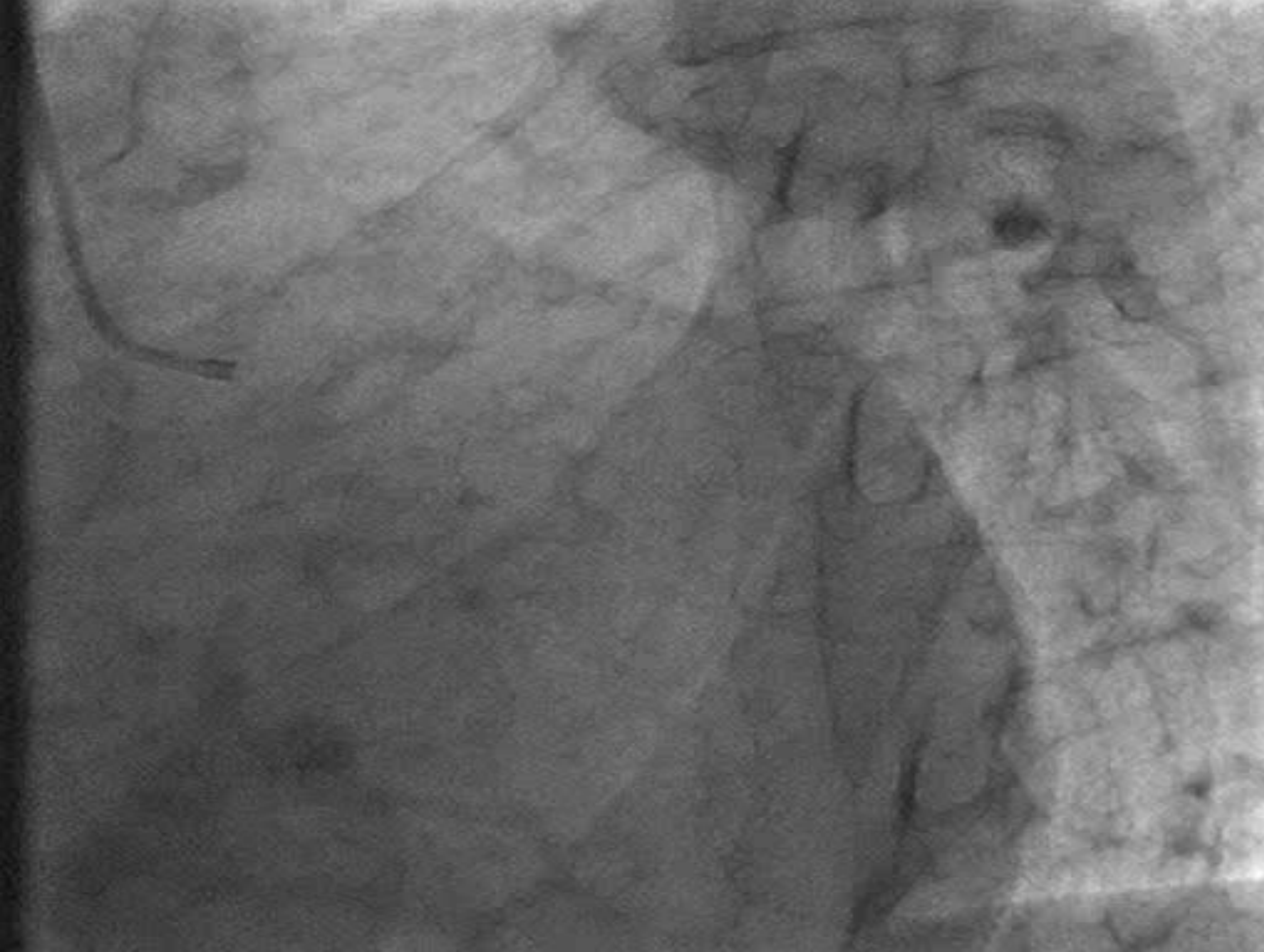


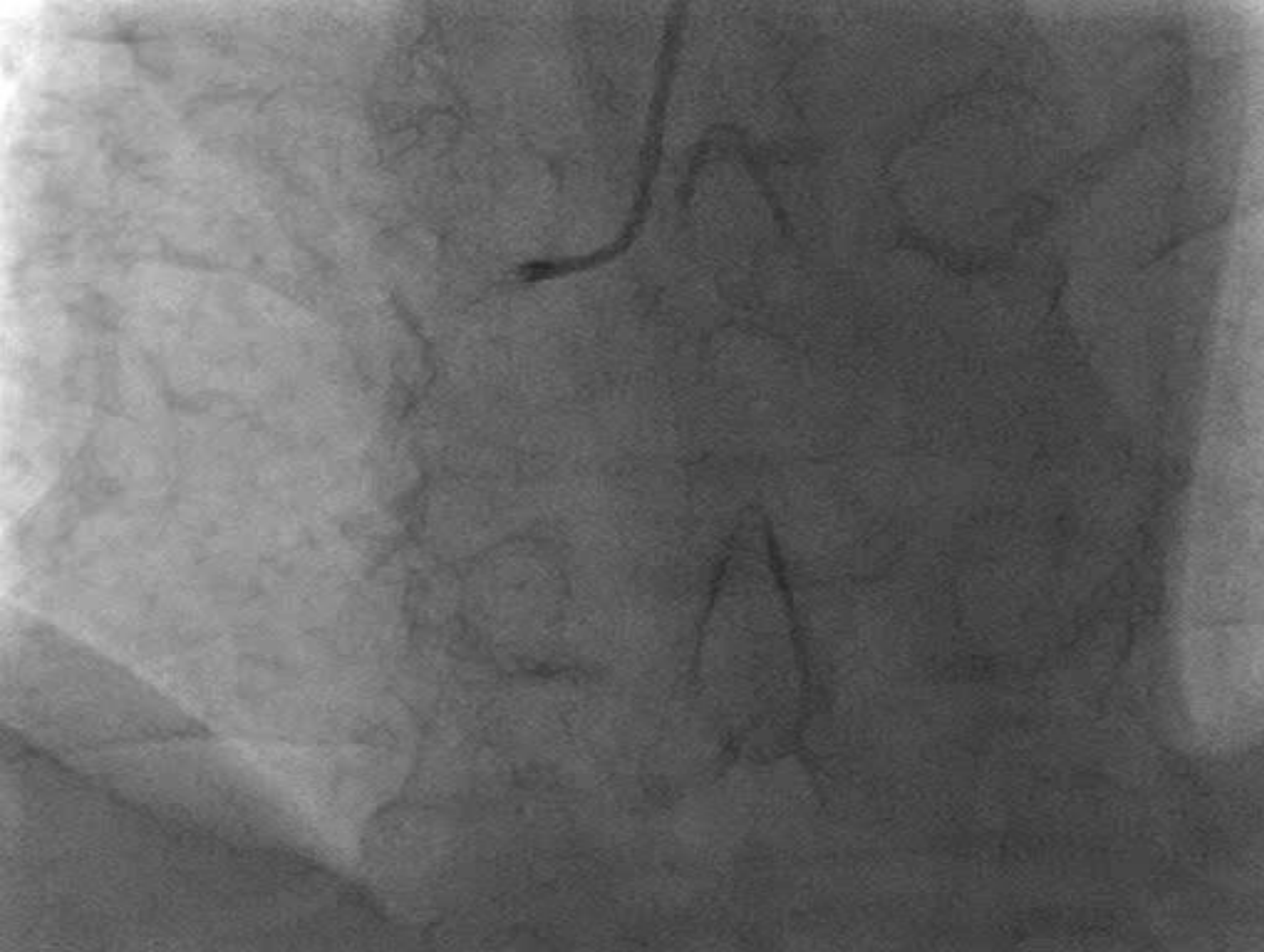
© 2012 The Association for the Publication of the Journal of Internal Medicine

Caso n.1

- **A.R. anni 45**
- **Tossicodipendente in metadone 80 mg/die**
- **Angor protratto dopo autoiniezione e.v. di cocaina**
- **All’ingresso : PA 120/70 mmHg, FC 70 bpm**
- **Laboratorio: GB 9.400/mm3 ; creatinina 0.8 mg/dl ; CK picco 996 U/L; hsTNT 2843 pg/ml**
- **Ecocardiogramma: EF .40 , acinesia apicale**


I
1 mV
II
III
-aVR
aVL
aVF
V1
V2
V3
V4
V5
V6
Velocità: 25mm/s Amp.: 10mm/mV Filtro: Monitoraggio





Caso n.1

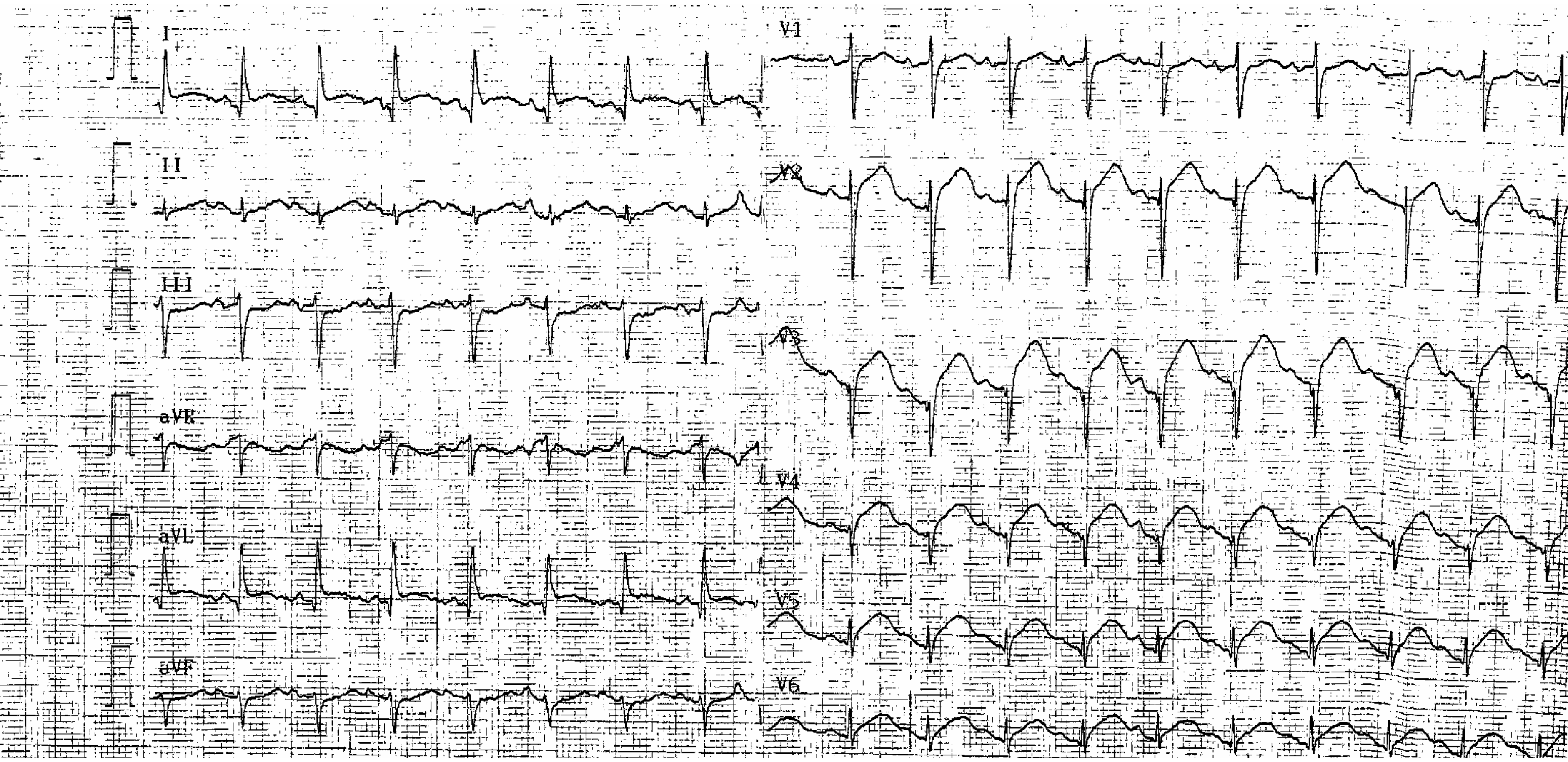
- A.R. anni 45
- Tossicodipendente in metadone 80 mg/die
- Angor protratto dopo autoiniezione e.v. di cocaina
- All'ingresso : PA 120/70 mmHg, FC 70 bpm
- Laboratorio: GB 9.400/mm3 ; creatinina 0.8 mg/dl ; CK picco 996 U/L; hsTNT 2843 pg/ml
- Ecocardiogramma: EF .40 , acinesia apicale

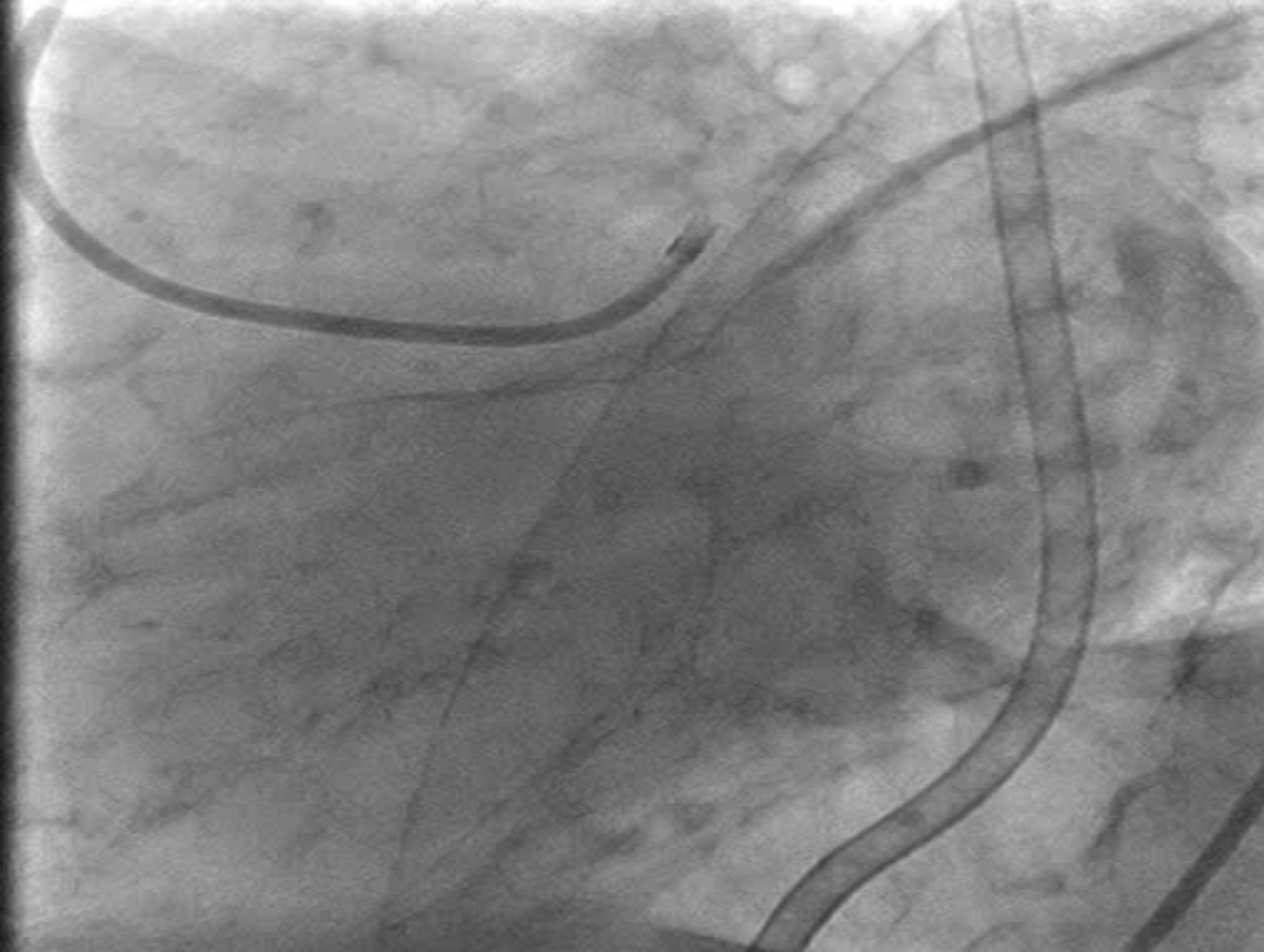
Dimesso in terapia con:

- **ASA 100 mg**
- **Clopidogrel 75 mg**
- **Diltiazem 120 mg x 2**
- **Atorvastatin 80 mg**

Caso n.2

- **G.M.C. anni 85**
- **Ipertesa , ricovero in Medicina il 12.7.2012 per febbre, deperimento organico , anemia di n.d.d.**
- **Il 14/7 angor protratto , sopraslivellamento di ST all'ecg**
- **Laboratorio . GB 19.800/mm3 , Hb 8.5 g/dl , creatinina 0.9 mg/dl CK picco 235 U/L , c-TNT picco 456 pg/ml .**
- **Ecocardiogramma: EF .40 Acinesia apicale**


I
II
III
aVR
aVL
aVF
V1
V2
V3
V4
V5
V6



Caso n.2

- G.M.C. anni 85

. Ipertesa , ricovero in Medicina il 12.7.2012
per deperimento organico ., dimagramento , anemia di n.d.d.

. Il 14/7 angor protratto , sopraslivellamento di ST all'ecg

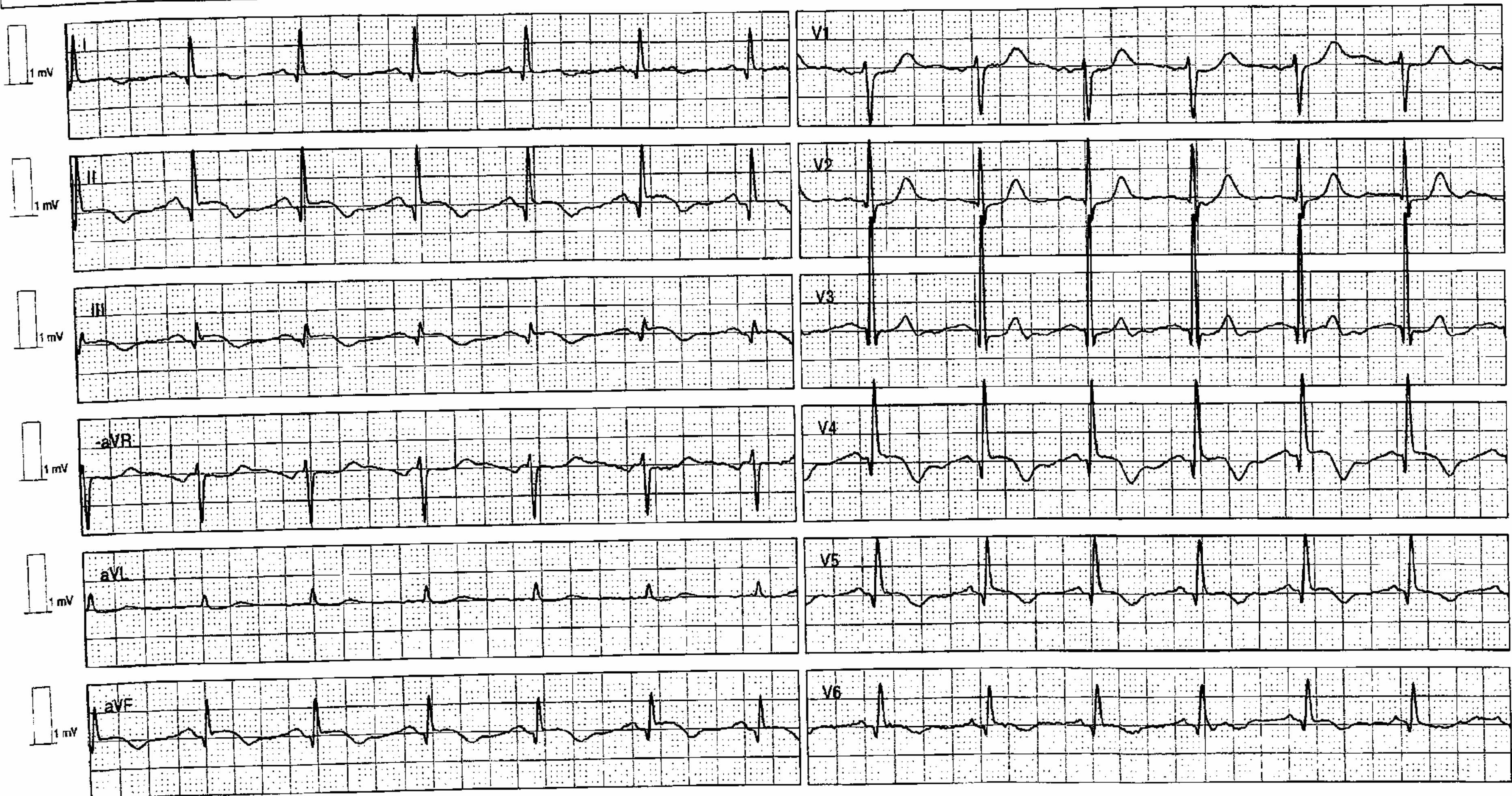
. Laboratorio . GB 19.800/mm3 , Hb 8.5 g/dl , creatinina 0.9 mg/dl CK picco 235 U/L , c-TNT picco 456 pg/ml .

. **Trasferita in Medicina con queste raccomandazioni terapeutiche :**

- **ASA 75 mg**
- **Bisoprololo 2,5 mg**
- **Atorvastatin 20 mg**

Caso n.3

- **G.A.T. anni 75**
- **Ipertesa in trattamento (ACE inibitore)**
- **Angor protratto insorto durante sforzo (cammino portando borse della spesa)**
- **All'ingresso : Hb 11.4 g/dl; creatinina 0.84 mg/dl ; CK picco 186 U/L; hsTNT 238 pg/ml**
- **Ecocardiogramma: ASH , ostruzione dinamica , gradiente i.v. 72 mmHg**

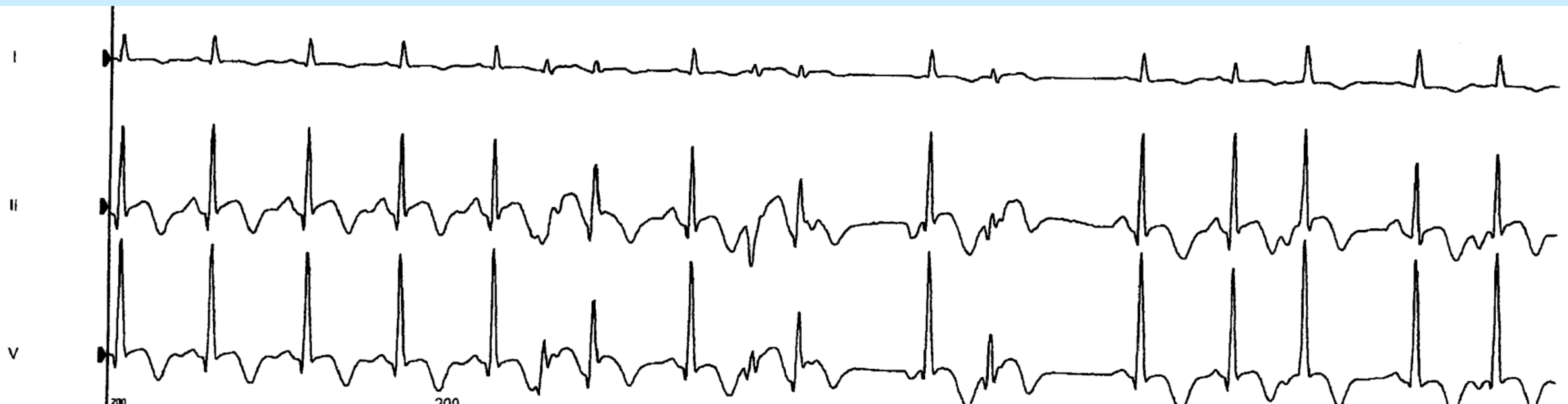


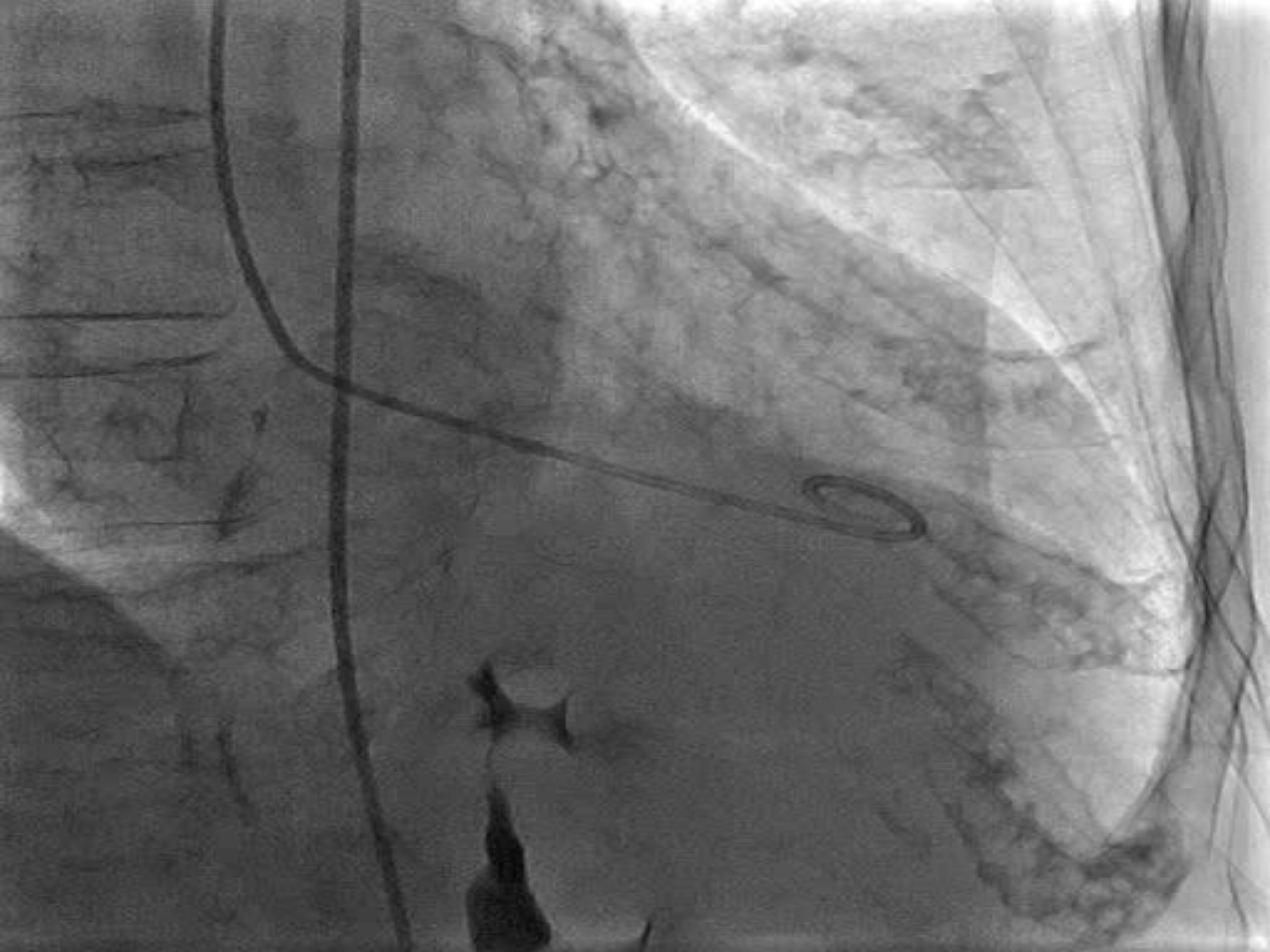
I
II
III
-aVR
aVL
aVF
V1
V2
V3
V4
V5
V6
1 mV
Velocità: 25mm/s Amp.: 10mm/mV Filtro: Monitoraggio

Caso n.3

- **G.A.T. anni 75**
- **Ipertesa in trattamento (ACE inibitore)**
- **Angor protratto insorto durante sforzo (cammino portando borse della spesa)**
- **All’ingresso : Hb 11.4 g/dl; creatinina 0.84 mg/dl ; CK picco 186 U/L; hsTNT 238 pg/ml**

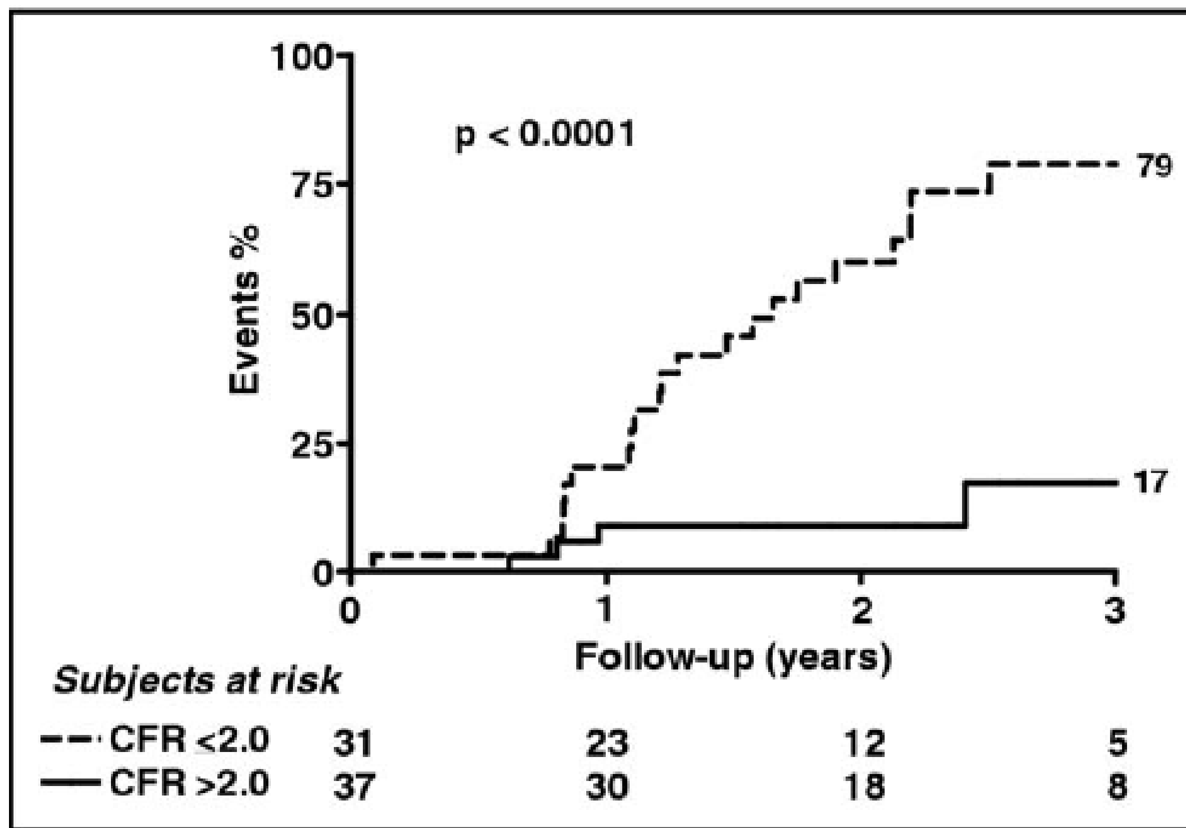
- **Ecocardiogramma: ASH , ostruzione dinamica , gradiente i.v. 72 mmHg**


I
II
V
P1 LV
153/16
29
182
189
195
200
194
127
112
179
132
174
119
109
120
137
138
145



Prognostic Implications of Coronary Flow Reserve on Left Anterior Descending Coronary Artery in Hypertrophic Cardiomyopathy

Lauro Cortigiani, MD[a,*], Fausto Rigo, MD[b], Sonia Gherardi, MD[c], Maurizio Galderisi, MD[d],
Rosa Sicari, MD, PhD[e], and Eugenio Picano, MD, PhD[e]



Caso n.3

- G.A.T. anni 75
- Ipertesa in trattamento (ACE inibitore)
- Angor protratto insorto durante sforzo (cammino portando borse della spesa)
- All’ingresso : Hb 11.4 g/dl; creatinina 0.84 mg/dl ; CK picco 186 U/L; hsTNT 238 pg/ml
- Ecocardiogramma: ASH , ostruzione dinamica , gradiente i.v. 72 mmHg

- **Alla coronarografia coronarie indenni da lesioni**
- **Dimessa in terapia con :**

- **Bisoprololo 3,75 mg**
- **ASA 100 mg**
- **Ramipril 5 mg**

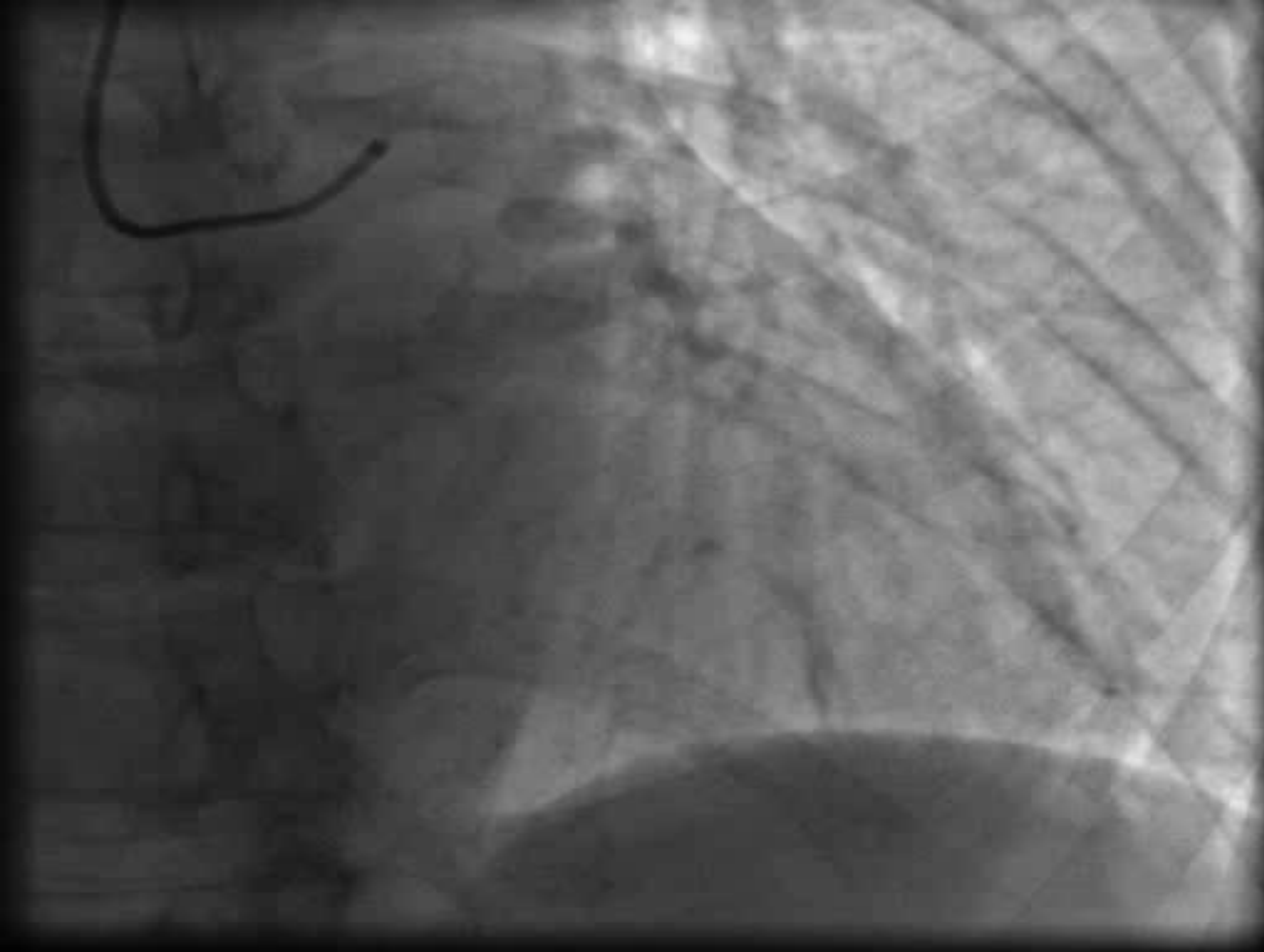
Caso n. 4

- T.A.F., donna , 70 anni
- Negli ultimi 15 anni , fasi con crisi subentranti di angina a riposo , accompagnate talora da sottoslivellamento di ST, intervallate a lunghi periodi di benessere.
- Due coronarografie (1995 e 1999, stenosi IVA media non critica). Posta diagnosi di “angina microvascolare “.

Caso n. 4

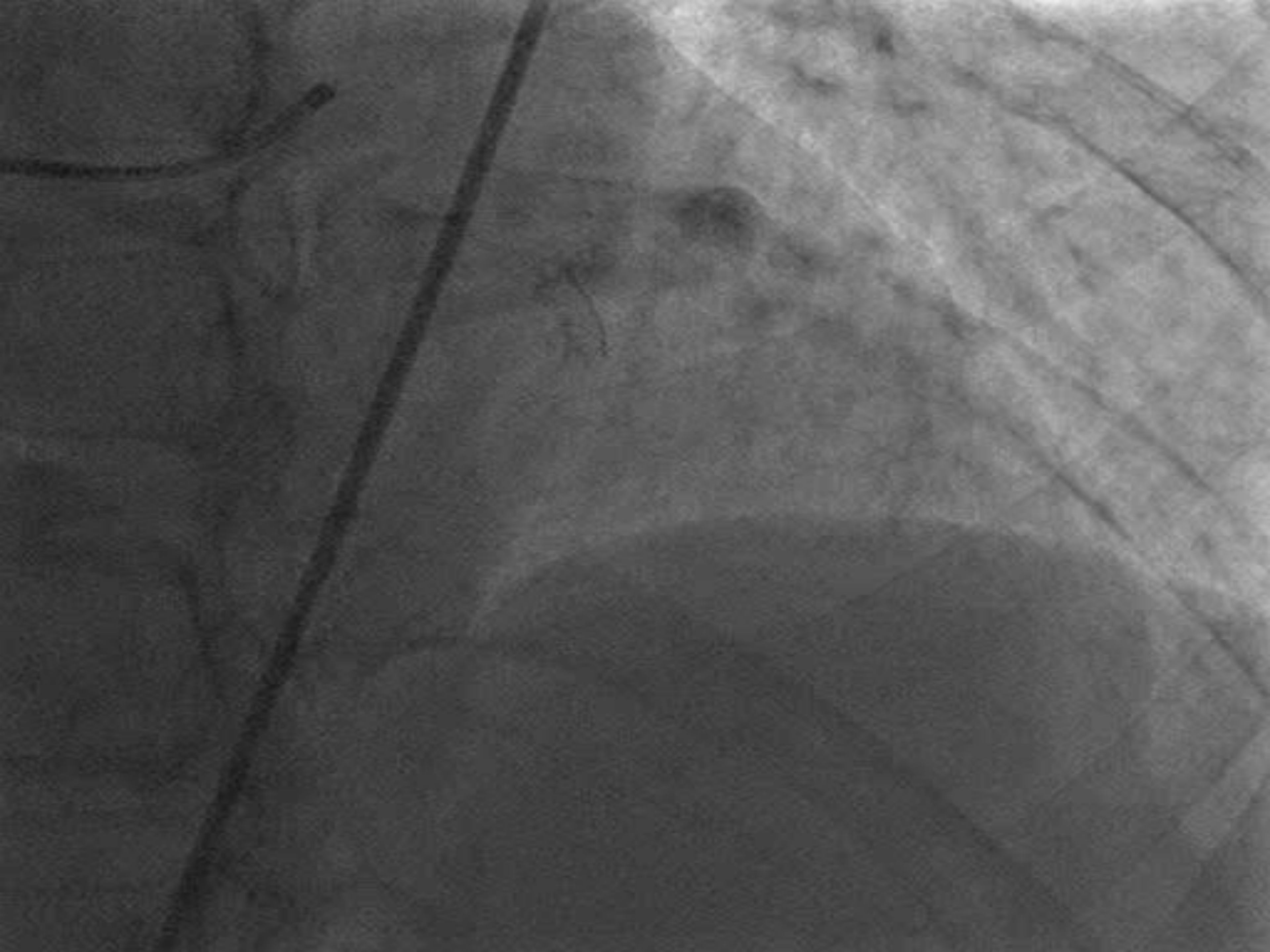
- T.A.F., donna , 70 anni
- Negli ultimi 15 anni , fasi con crisi subentranti di angina a riposo , accompagnate talora da sottoslivellamento di ST, intervallate a lunghi periodi di benessere.
- Due coronarografie (1995 e 1999, stenosi IVA media non critica). Posta diagnosi di “angina microvascolare “.

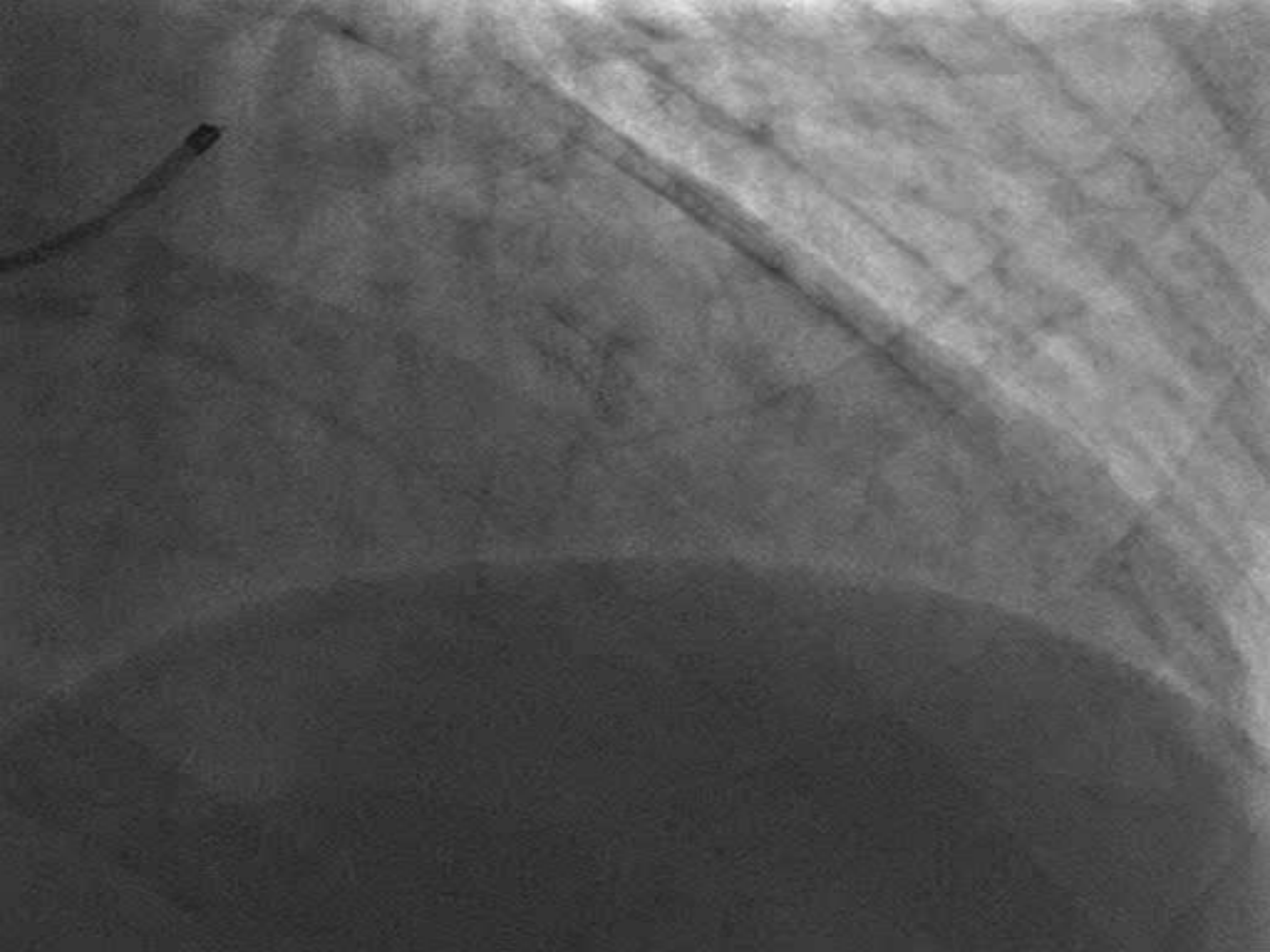
- **Accesso per angor e sottoslivellamento di ST nel marzo 2011**



Caso n. 4

- Dopo la PCI , lamenta ancora episodi di angina taluni con modificazioni ecg . Al controllo coronarografico , durante il ricovero, lo stent e' pervio , senza immagini di trombosi intrastent.
- Dimessa in politerapia (betabloccante , nitroderivato, ranolazina , doppio antiaggregante)
- Nel giugno 2011 , crisi anginosa prolungata con modificazioni ecg e positivita' della troponina.
- Posta di nuovo indicazione a coronarografia .





Caso n. 4

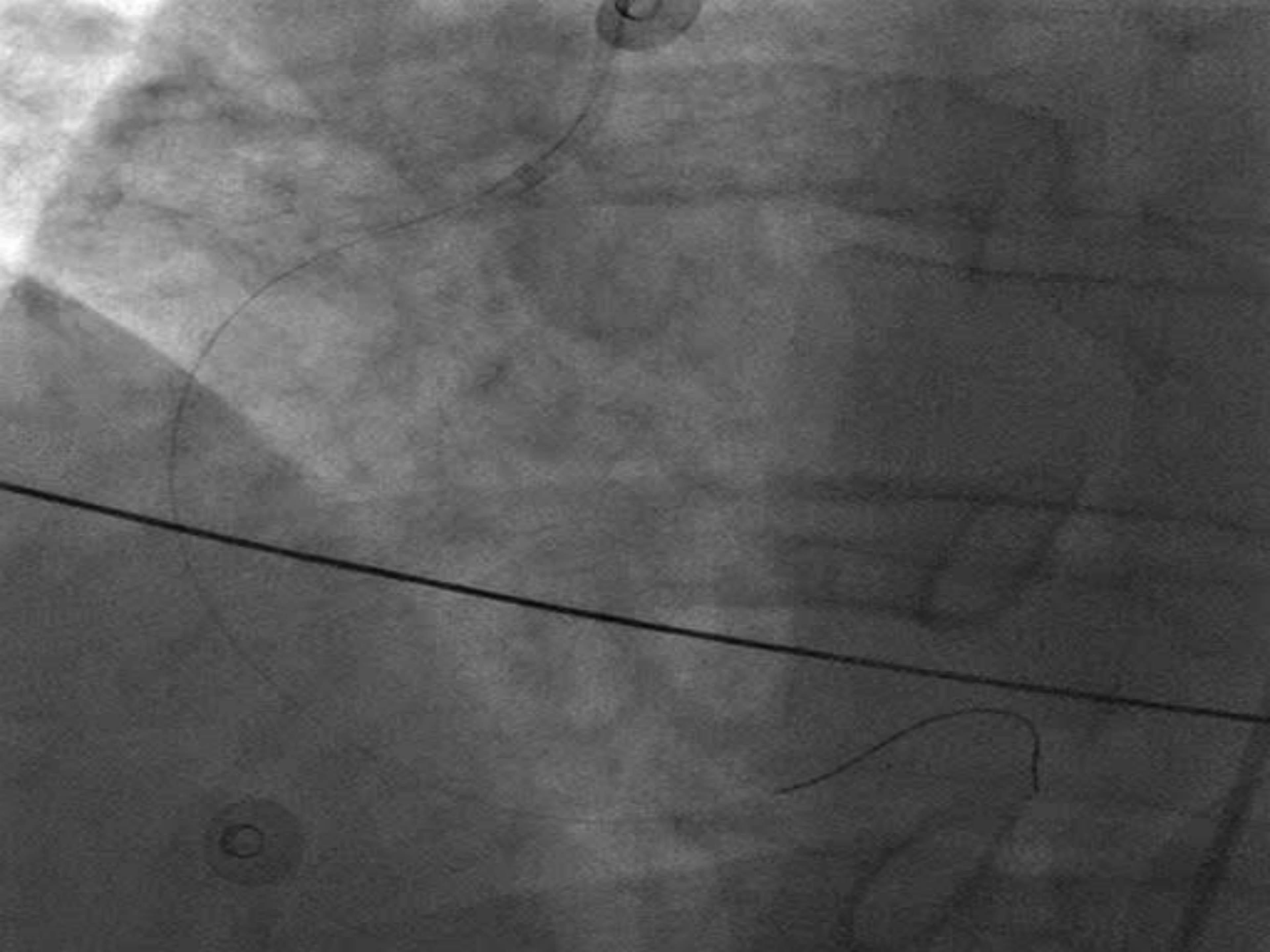
- Dopo la PCI , lamenta ancora episodi di angina taluni con modificazioni ecg . Al controllo coronarografico successivo lo stent e' pervio , senza immagini di trombosi intrastent.
- Dimessa in politerapia (betabloccante , nitroderivato, ranolazina , doppio antiaggregante)
- Nel giugno 2011 , crisi anginosa prolungata con modificazioni ecg e positivita' della troponina.
- Posta di nuovo indicazione a coronarografia .

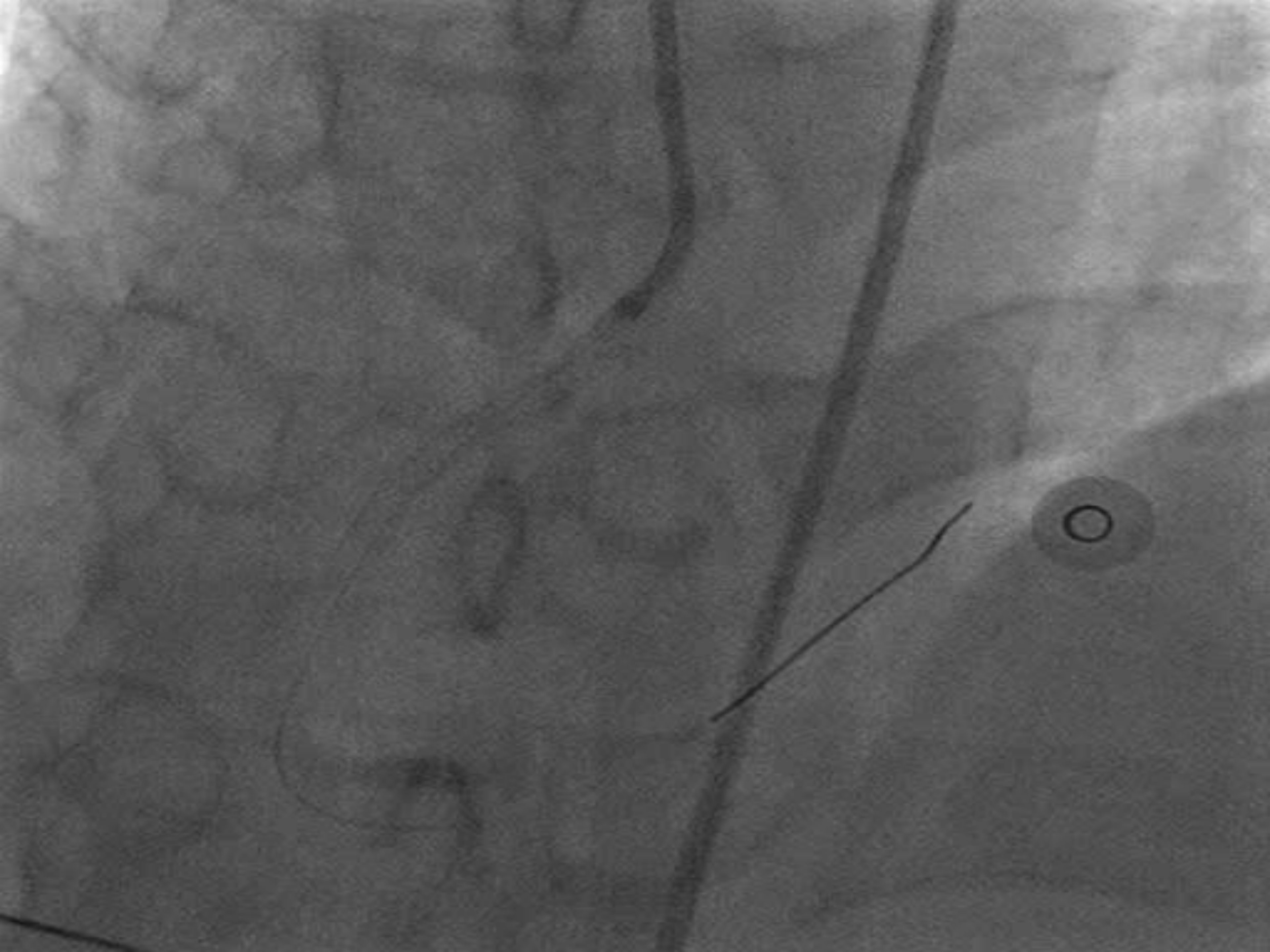
- **Dimessa in terapia con :**

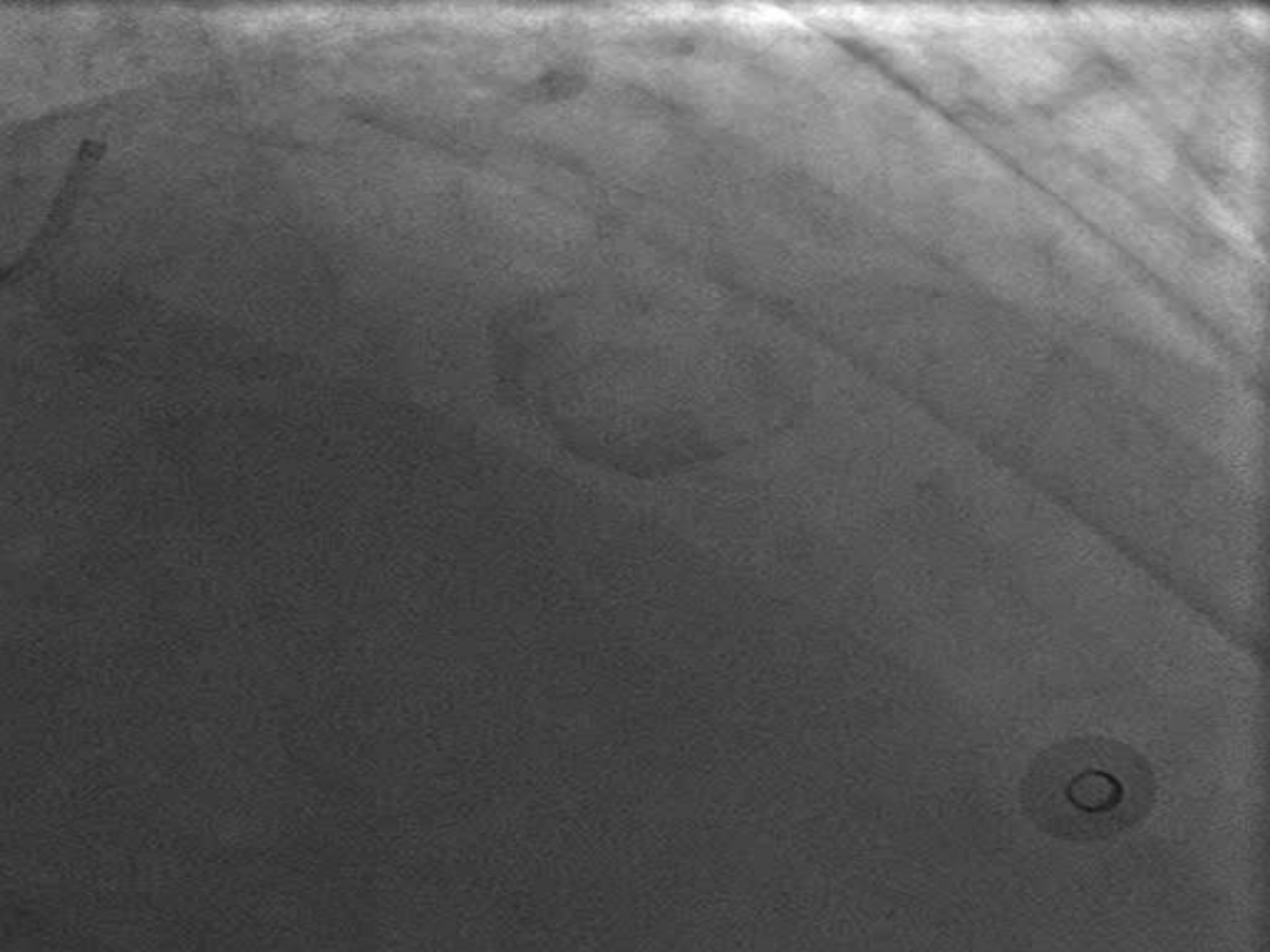
- **ASA 100 mg**
- **Clopidogrel 75 mg**
- **Diltiazem 120 mg x 2**
- **Simvastatina 40 mg**

Caso n. 5

- C. A. anni 50
- Iperteso , fumatore , obeso .
- Ricovero per angor senza modificazioni ecg , troponina positiva (picco 38 pg/ml) nel novembre 2011. Eseguita coronarografia.
- Dimesso con betabloccante e doppia terapia antiaggregante (ASA + clopidogrel)







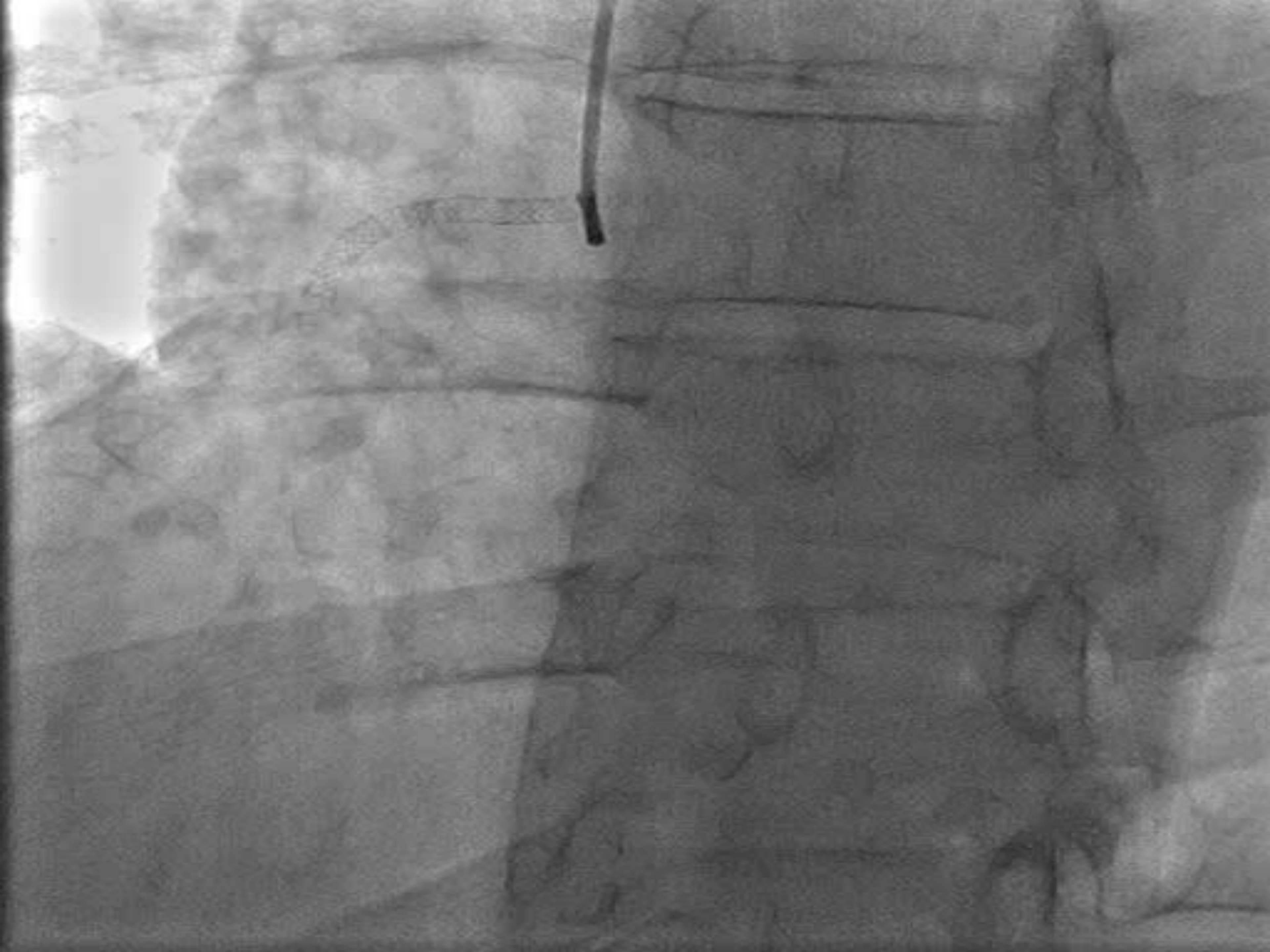
Caso n. 5

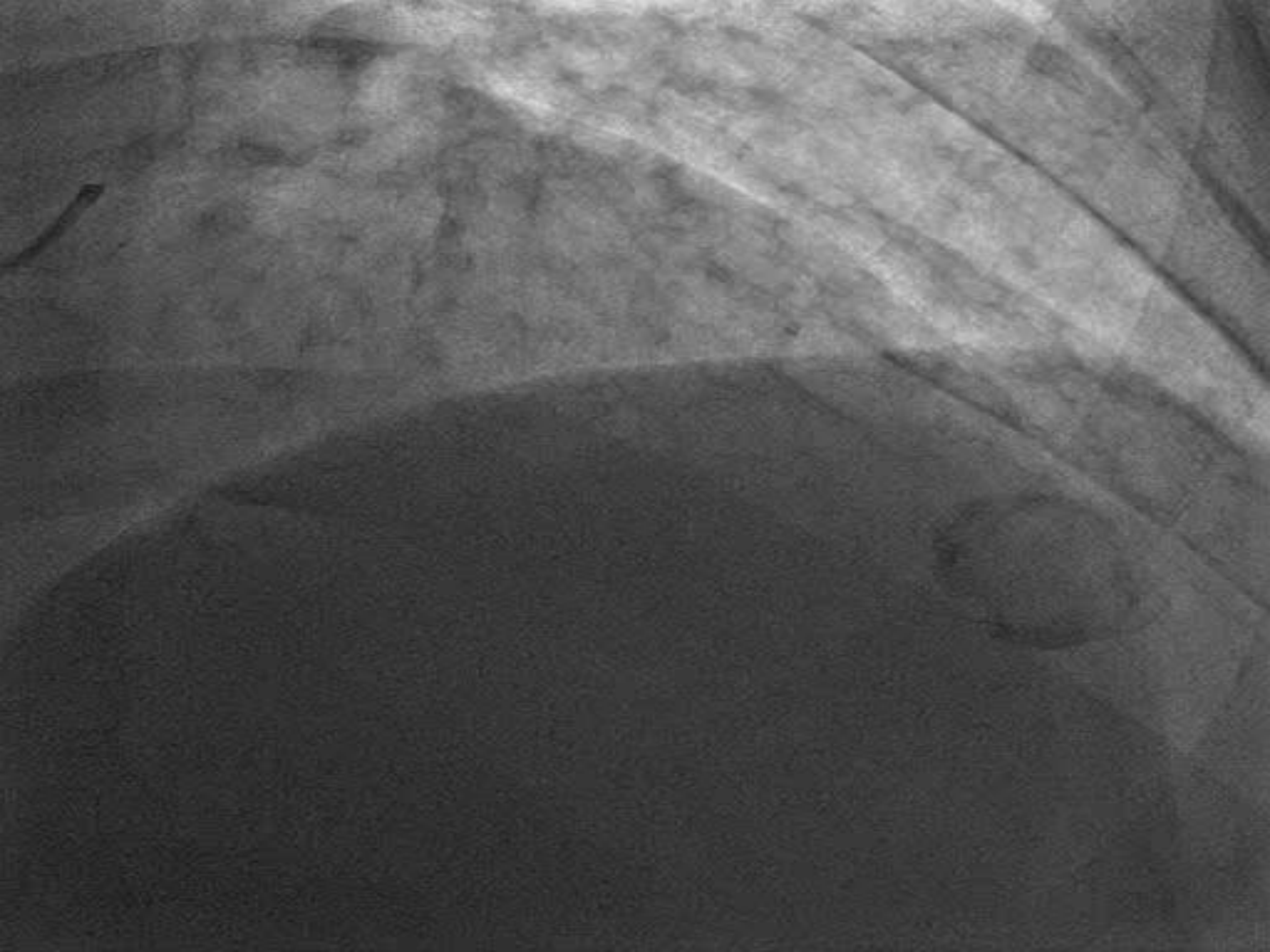
- C. A. anni 50
- Iperteso , fumatore , obeso .
- Ricovero per angor senza modificazioni ecg , troponina positiva (picco 38 pg/ml) nel novembre 2011. Eseguita coronarografia.

- Dimesso con betabloccante , statina e doppia terapia antiaggregante (ASA + clopidogrel)

Caso n. 5

- C.A. anni 50
- Ha continuato a fumare , il peso e’ sempre eccessivo. Dice di essere stato compliante alla terapia (inclusa DAPT)
- Rientra per angor a luglio . Ecg non ischemico , troponina lievemente aumentata (20 pg/ml).





Caso n. 5

- C.A. anni 50
- Ha continuato a fumare , il peso e' sempre eccessivo. Dice di essere stato compliante alla terapia (inclusa DAPT)
- Rientra per angor a luglio . Ecg non ischemico , troponina lievemente aumentata (20 pg/ml).

- Dimesso in terapia con :

- ASA 100 mg
- Ticagrelor 90 mg x 2
- Bisoprololo 2,5 mg
- Atorvastatina 40 mg

Conclusioni (I)

- Nella maggior parte dei pazienti con diagnosi di NSTEMI e coronarie non signficativamente alterate , la RMN non mostra evidenza di necrosi miocardica. L'accuratezza della diagnosi va percio' controllata.

Conclusioni (II)

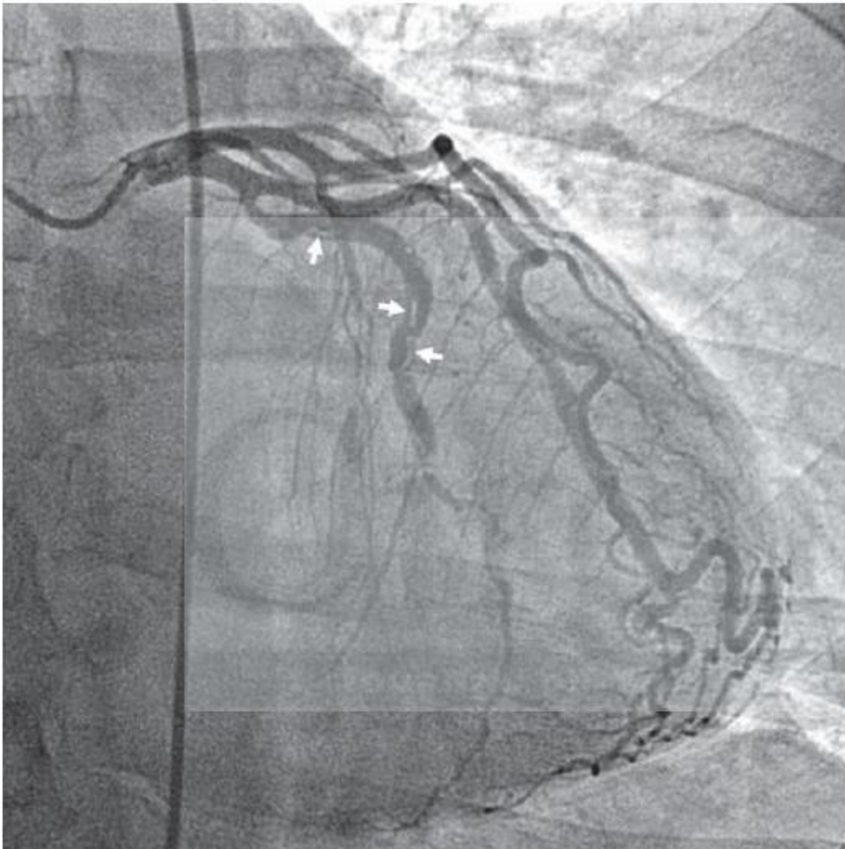
- I pazienti con malattia coronarica anche se non significatica , hanno una prognosi peggiore rispetto ai pazienti con albero coronarico completamente normale.
- In molti pazienti (ma non in tutti) con NSTEMI e coronarie non alterate in modo signficativo , l'analisi dei dati anamnestici, clinici e angiografici permette di individuare la patogenesi dell'evento acuto.

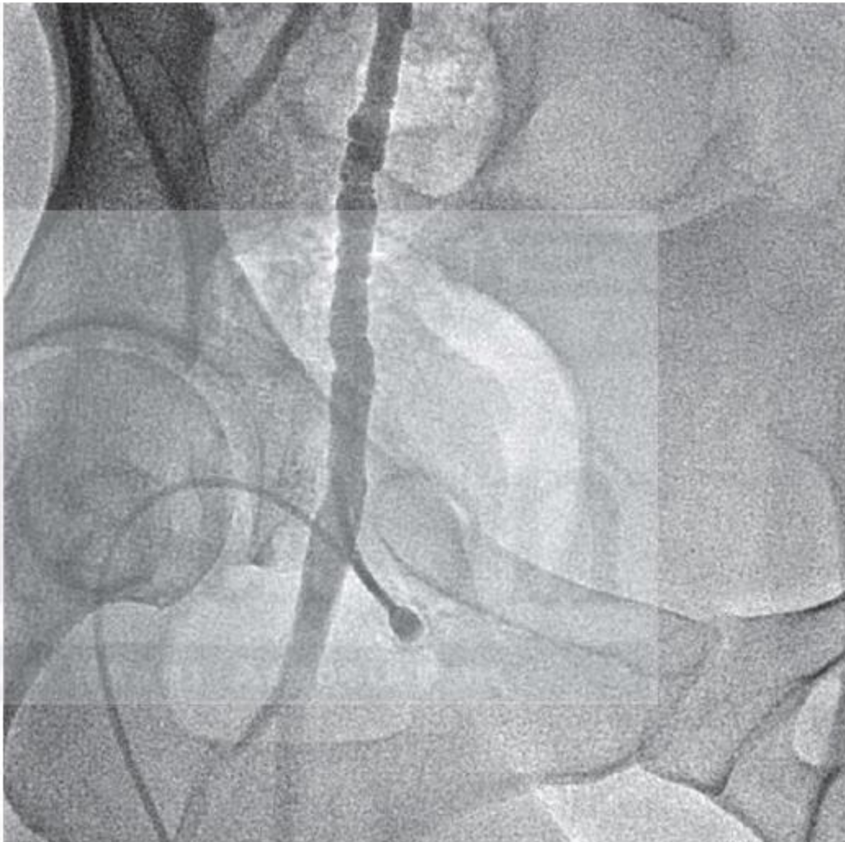
Clinical Features, Management and Prognosis of Spontaneous Coronary Artery Dissection

Marysia S. Tweet, Sharonne N. Hayes, Sridevi R. Pitta, Robert D. Simari, Amir Lerman, Ryan J. Lennon, Bernard J. Gersh, Sherezade Khambatta, Patricia J.M. Best, Charanjit S. Rihal and Rajiv Gulati

Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION

Circulation. published online July 16, 2012;



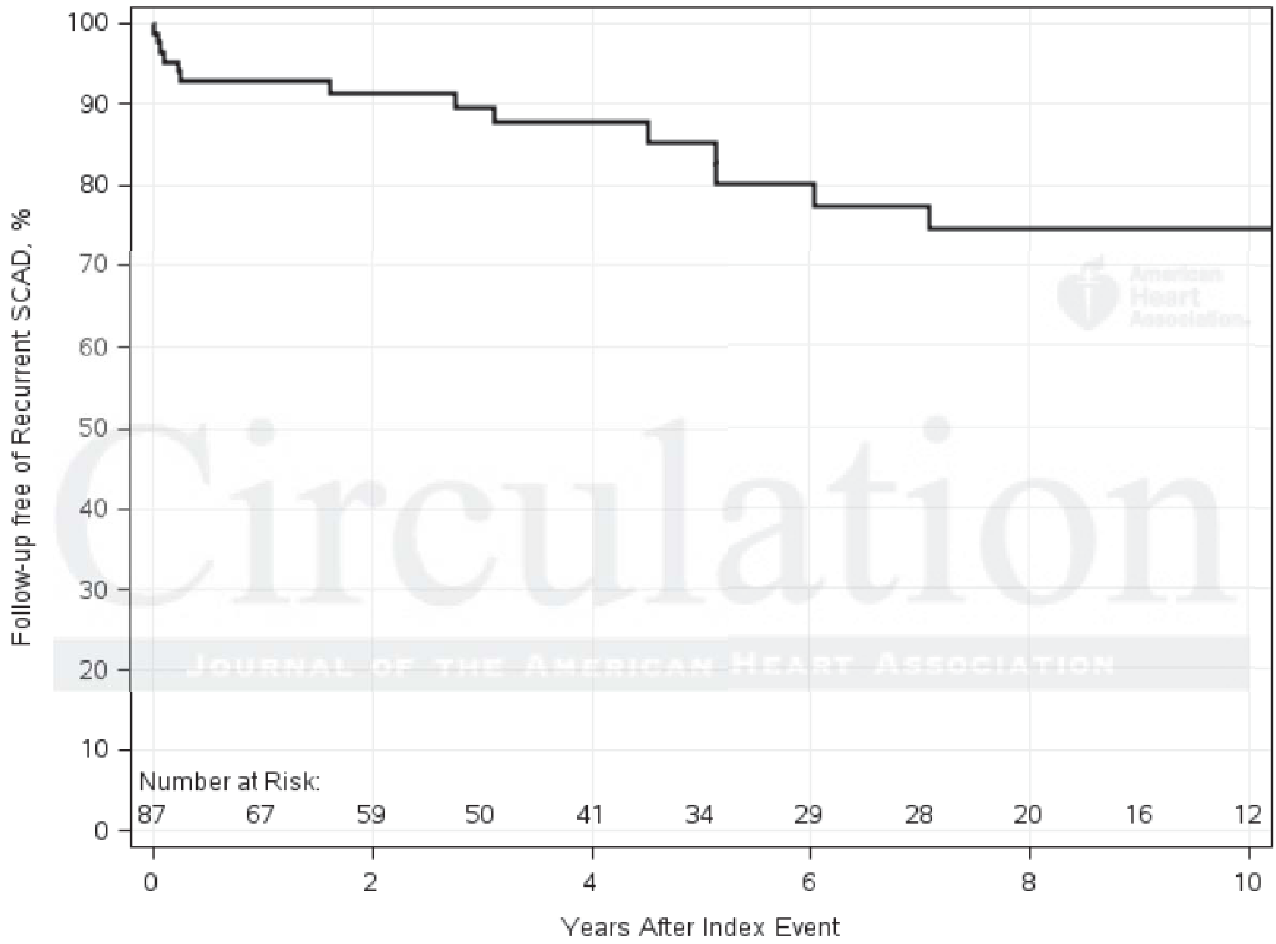


Clinical Features, Management and Prognosis of Spontaneous Coronary Artery Dissection

Marysia S. Tweet, Sharonne N. Hayes, Sridevi R. Pitta, Robert D. Simari, Amir Lerman, Ryan J. Lennon, Bernard J. Gersh, Sherezade Khambatta, Patricia J.M. Best, Charanjit S. Rihal and Rajiv Gulati

Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION

Circulation. published online July 16, 2012;



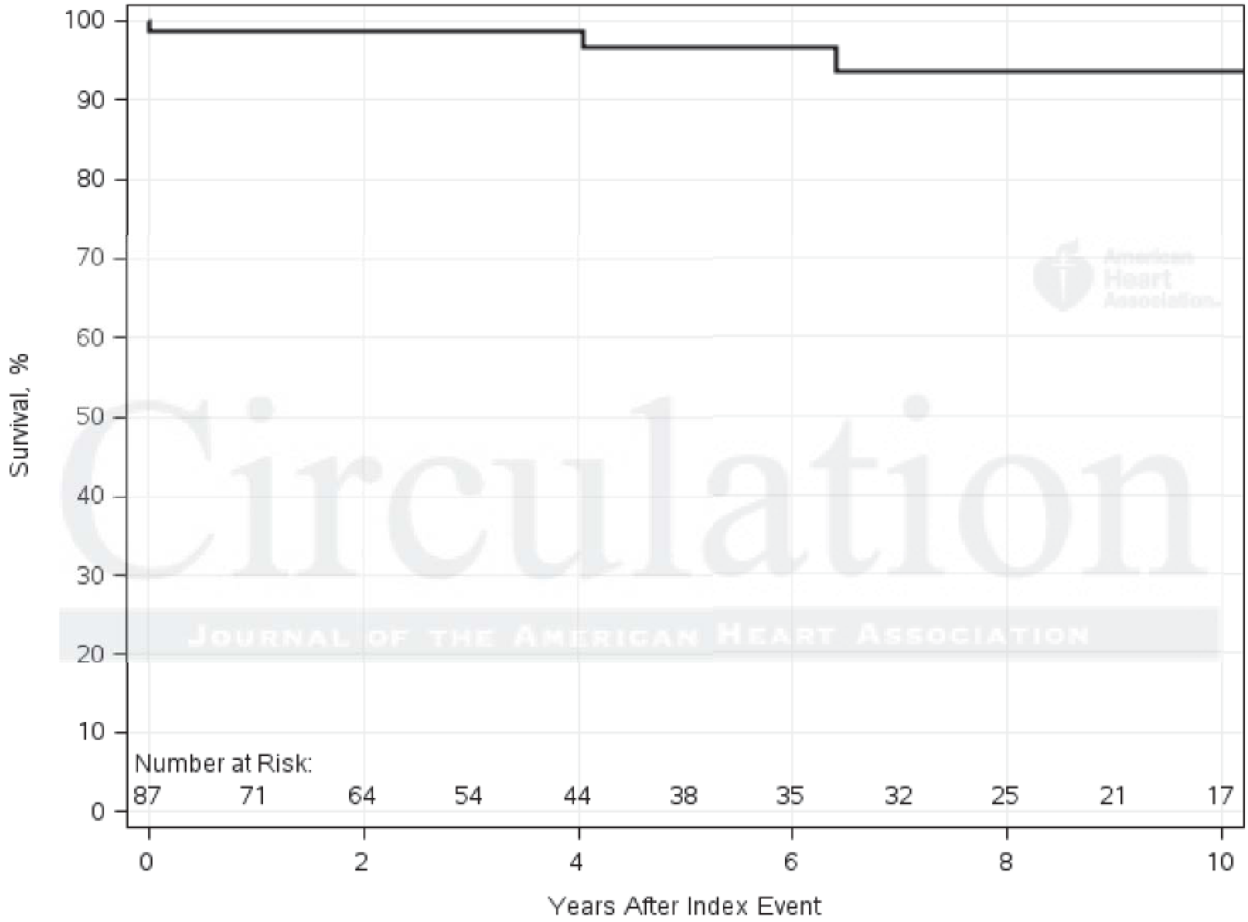
- Inserire caso Diss spontanea

Clinical Features, Management and Prognosis of Spontaneous Coronary Artery Dissection

Marysia S. Tweet, Sharonne N. Hayes, Sridevi R. Pitta, Robert D. Simari, Amir Lerman, Ryan J. Lennon, Bernard J. Gersh, Sherezade Khambatta, Patricia J.M. Best, Charanjit S. Rihal and Rajiv Gulati

Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION

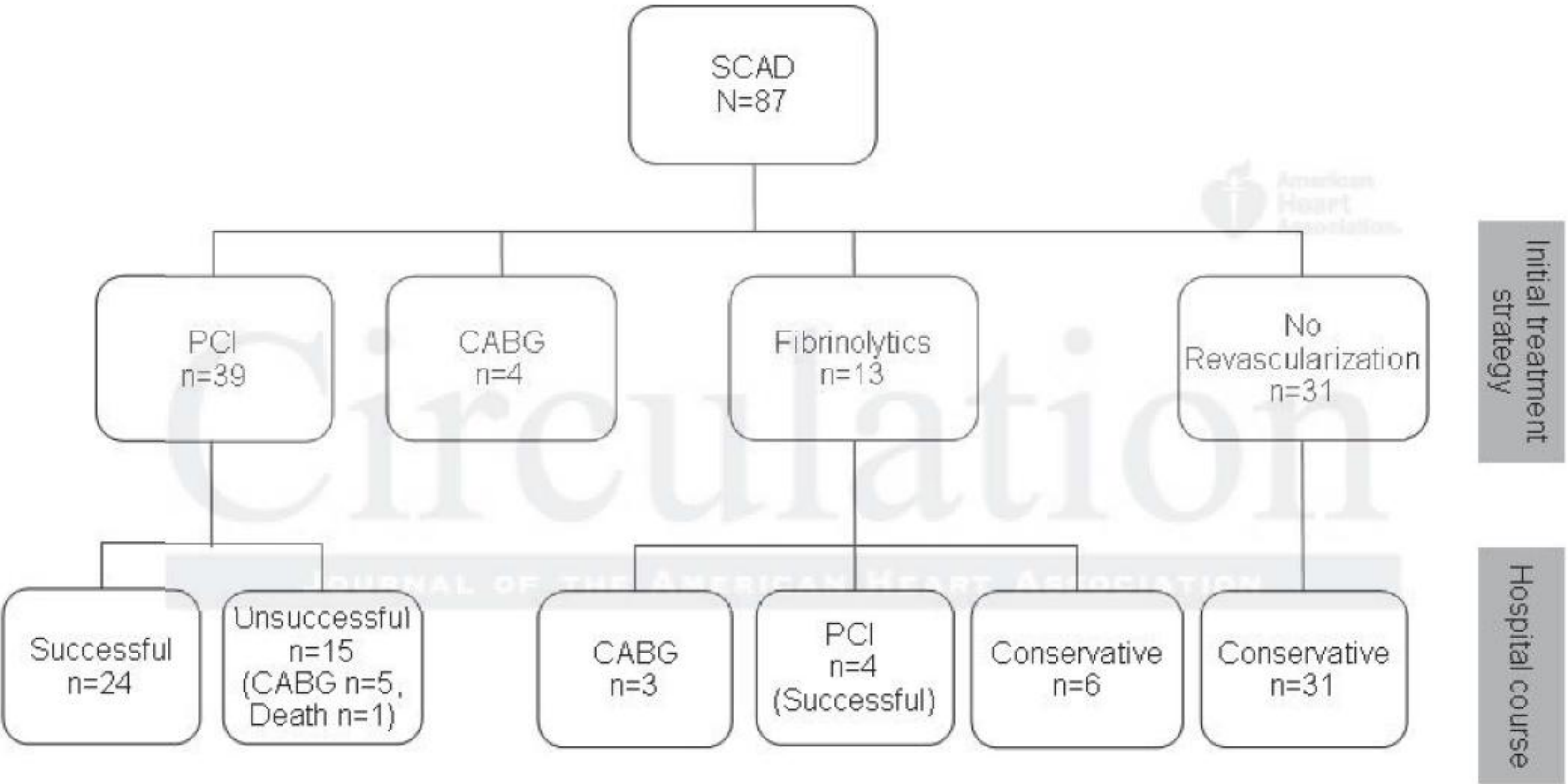
Circulation. published online July 16, 2012;



Clinical Features, Management and Prognosis of Spontaneous Coronary Artery Dissection
Marysia S. Tweet, Sharonne N. Hayes, Sridevi R. Pitta, Robert D. Simari, Amir Lerman, Ryan J. Lennon, Bernard J. Gersh, Sherezade Khambatta, Patricia J.M. Best, Charanjit S. Rihal and Rajiv Gulati

Circulation. published online July 16, 2012;

Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION

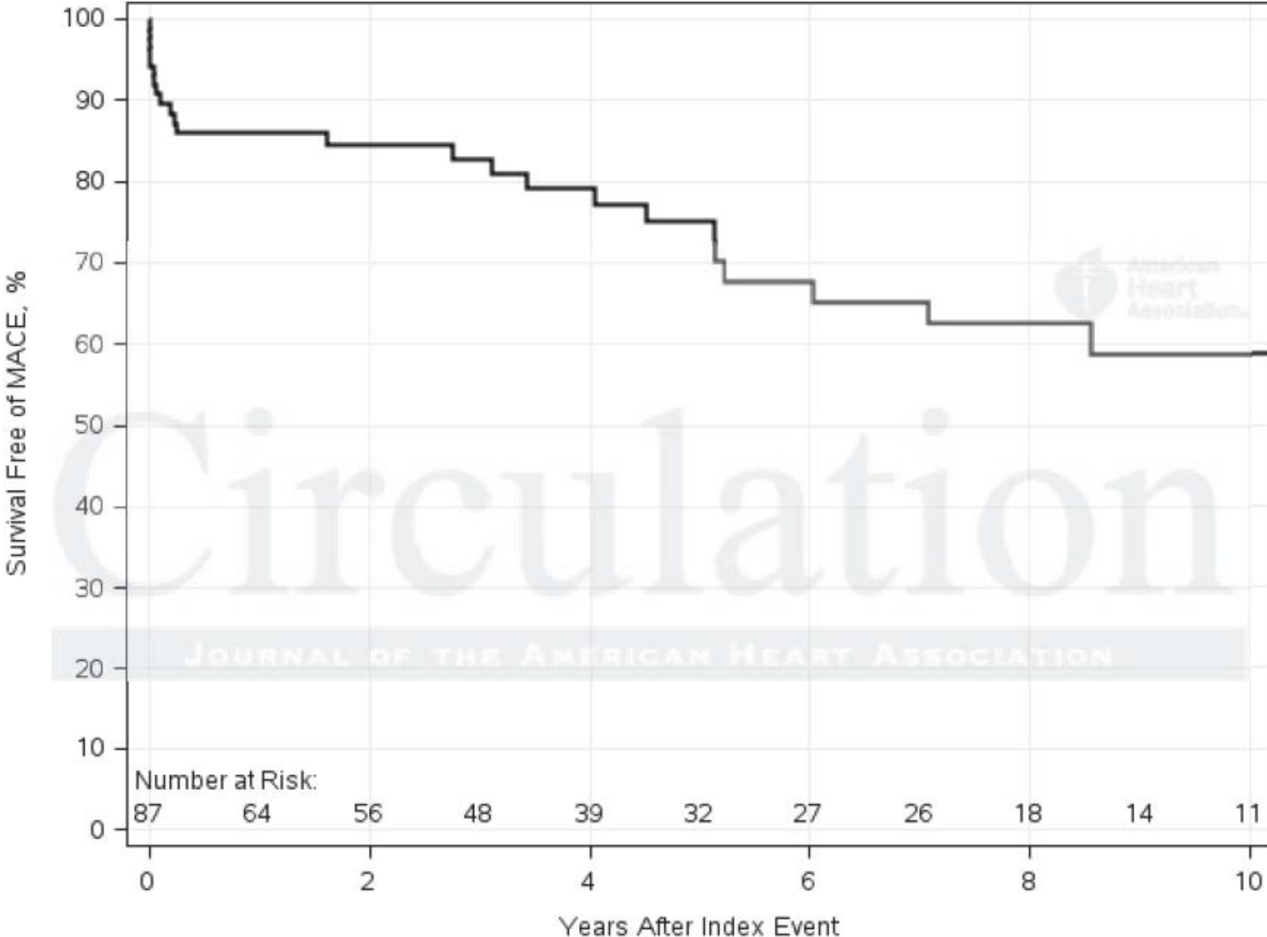


Clinical Features, Management and Prognosis of Spontaneous Coronary Artery Dissection

Marysia S. Tweet, Sharonne N. Hayes, Sridevi R. Pitta, Robert D. Simari, Amir Lerman, Ryan J. Lennon, Bernard J. Gersh, Sherezade Khambatta, Patricia J.M. Best, Charanjit S. Rihal and Rajiv Gulati

Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION

Circulation. published online July 16, 2012;

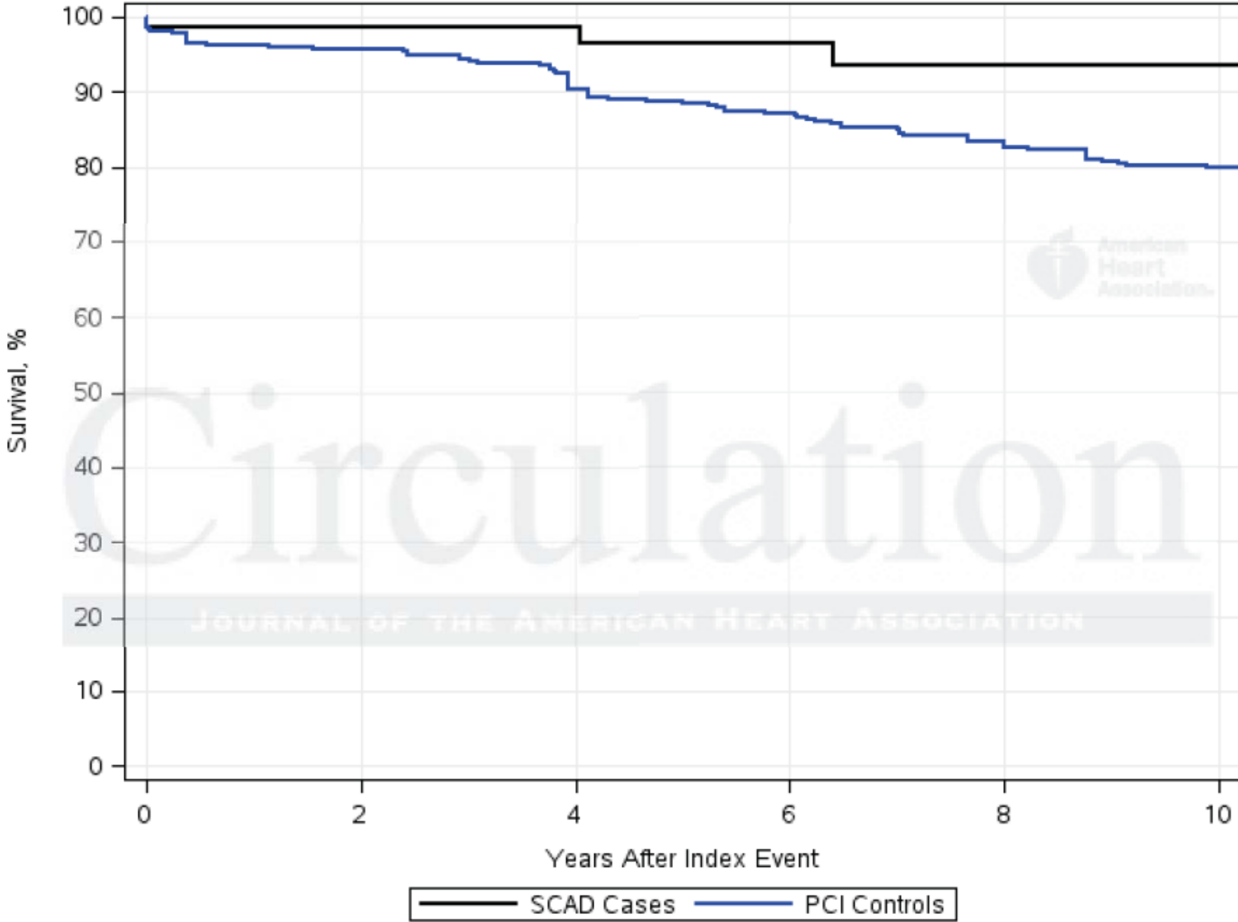


Clinical Features, Management and Prognosis of Spontaneous Coronary Artery Dissection

Marysia S. Tweet, Sharonne N. Hayes, Sridevi R. Pitta, Robert D. Simari, Amir Lerman, Ryan J. Lennon, Bernard J. Gersh, Sherezade Khambatta, Patricia J.M. Best, Charanjit S. Rihal and Rajiv Gulati

Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION

Circulation. published online July 16, 2012;



Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION
American Heart Association

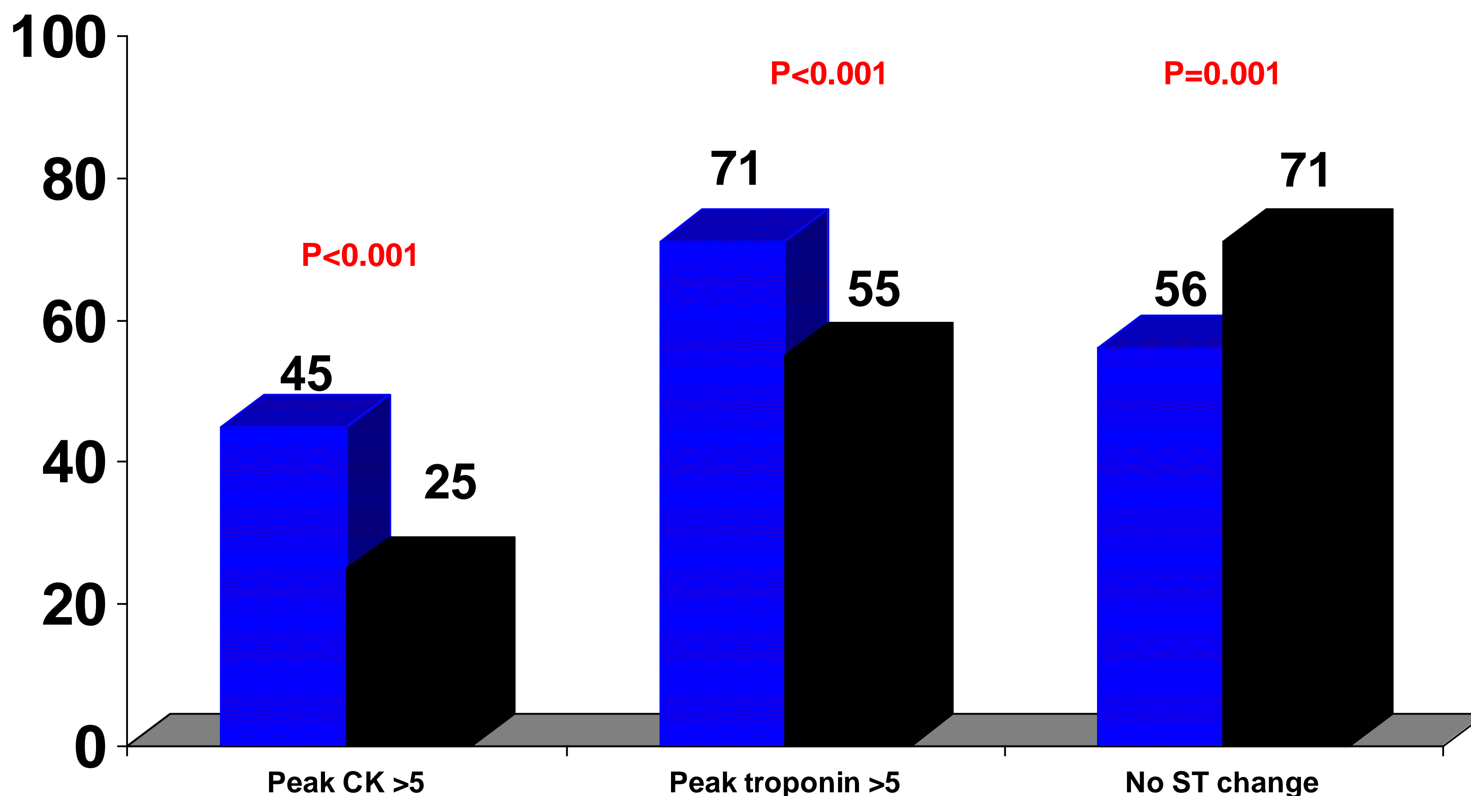
Prevalence, predictors, and outcomes of patients with non–ST-segment elevation myocardial infarction and insignificant coronary artery disease: Results from the Can Rapid risk stratification of Unstable angina patients Suppress ADverse outcomes with Early implementation of the ACC/AHA Guidelines (CRUSADE) initiative

Manesh R. Patel, MD,[a] Anita Y. Chen, MS,[a] Eric D. Peterson, MD, MPH,[a] L. Kristin Newby, MD, MHS,[a] Charles V. Pollack, Jr., MD, MA,[b] Ralph G. Brindis, MD, MPH,[c] C. Michael Gibson, MD,[d] Neal S. Kleiman, MD,[e] Jorge F. Saucedo, MD,[f] Deepak L. Bhatt, MD,[g] W. Brian Gibler, MD,[h] E. Magnus Ohman, MD,[a] Robert A. Harrington, MD,[a] and Matthew T. Roe, MD, MHS[a] *Durham, NC; Philadelphia, PA; San Francisco, CA; Boston, MA; Oklahoma City, OK; and Cleveland, and Cincinnati, OH*

American Heart Journal
October 2006

No CAD

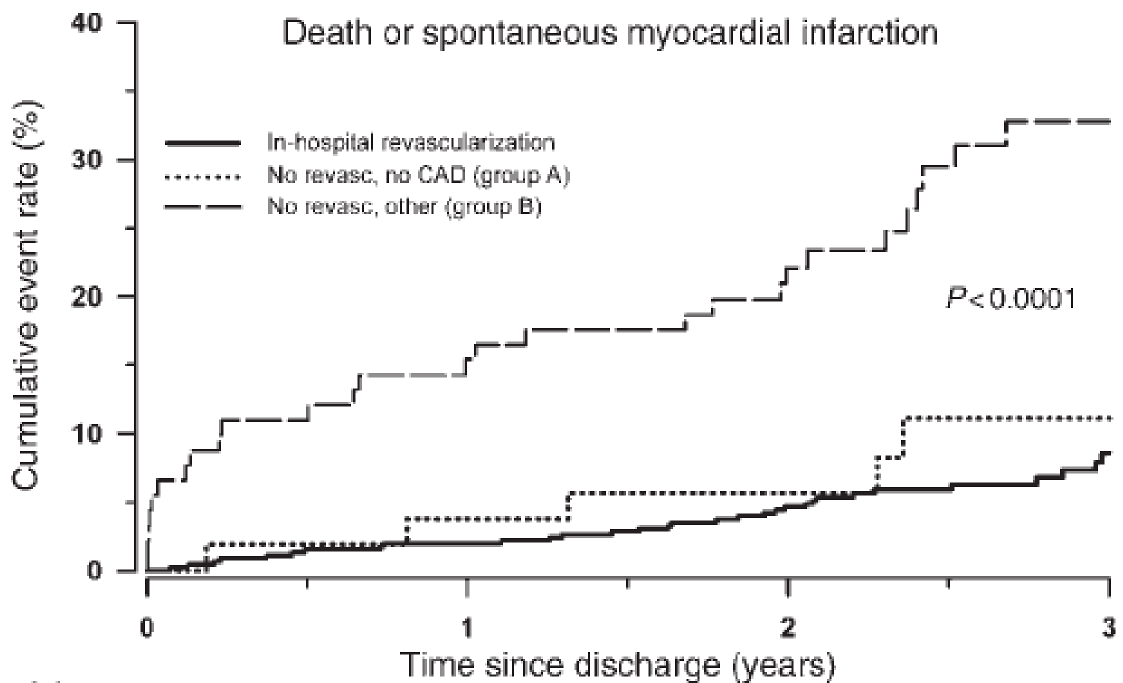
CAD



Diverging associations of an intended early invasive strategy compared with actual revascularization, and outcome in patients with non-ST-segment elevation acute coronary syndrome: the problem of treatment selection bias

European Heart Journal (2009) **30**, 645–654

Alexander Hirsch[1], Fons Windhausen[1], Jan G.P. Tijssen[1], Anthonius J.M. Oude Ophuis[2], Willem J. van der Giessen[3], P. Marc van der Zee[1], Jan Hein Cornel[4], Freek W.A. Verheugt[5], and Robbert J. de Winter[1]* for the Invasive versus Conservative Treatment in Unstable coronary Syndromes (ICTUS) Investigators

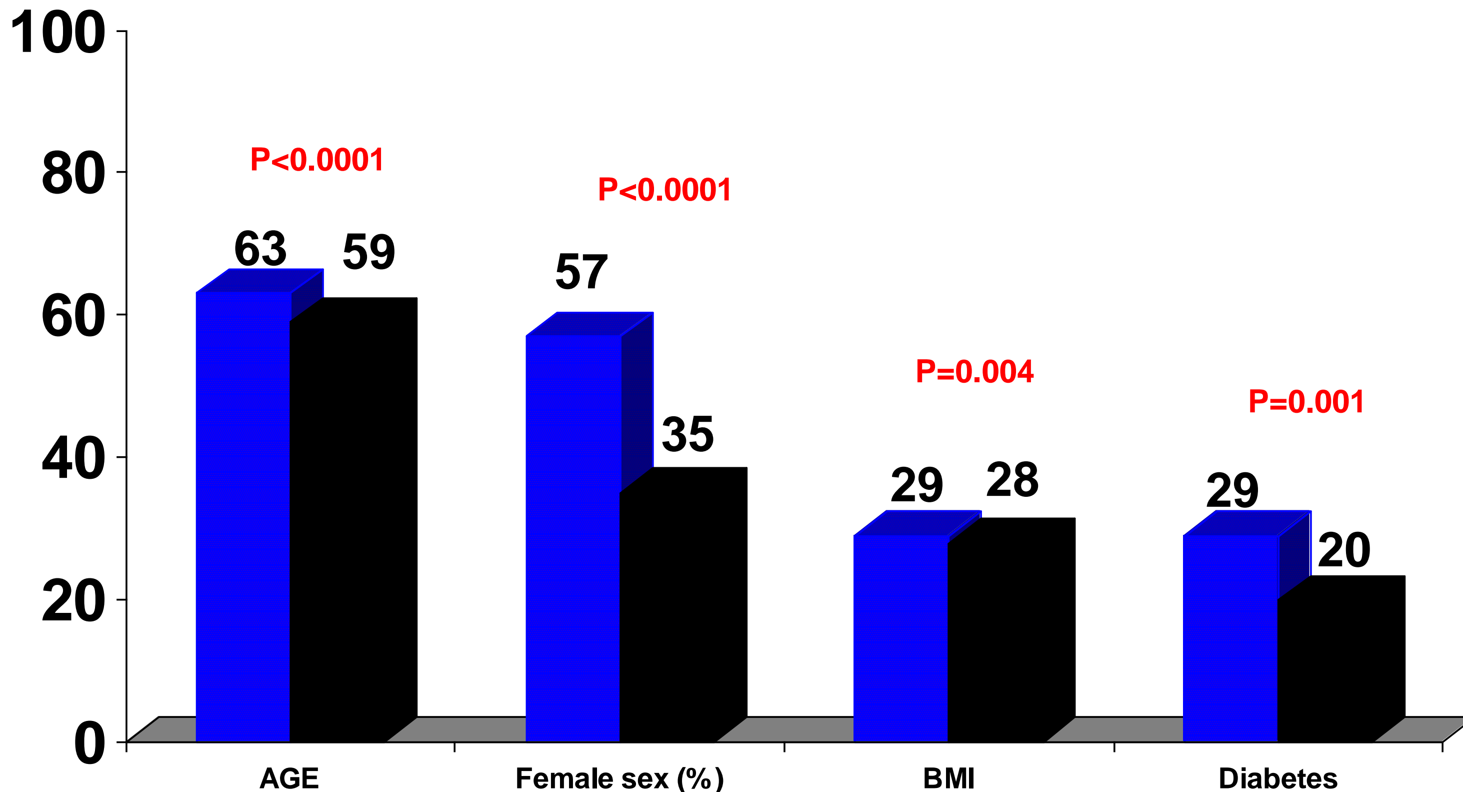


Number at risk				
Revascularization	454	445	423	137
No revasc, no CAD	53	51	49	14
No revasc, other	91	77	66	24

Prevalence, predictors, and outcomes of patients with non–ST-segment elevation myocardial infarction and insignificant coronary artery disease: Results from the Can Rapid risk stratification of Unstable angina patients Suppress ADverse outcomes with Early implementation of the ACC/AHA Guidelines (CRUSADE) initiative

Manesh R. Patel, MD,[a] Anita Y. Chen, MS,[a] Eric D. Peterson, MD, MPH,[a] L. Kristin Newby, MD, MHS,[a] Charles V. Pollack, Jr., MD, MA,[b] Ralph G. Brindis, MD, MPH,[c] C. Michael Gibson, MD,[d] Neal S. Kleiman, MD,[e] Jorge F. Saucedo, MD,[f] Deepak L. Bhatt, MD,[g] W. Brian Gibler, MD,[h] E. Magnus Ohman, MD,[a] Robert A. Harrington, MD,[a] and Matthew T. Roe, MD, MHS[a] *Durham, NC; Philadelphia, PA; San Francisco, CA; Boston, MA; Oklahoma City, OK; and Cleveland, and Cincinnati, OH*

American Heart Journal
October 2006



Acute Ischemic Heart Disease

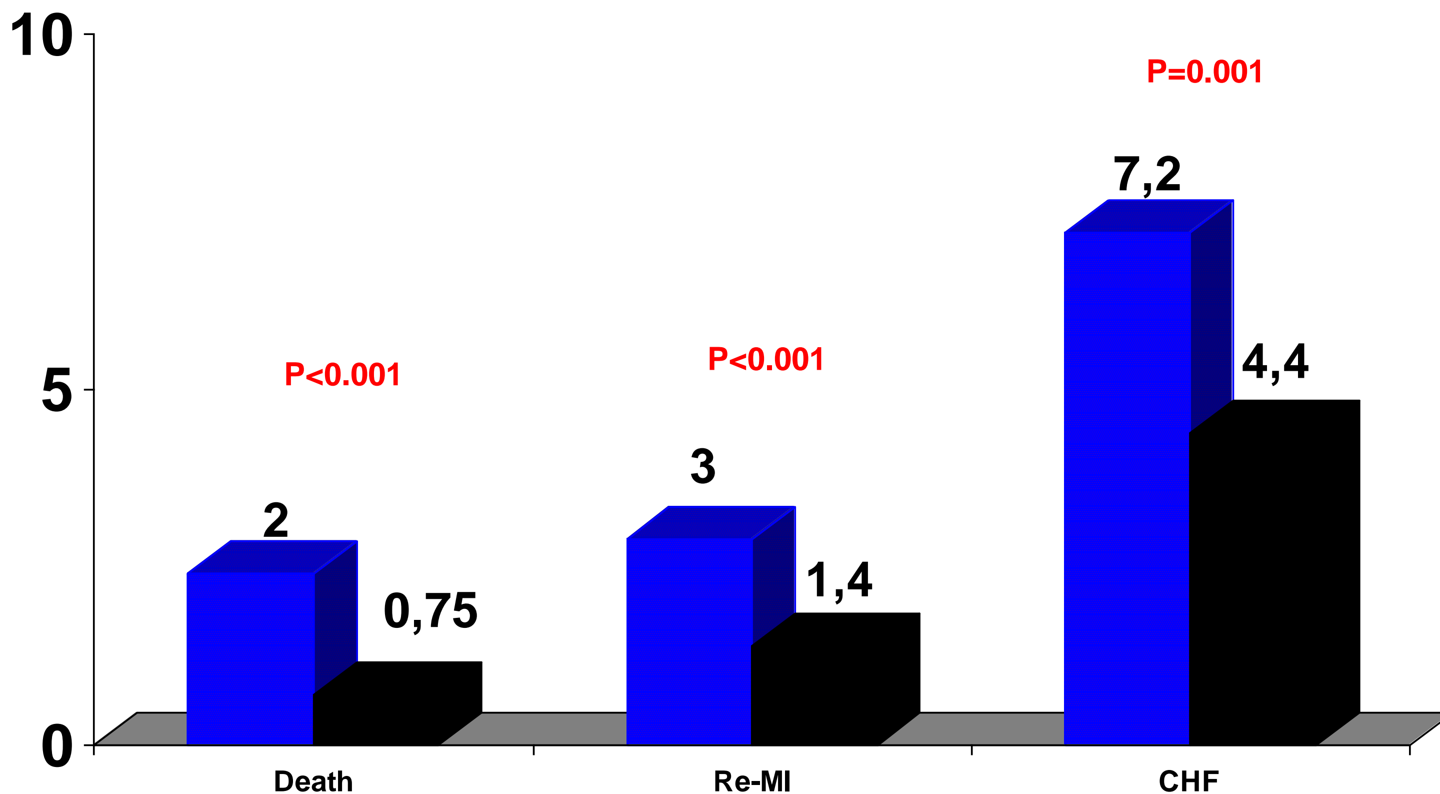
Prevalence, predictors, and outcomes of patients with non–ST-segment elevation myocardial infarction and insignificant coronary artery disease: Results from the Can Rapid risk stratification of Unstable angina patients Suppress ADverse outcomes with Early implementation of the ACC/AHA Guidelines (CRUSADE) initiative

Manesh R. Patel, MD,[a] Anita Y. Chen, MS,[a] Eric D. Peterson, MD, MPH,[a] L. Kristin Newby, MD, MHS,[a] Charles V. Pollack, Jr., MD, MA,[b] Ralph G. Brindis, MD, MPH,[c] C. Michael Gibson, MD,[d] Neal S. Kleiman, MD,[e] Jorge F. Saucedo, MD,[f] Deepak L. Bhatt, MD,[g] W. Brian Gibler, MD,[h] E. Magnus Ohman, MD,[a] Robert A. Harrington, MD,[a] and Matthew T. Roe, MD, MHS[a] *Durham, NC; Philadelphia, PA; San Francisco, CA; Boston, MA; Oklahoma City, OK; and Cleveland, and Cincinnati, OH*

American Heart Journal
October 2006

No CAD

CAD



Adverse Cardiovascular Outcomes in Women With Nonobstructive Coronary Artery Disease:

A Report From the Women's Ischemia Syndrome Evaluation Study and the St James Women Take Heart Project

Arch Intern Med. 2009 May 11; 169(9): 843–850.

Martha Gulati, MD, MS, Rhonda M. Cooper-DeHoff, PharmD, MS, Candace McClure, BS, B. Delia Johnson, PhD, Leslee J. Shaw, PhD, Eileen M. Handberg, PhD, Issam Zineh, PharmD, Sheryl F. Kelsey, PhD, Morton F. Arnsdorf, MD, Henry R. Black, MD, Carl J. Pepine, MD, and C. Noel Bairey Merz, MD