STEMI Case Study

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SANFORD HEALTH BISMARCK

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Disclosures

None

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Case Study

57 year old male

Past medical history:

- Overweight (BMI 28)
- Hyperlipidemia
- Leukemia
- Former smoker → Quit 2003
- No known prior coronary artery disease history

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Presenting Symptoms

Sudden onset chest pain 10/10 at 22:00

Diaphoresis

Pallor

Left arm pain & tingling

Hyperventilation

Anxiety

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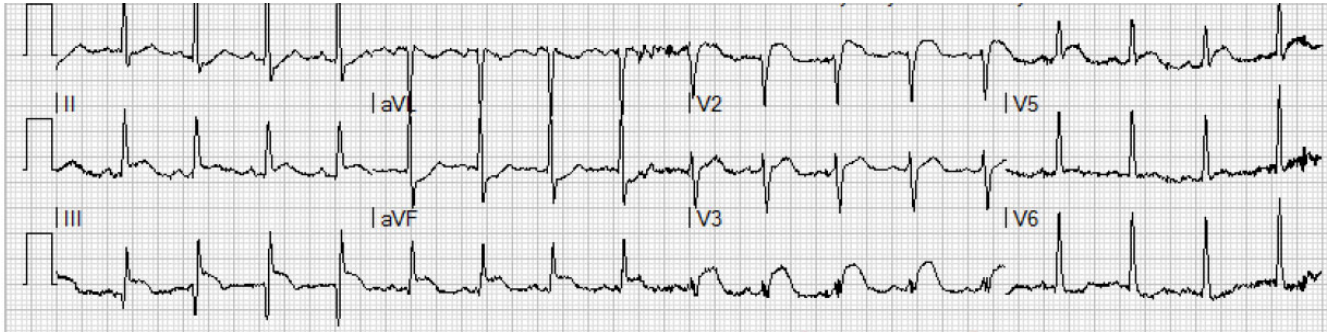
EMS Patient Contact 22:34

VS:

- BP 121/71 | P 105| R 19 | SPO2 99%

12 Lead EKG at 22:37 → repeated 5 times

- 3 minutes (goal <10)



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EMS Interventions

Medications

- 1 spray (0.4 mg) sublingual Nitro
- 162 mg aspirin (wife gave 162 mg prior to calling EMS)
- 1 mg lorazepam

IV access (18 g left antecubital)

Placement of defibrillator pads

Lifenet EKG Transmission at 22:54

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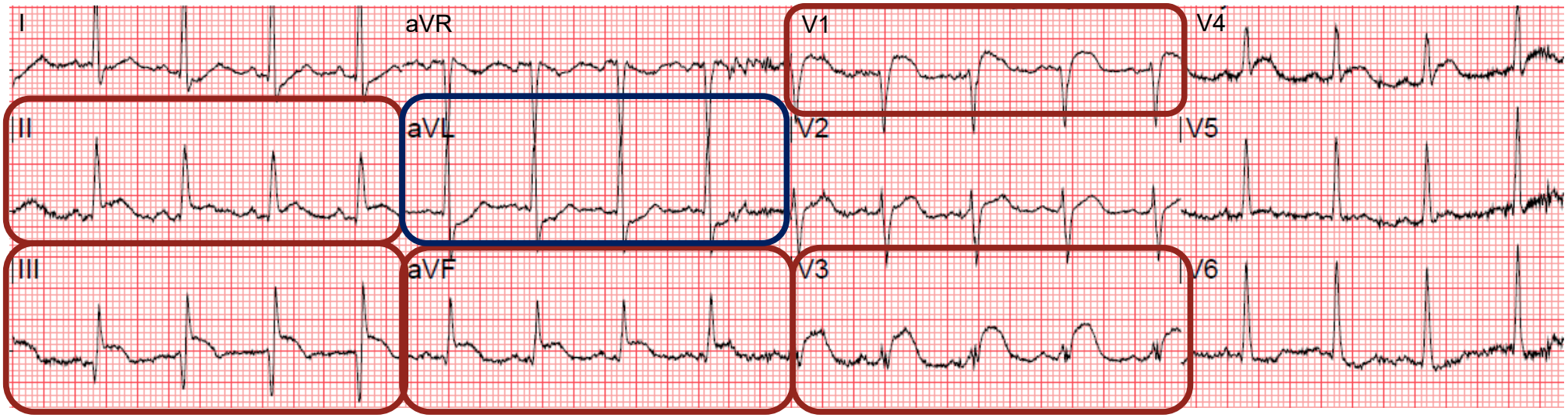
Lifenet EKG sent 22:54

I Lateral	aVR	V1 Septal	V4 Anterior
II Inferior	aVL Lateral	V2 Septal	V5 Lateral
III Inferior	aVF Inferior	V3 Anterior	V6 Lateral



ST Elevation
II, III, aVF, V1, V3

ST Depression
aVL

Inferior STEMI

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ED treatment

Internal STEMI Code paged at 22:55

Patient arrived at 22:57

Interventions

- Chest X-Ray
- Assessment
- Repeat 12 Lead EKG
- 5,000 Units IV Heparin

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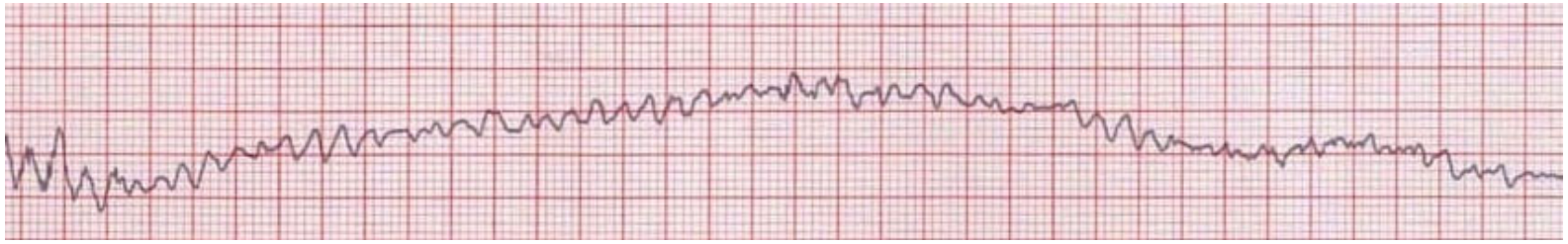
ED treatment

22:05 (8 minutes after arrival)



Compressions started

Defibrillated at 150 J

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ED treatment

18 minutes in ED

Interventions Continued

- 180 mg ticagrelor
- Patient undressed
- Consent signed

Transferred patient to Cardiac Cath Lab at 23:15

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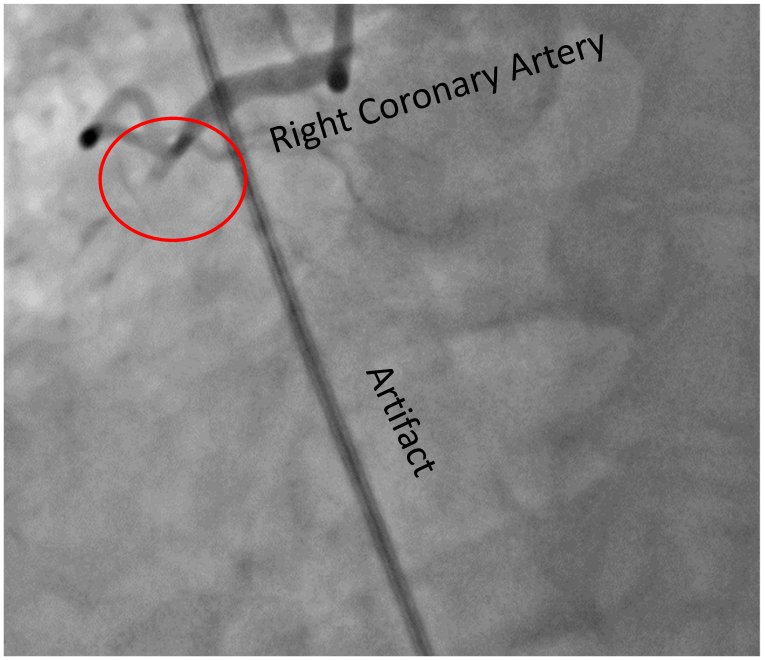
Cardiac Cath Lab Angiography 23:17

Before



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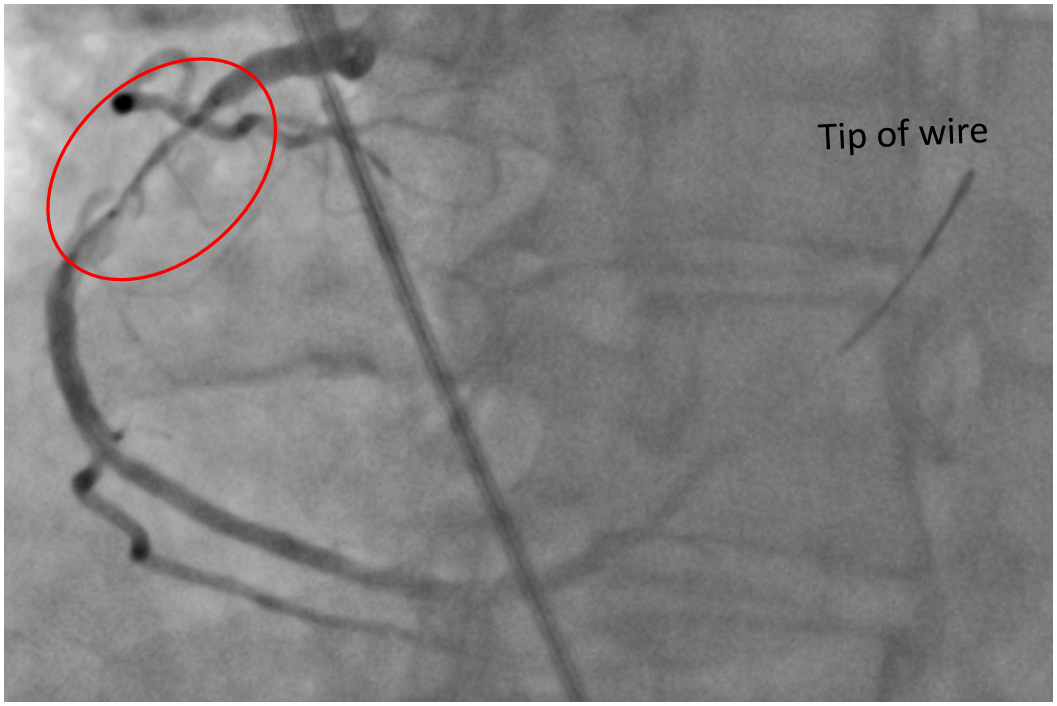
Cardiac Cath Lab Angiography

During



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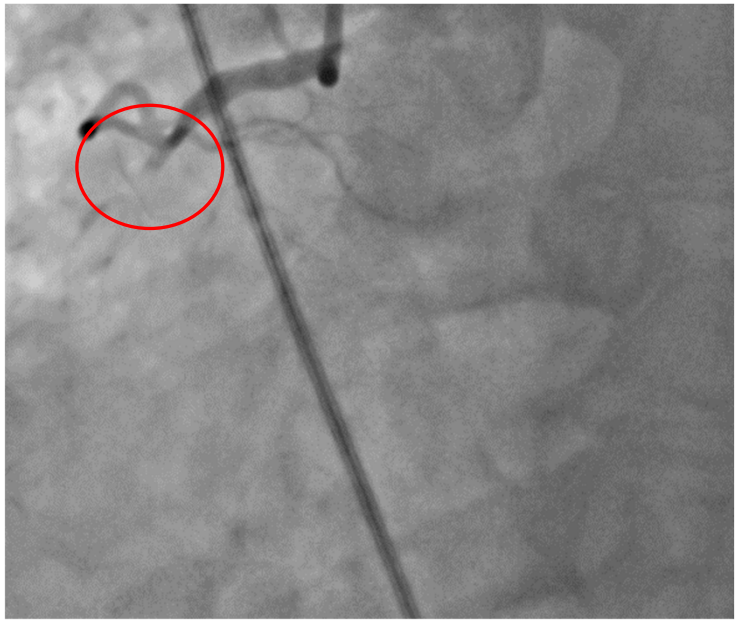
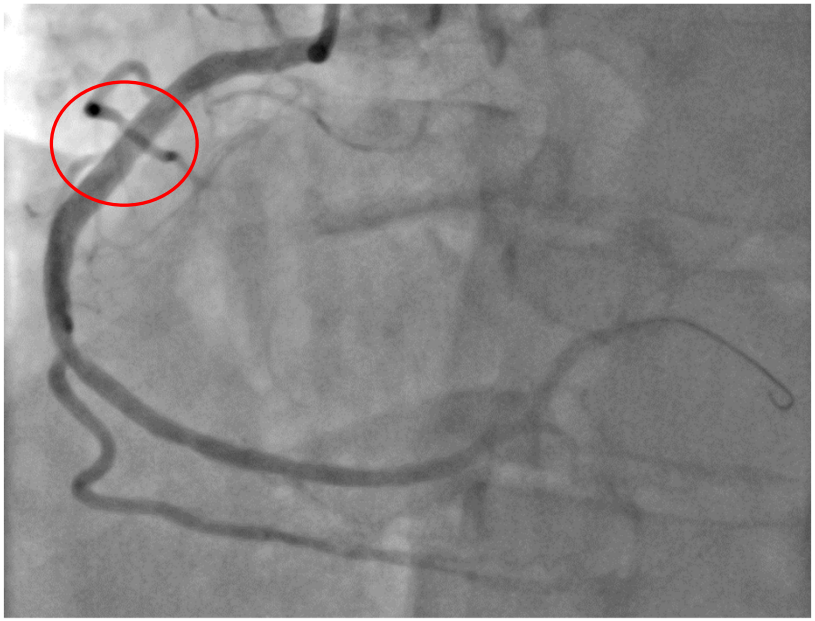
Cardiac Cath Lab Angiography

16 minutes in Cath Lab

Before

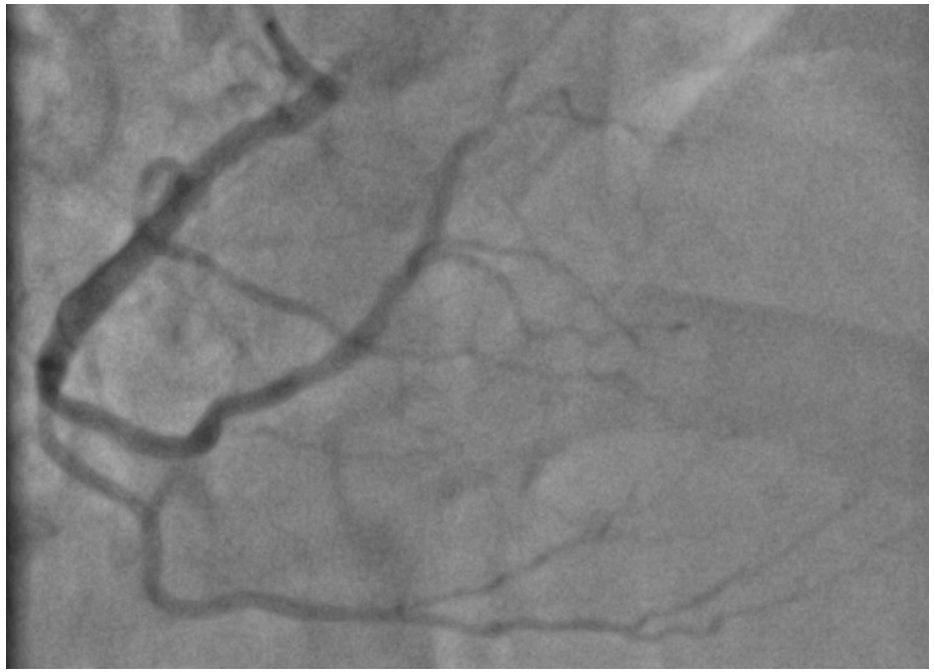


After



Cardiac Cath Lab Angiography

After



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Cardiac Cath Lab

2 DES (Drug Eluting Stent) placed to proximal RCA

First Medical Contact to Balloon (goal <90)

- 59 minutes

Door to Balloon

- 36 minutes

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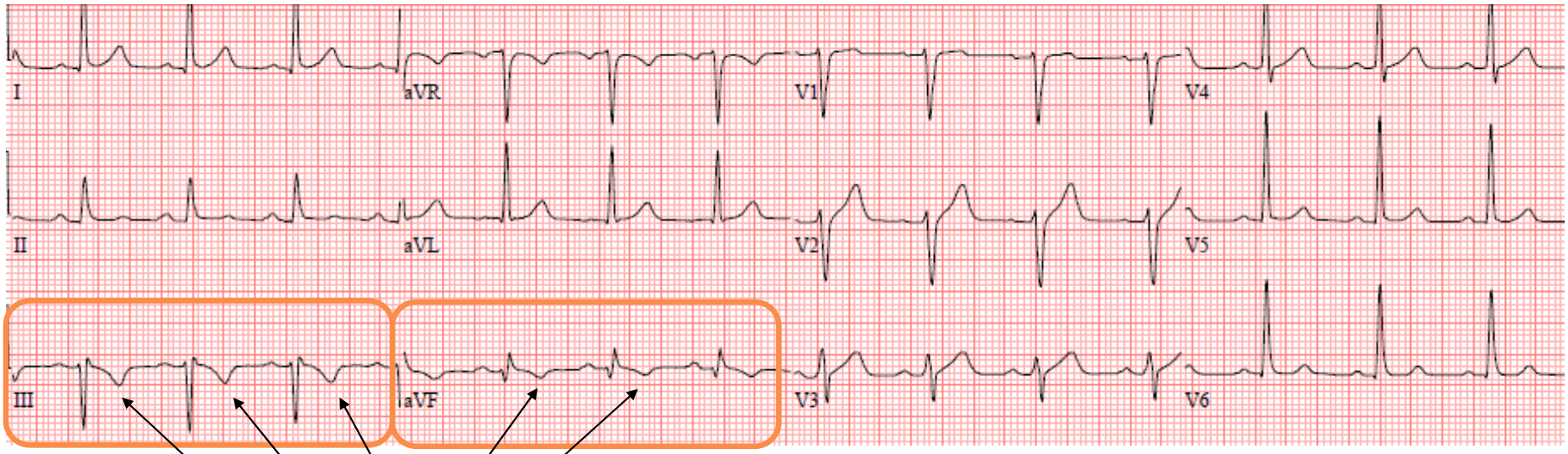
1 Day Post PCI EKG



Inverted T Waves

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Discharge Medications

81 mg aspirin daily

80 mg atorvastatin daily

50 mg metoprolol succinate daily

90 mg ticagrelor twice daily

Cardiac Rehab referral

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Outcome

Discharged home 2 days following event

No neurological deficits

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Closing Thoughts

Patient

- Early recognition of heart attack symptoms
- Called 911

EMS

- Early EKG
- Utilization of resources → Lifenet EKG transmission & STEMI notification
- Placement of defibrillator pads

Hospital

- Paged internal STEMI code
- Timely delivery of care → immediate defibrillation & transfer to Cath Lab

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Questions & Comments

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