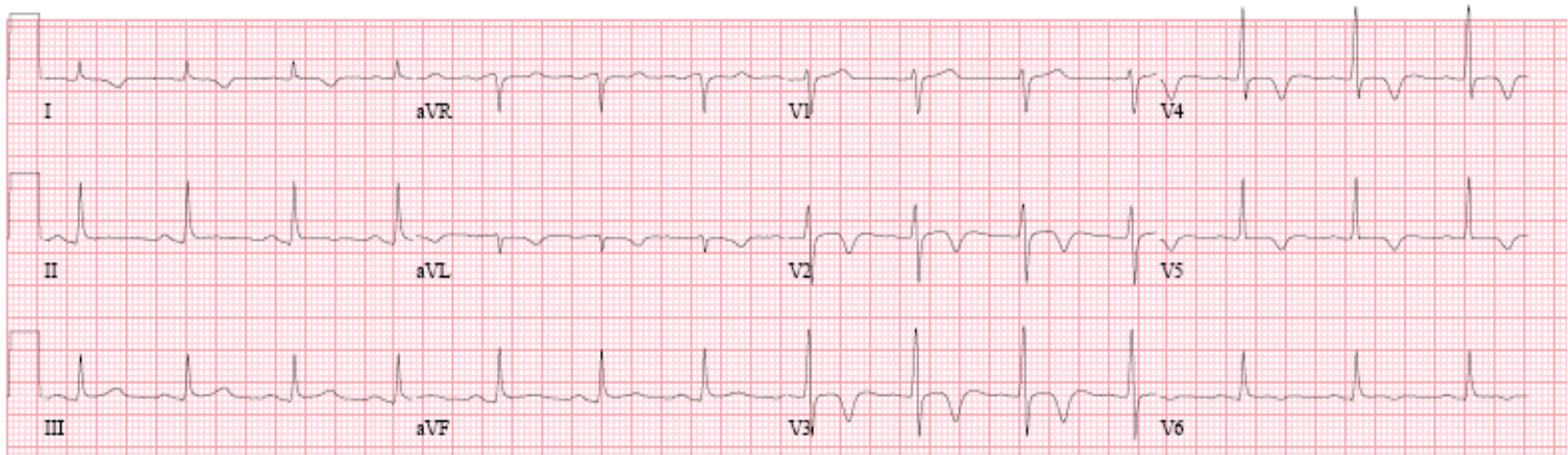


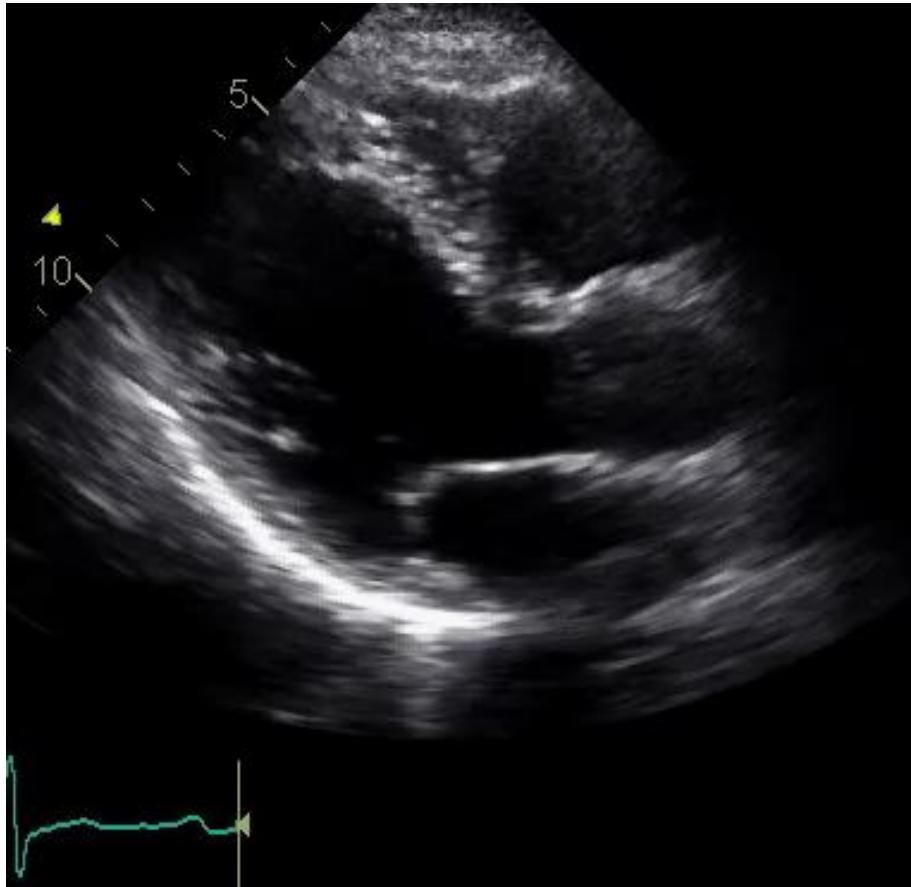
# Speckle Tracking Cases

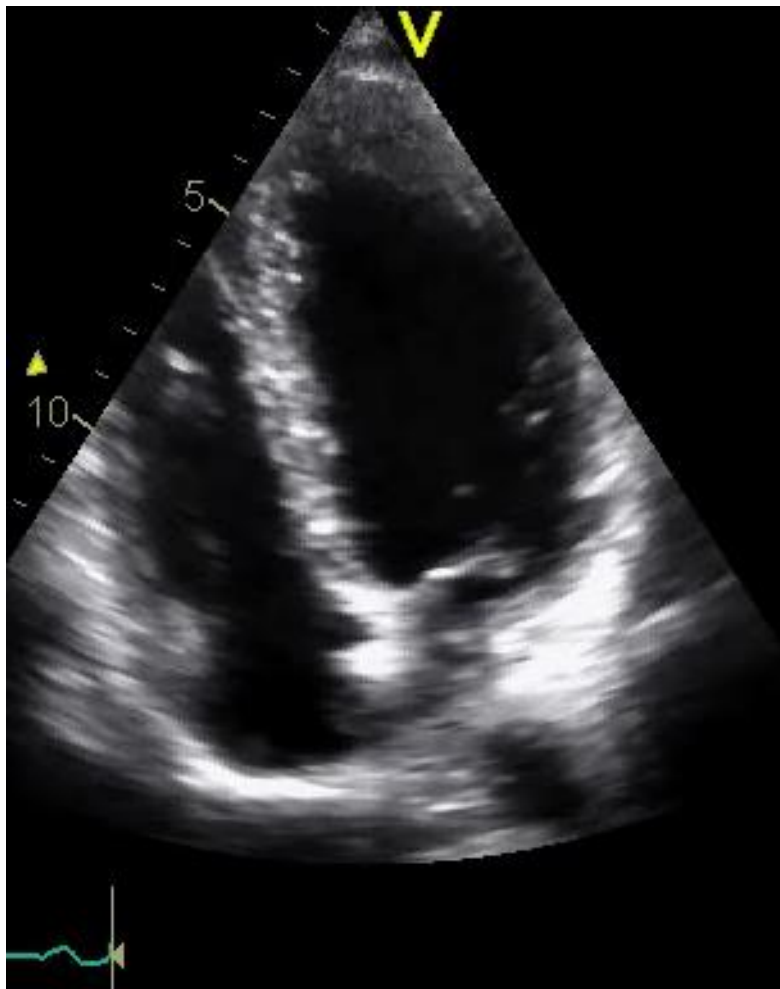
**Gerard P. Aurigemma MD**  
**Grant Support**

# 44 year old man with chest pain



**Troponin I 1.65**





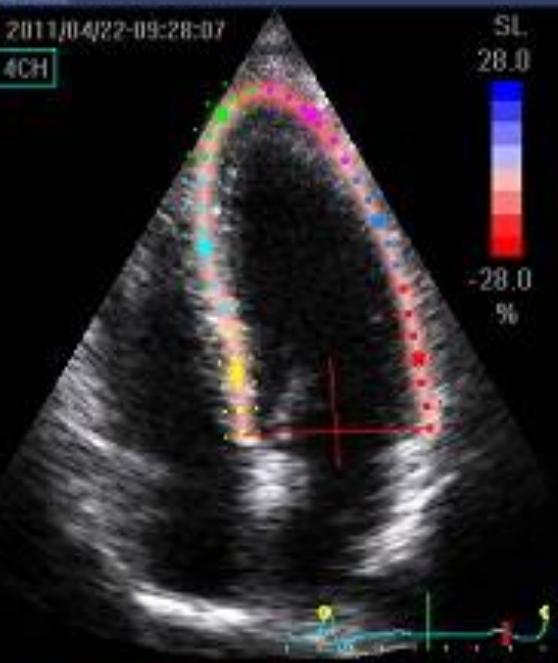


Store

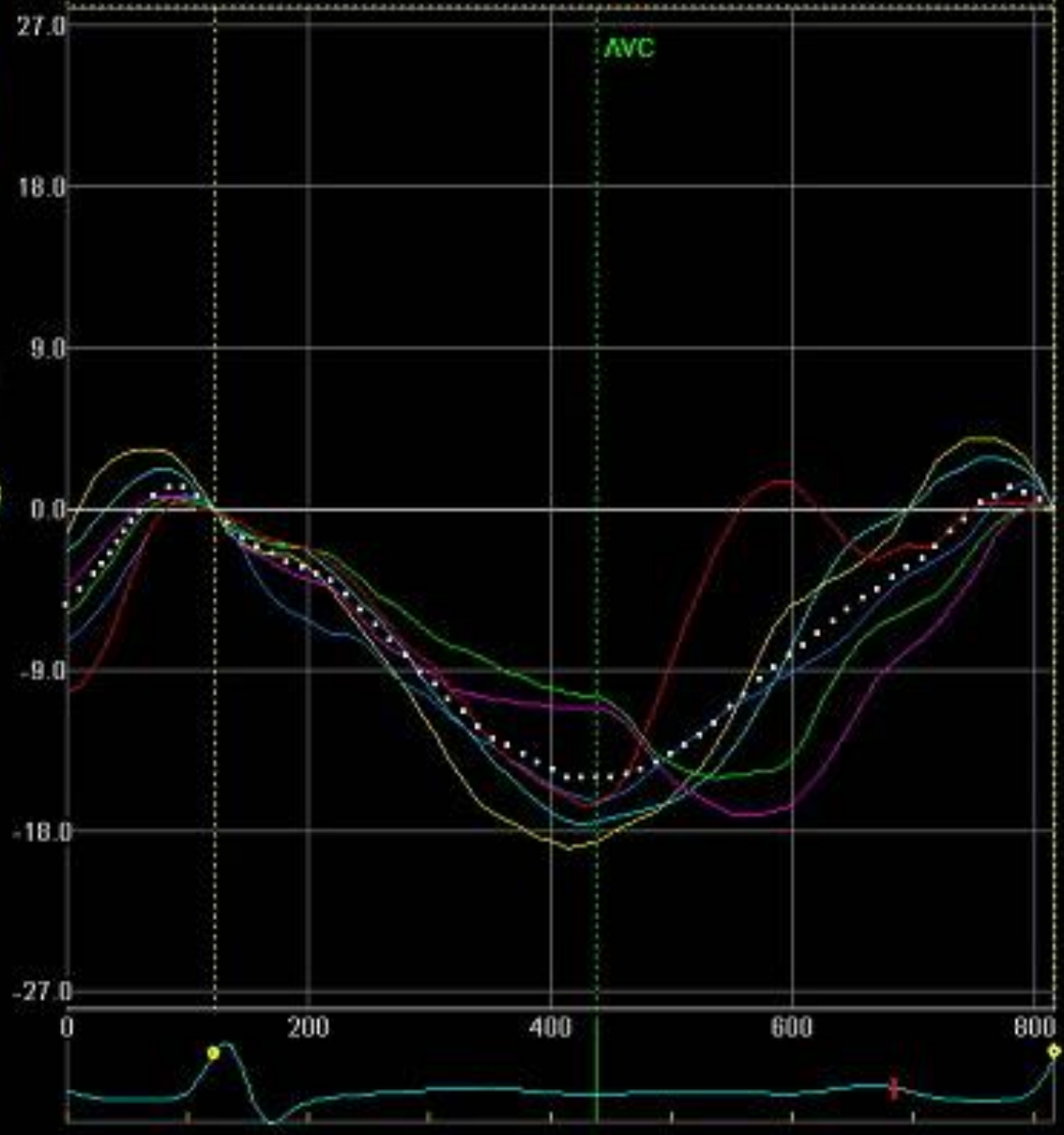
2011/04/22-09:28:07

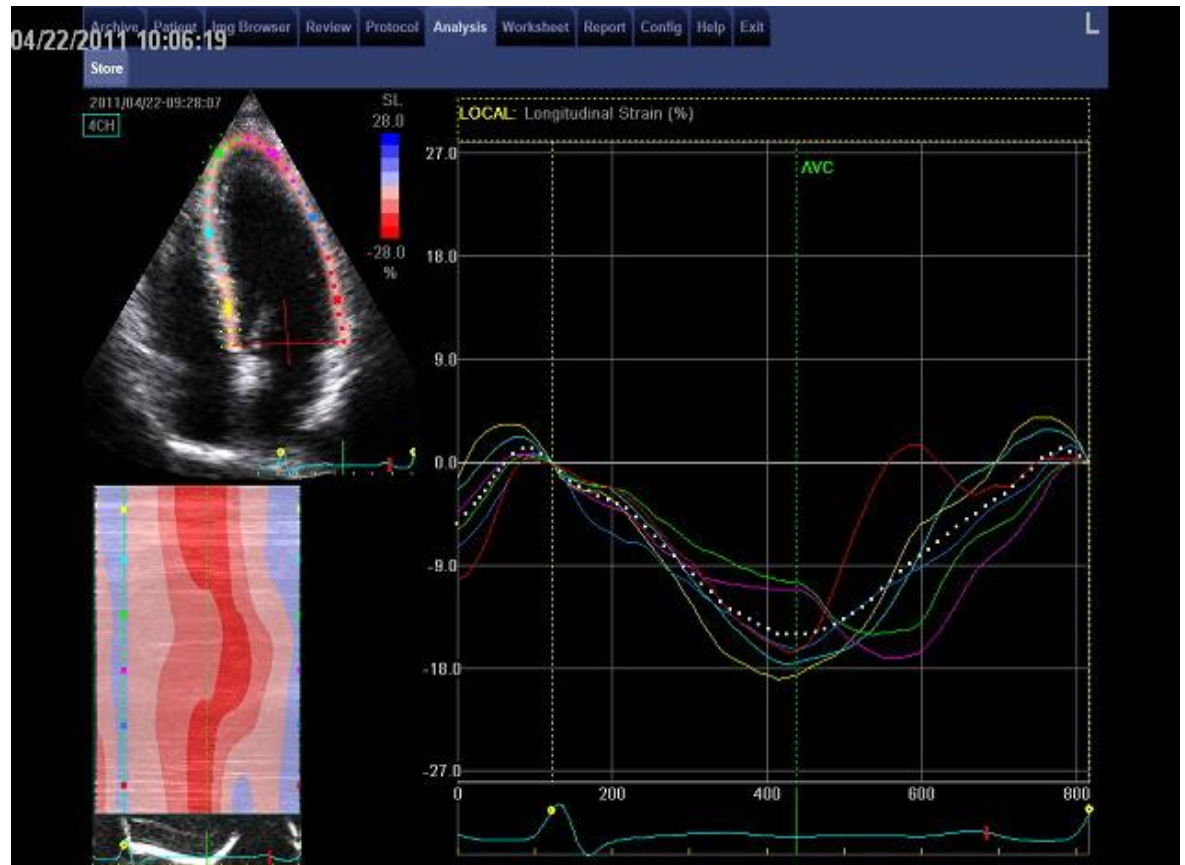
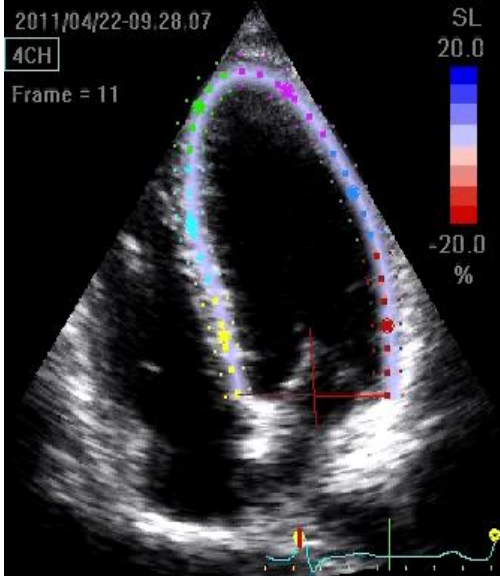
4CH

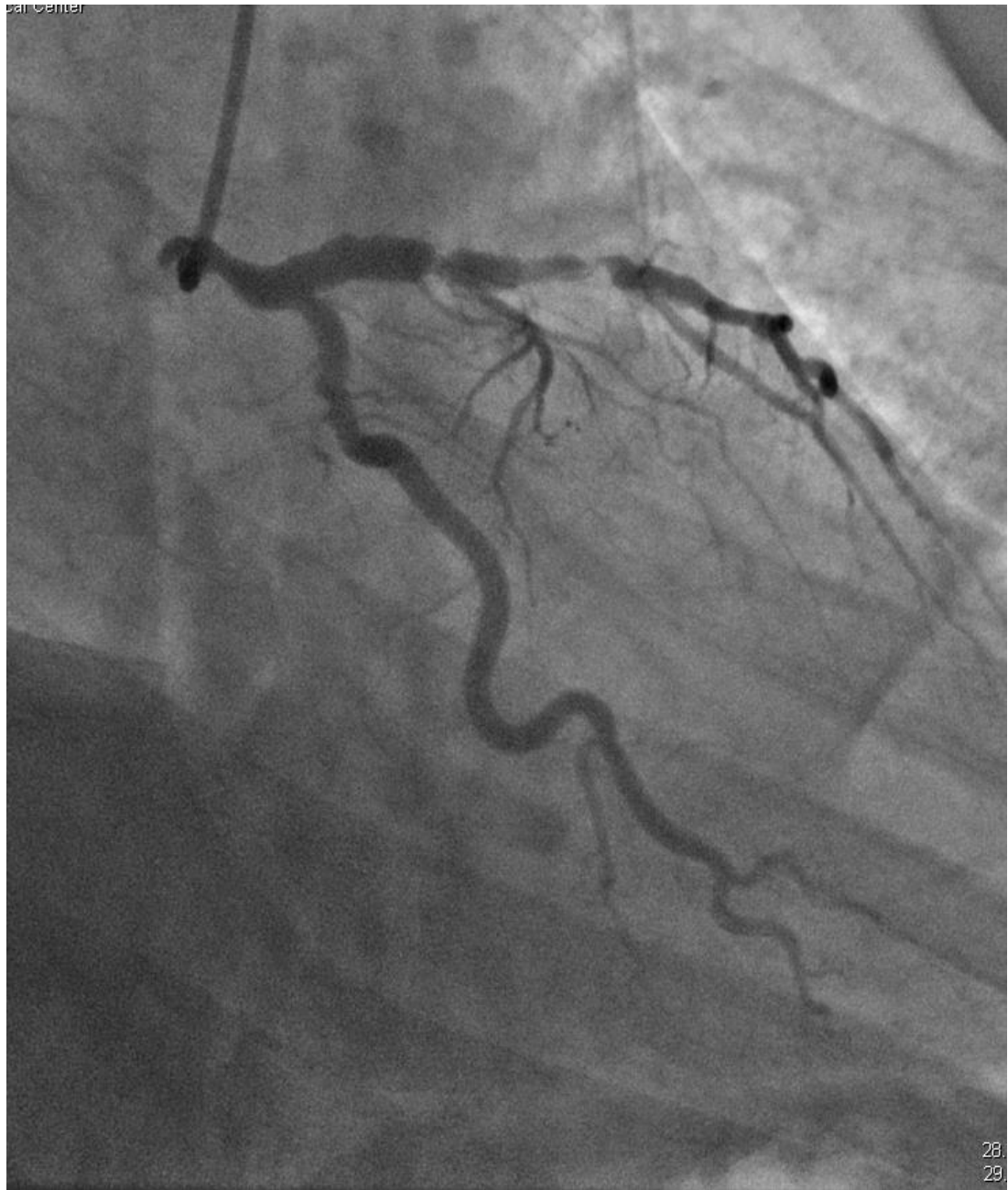
SL  
28.0  
-28.0  
%



LOCAL: Longitudinal Strain (%)



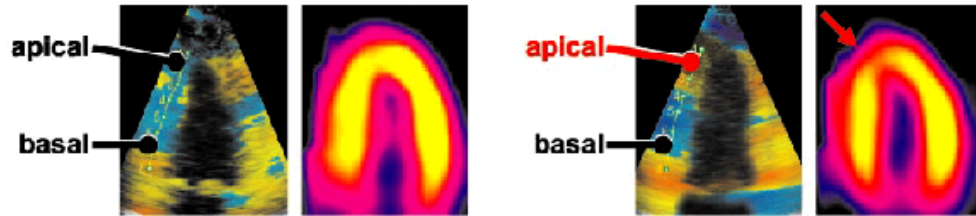




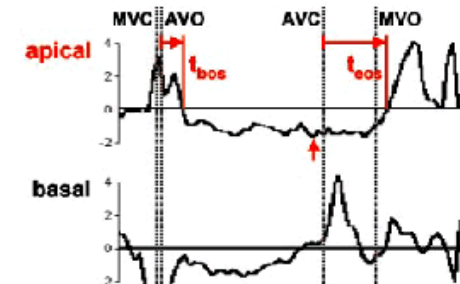
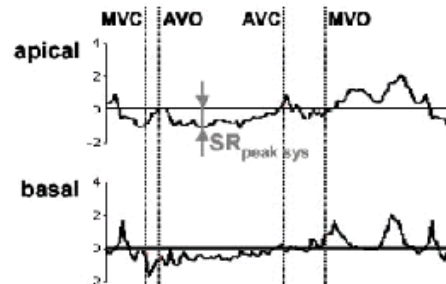


# Post Systolic Shortening

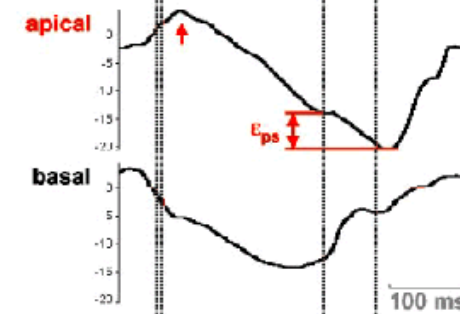
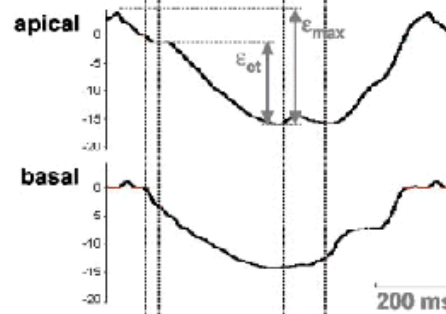
a) echo / scintigraphy



b) strain rate [s<sup>-1</sup>]

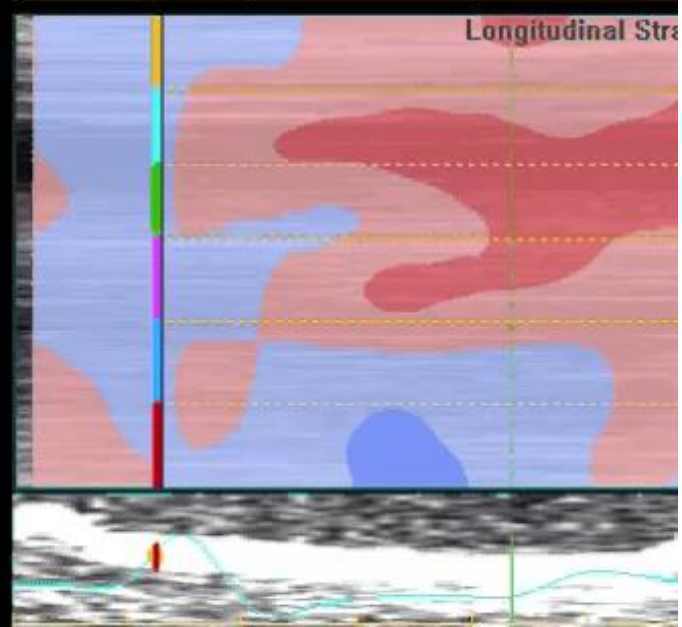
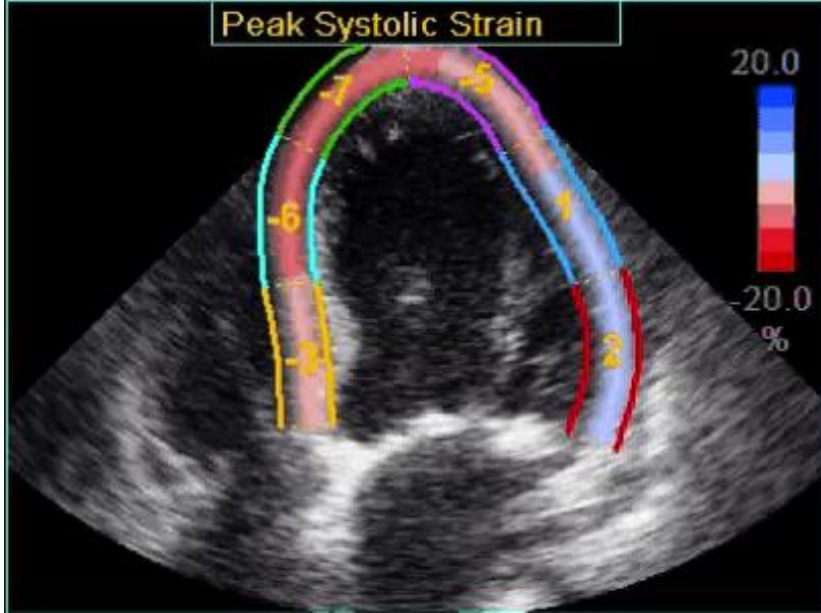
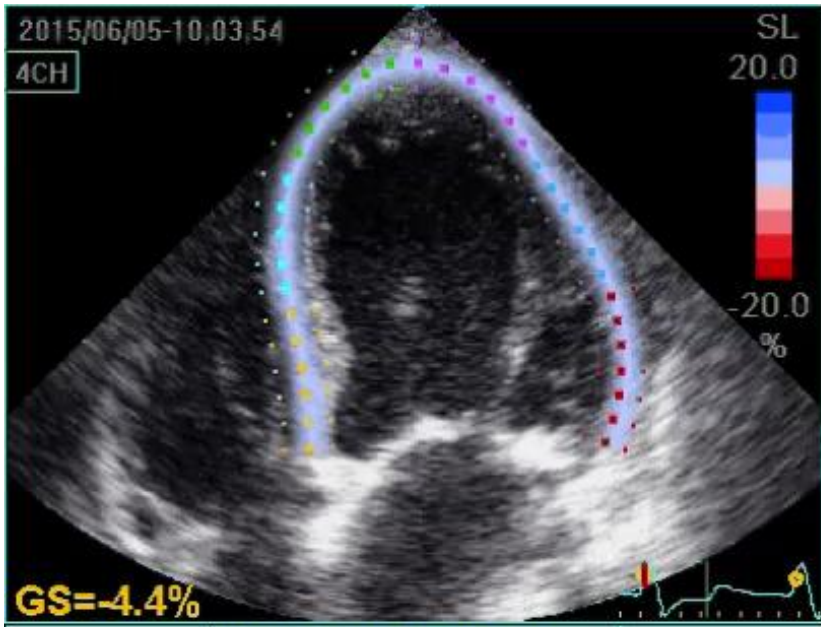


c) strain [%]



d) ECG





# Case 1: 46 year old woman

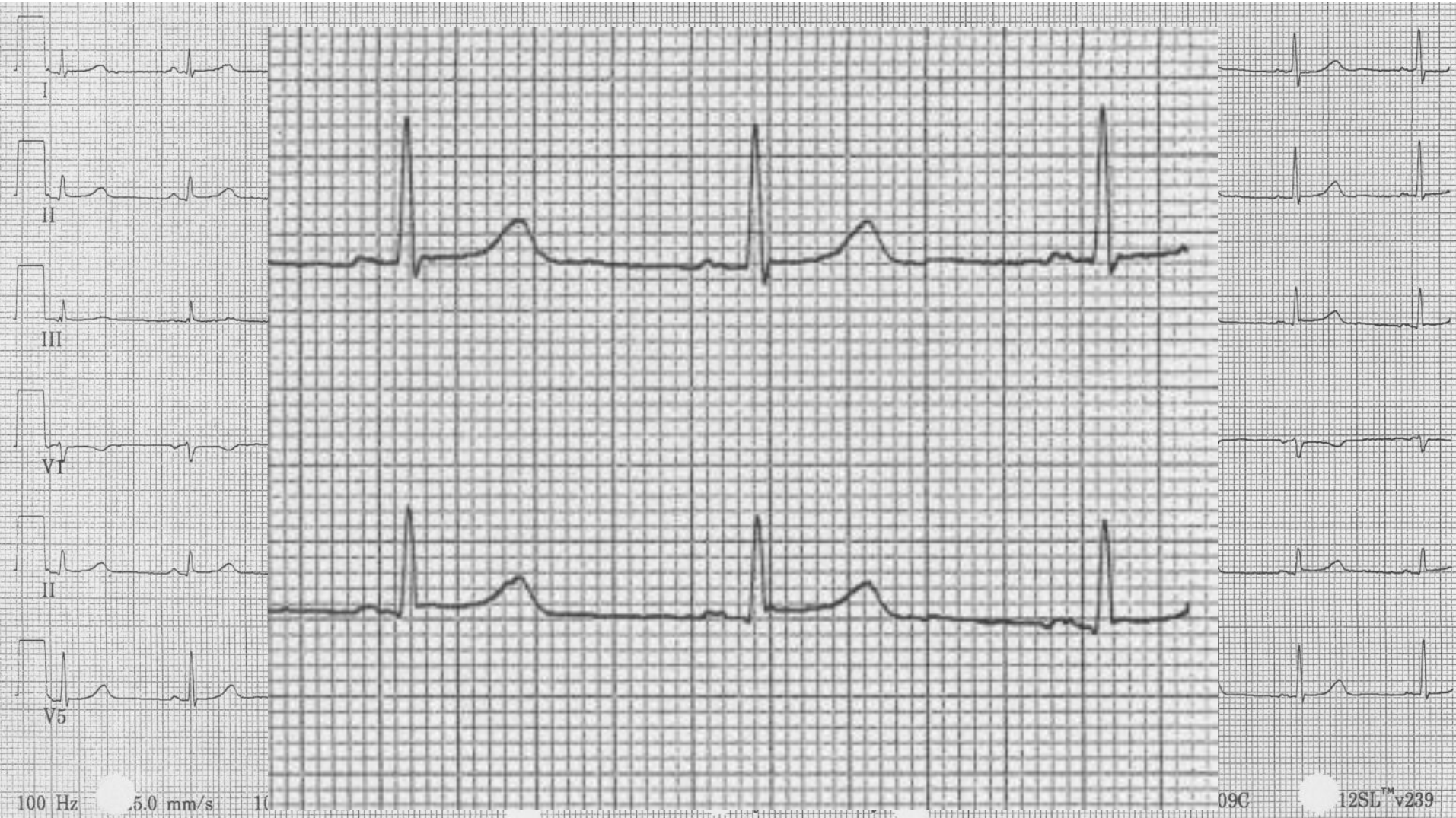
## Day 1 (Saturday night)

- awoke from sleep,
- had epigastric pain and chest pressure,
- took omeprazole, with some relief

## Day 2 (Sunday)

- epigastric pain, dull, crampy,
- worse with eating, better with burping
- nausea, decreased appetite, and weakness

# ECG



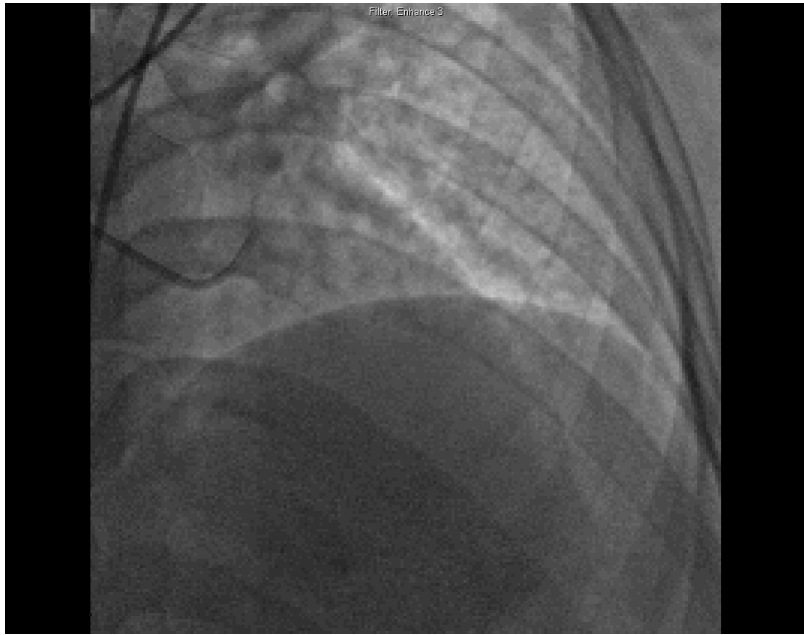
# Cardiac Markers

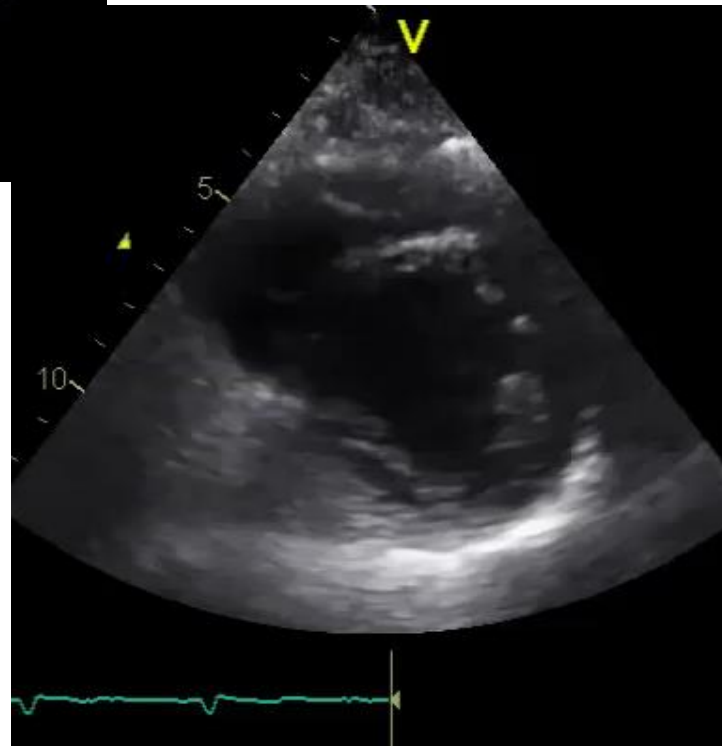
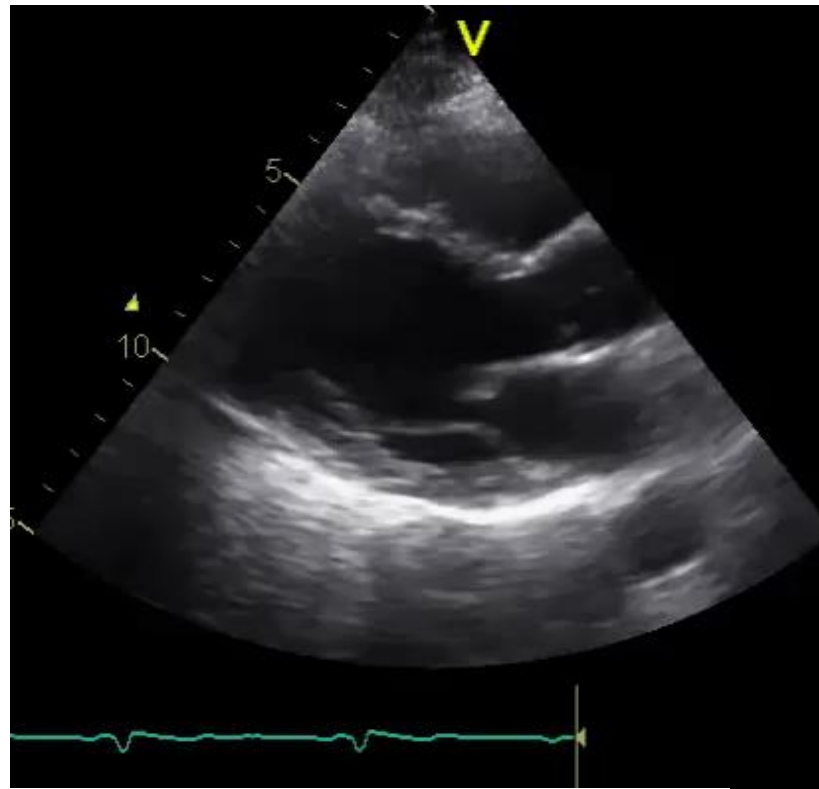
**CPK 473**

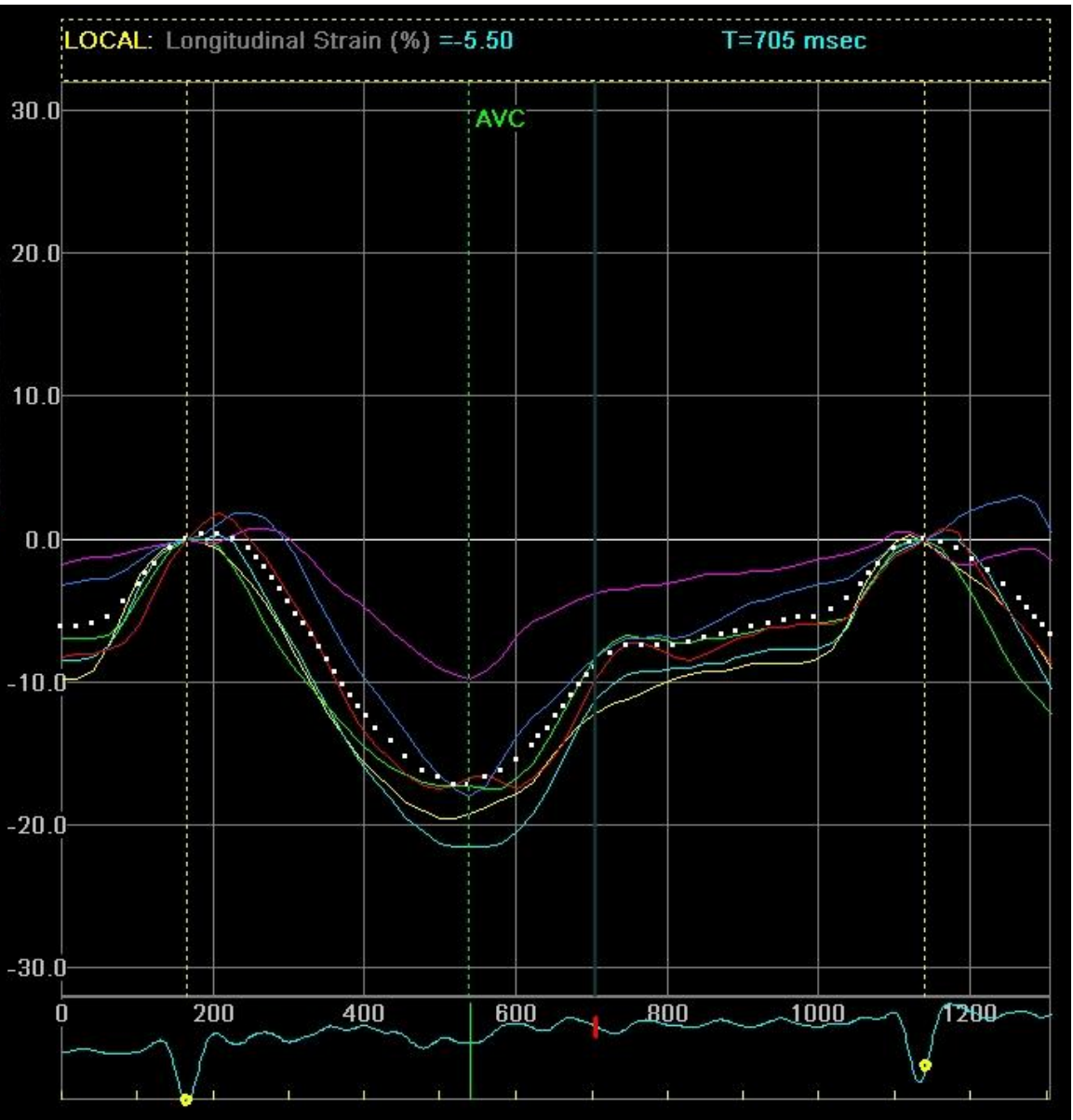
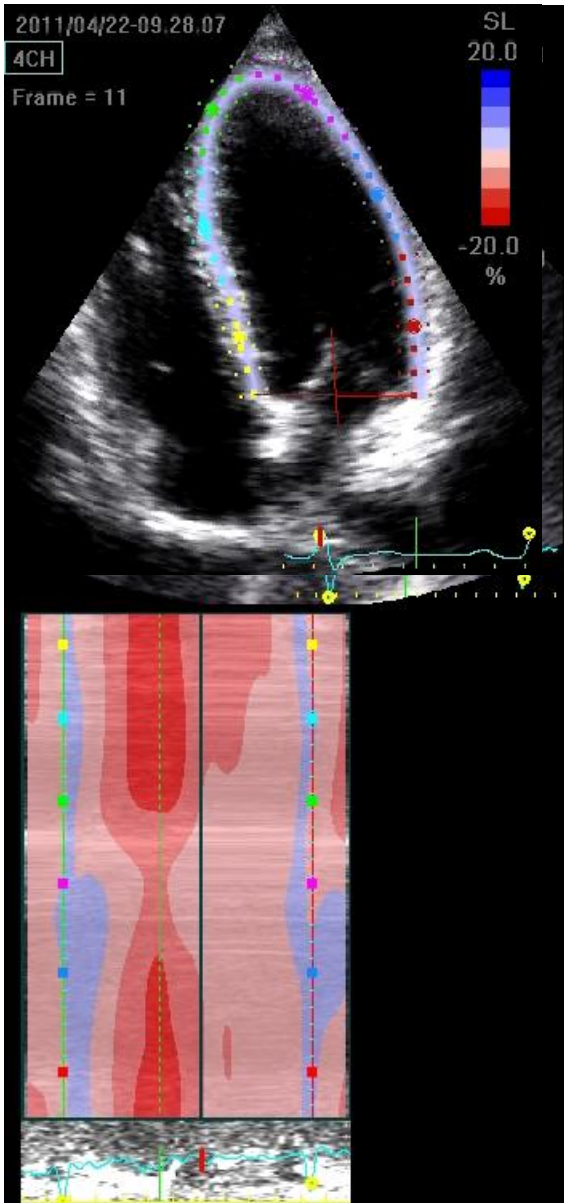
**CK-MB 63.5**

**Index 13.4**

**Troponin 16.12**







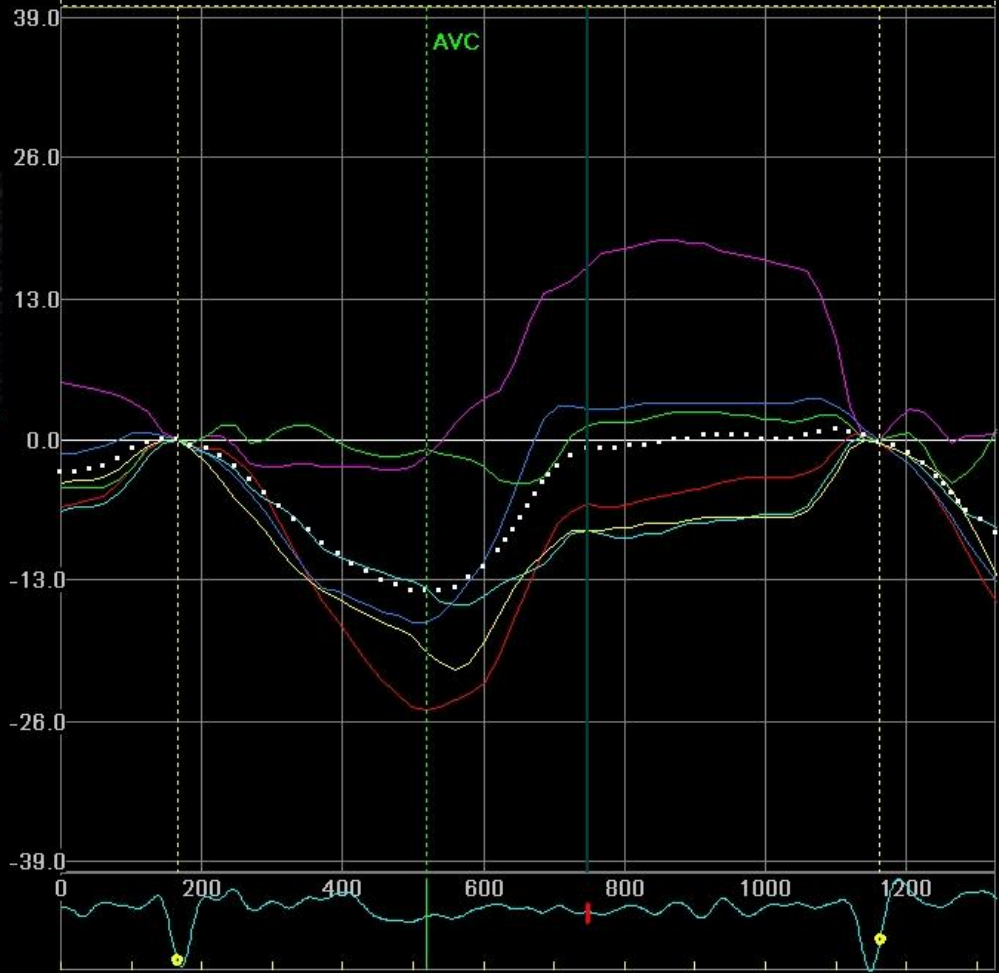
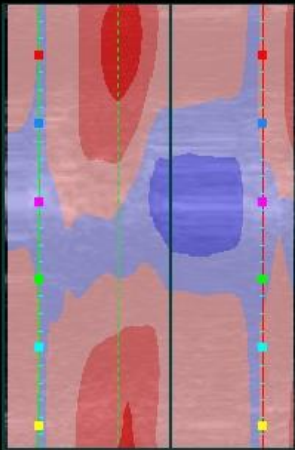
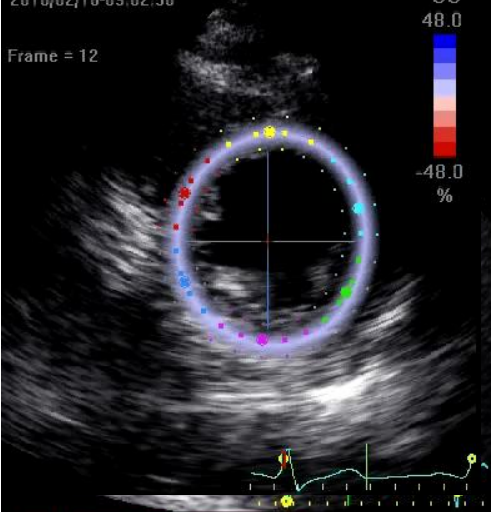


2010/02/10-09.02.30

Frame = 12

SC  
48.0  
-48.0  
%

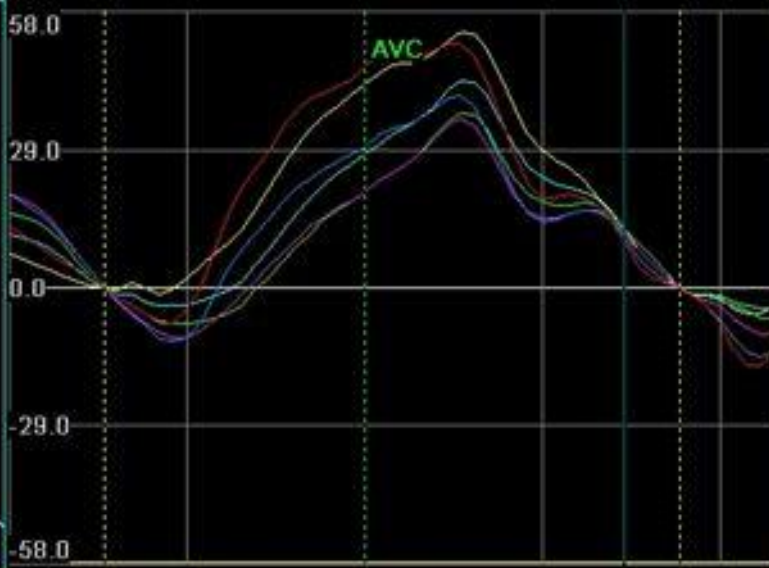
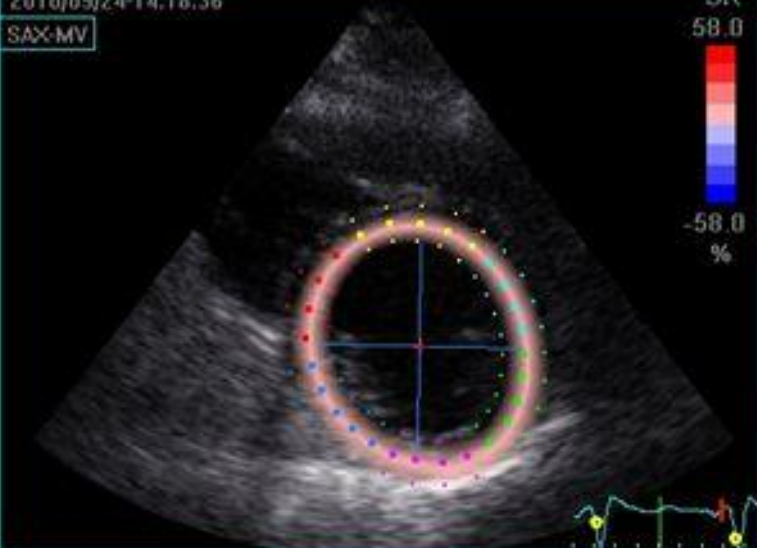
LOCAL: Circumferential Strain (%) = -5.31 T=747 msec



2010/09/24-14:18:36

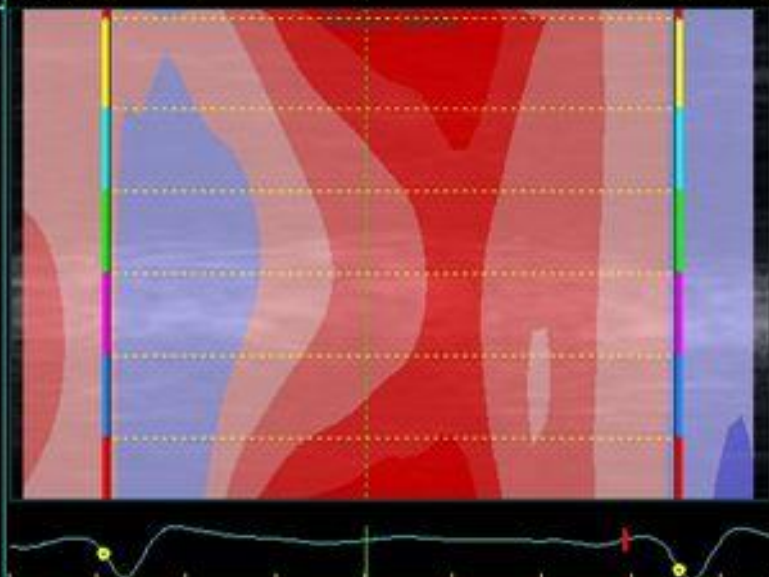
SAX-MV

SR  
58.0  
-58.0  
%



Peak Radial Strain

58.0  
-58.0  
%



O Sag L 43.1  
DFOV 36.0cm  
78 bpm  
TD:35  
Ph:2/30

10:20:27 PM  
Mag = 1.00  
FL:  
ROT:

VS:16

A  
R  
S

P  
L  
I

FIESTA/45  
TR:4.1  
TE:1.8  
EC:1 /1 125kHz

8CARDIAC/FL.p+  
FOV:36x36  
8.0thk/0.0sp/C  
420/01.26 /0.06  
256X224/0.75 NEX  
EG/SQ/AST

WW: 1862/WL: 831

IRP

Ph:1/1

VS:24

A  
R  
S

FGR/20  
TR:6  
TE:1.6/Pr  
EC:1 /1 22.7kHz  
TI:175.0  
8CARDIAC  
FOV:40x32  
8.0thk/0.0sp/C  
1/00:11  
256X160/2.00 NEX  
EG

WW: 1

IRP

# Enterovirus Serology

<b>Coxsackievirus A9 Abs</b>	<b>&lt; 1 : 8</b>	<b>1 : 16</b>
<b>Coxsackievirus B1 Abs</b>	<b>&lt; 1 : 10</b>	<b>&lt; 1 : 10</b>
<b>Coxsackievirus B2 Abs</b>	<b>&lt; 1 : 10</b>	<b>&lt; 1 : 10</b>
<b>Coxsackievirus B3 Abs</b>	<b>&lt; 1 : 10</b>	<b>&lt; 1 : 10</b>
<b>Coxsackievirus B4 Abs</b>	<b>&lt; 1 : 10</b>	<b><u>≥</u> 1 : 640</b>
<b>Coxsackievirus B5 Abs</b>	<b>&lt; 1 : 10</b>	<b>1 : 160</b>
<b>ECHO 6,7,9,11,30</b>	<b>&lt; 1 : 10</b>	<b>&lt; 1 : 10</b>

# Did strain *really* help?

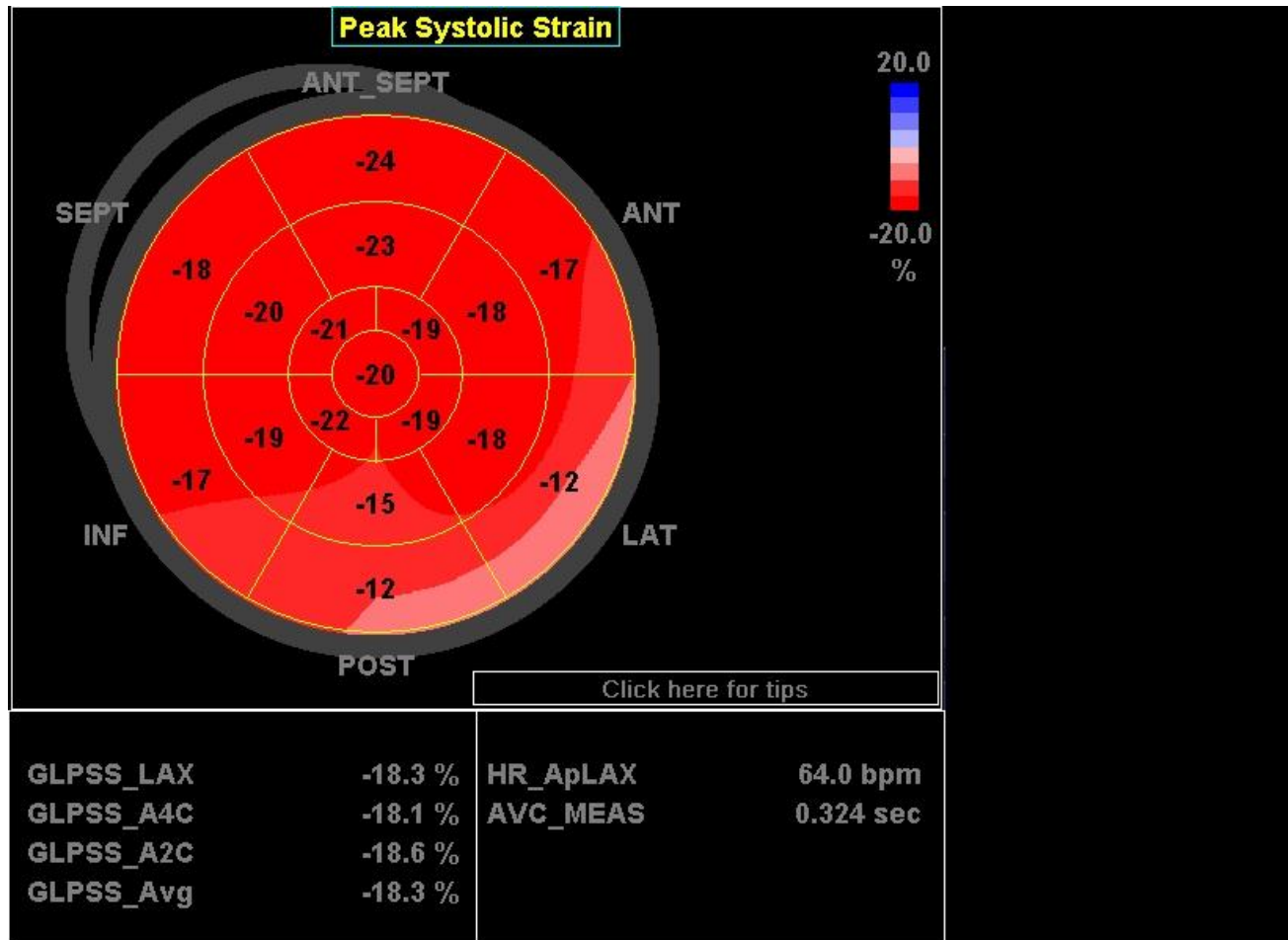
*Yes!*



gty.im/  
200192247-002

By  
Erik Dreyer

# Peak Systolic Strain- AFI



# Speckle Tracking Imaging in Acute Inflammatory Pericardial Diseases

Marina Leitman, M.D.,\* Noa Bachner-Hinenzon, Ph.D.,† Dan Adam, D.Sc.,† Therese Fuchs, M.D., F.A.C.C.,\* Nickolas Theodorovich, M.D.,\* Eli Peleg, M.D.,\* Ricardo Krakover, M.D.,\* Gil Moravsky, M.D.,\* Nir Uriel, M.D.,‡ and Zvi Vered, M.D., F.A.C.C., F.E.S.C.\*

\*Department of Cardiology, Assaf Harofeh Medical Center and Tel Aviv University, Tel Aviv, Israel; †Faculty of Biomedical Engineering, Technion-Israel Institute of Technology, Haifa, Israel; and ‡Division of Cardiology, Department of Medicine, College of Physicians and Surgeons, Columbia University, New York, New York

**Background:** Left ventricular (LV) function in acute perimyocarditis is variable. We evaluated LV function in patients with acute perimyocarditis with speckle tracking. **Methods:** Thirty-eight patients with acute perimyocarditis and 20 normal subjects underwent echocardiographic examination. Three-layers strain and twist angle were assessed with a speckle tracking. Follow-up echo was available in 21 patients. **Results:** Strain was higher in normal subjects than in patients with perimyocarditis. Twist angle was reduced in perimyocarditis— $10.9^\circ \pm 5.4$  versus  $17.6^\circ \pm 5.8$ ,  $P < 0.001$ . Longitudinal strain and twist angle were higher in normal subjects than in patients with perimyocarditis and apparently normal LV function. Follow-up echo in 21 patients revealed improvement in longitudinal strain. **Conclusions:** Patients with acute perimyocarditis have lower twist angle, longitudinal and circumferential strain. Patients with perimyocarditis and normal function have lower longitudinal strain and twist angle. Short-term follow-up demonstrated improvement in clinical parameters and longitudinal strain despite of residual regional LV dysfunction. (Echocardiography 2011;28:548-555)

