

Fig 1. Simultaneous computation of biplane left atrial volume and strain (reservoir, conduit and booster strain) using the 2D strain software on images sampled at >60 Hz. Data obtained using the 3-click method (the 2 basal segments and at the roof of the atrium)

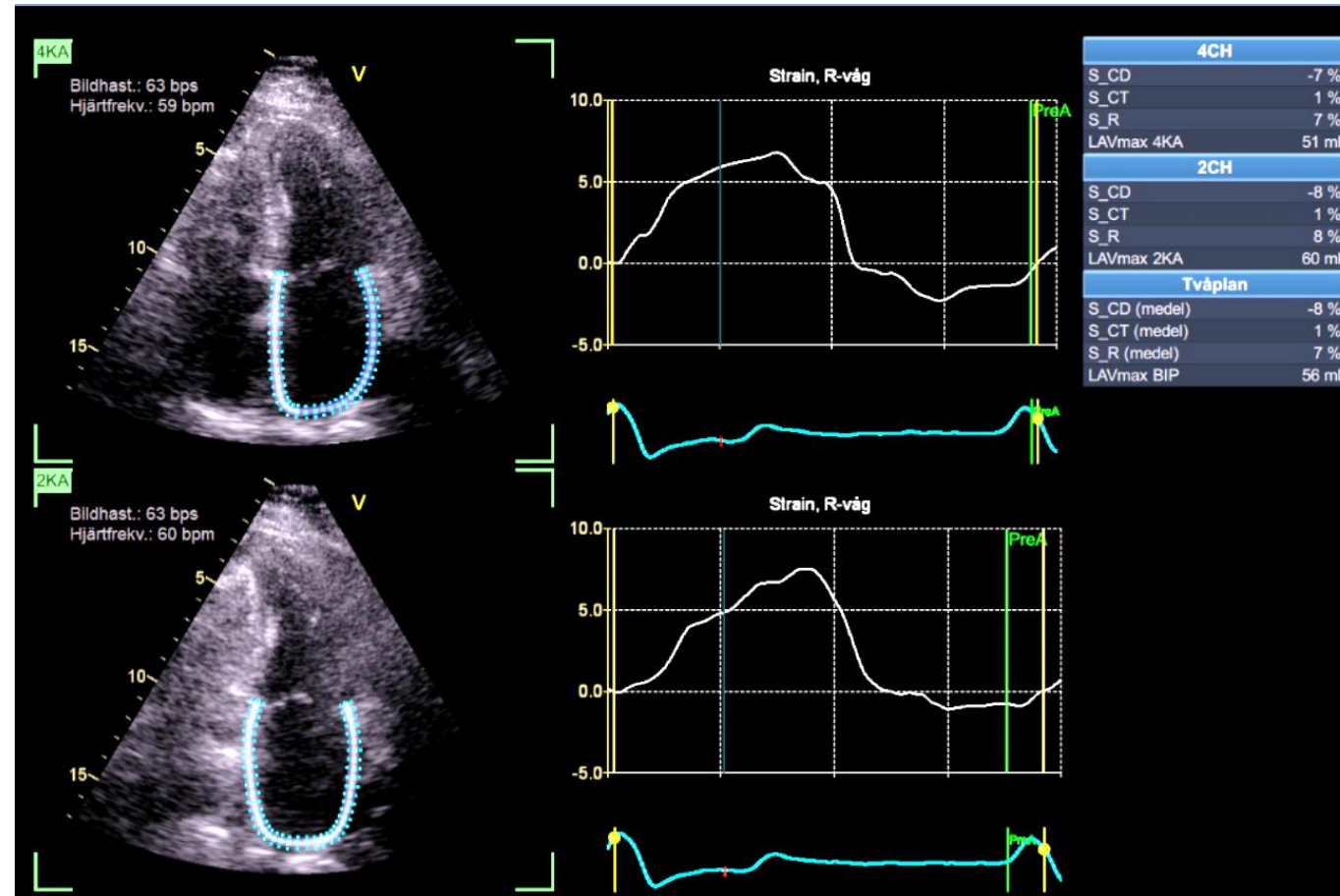


Fig 2. Application of indices of myocardial work in different phenotypes and grades of aortic stenosis

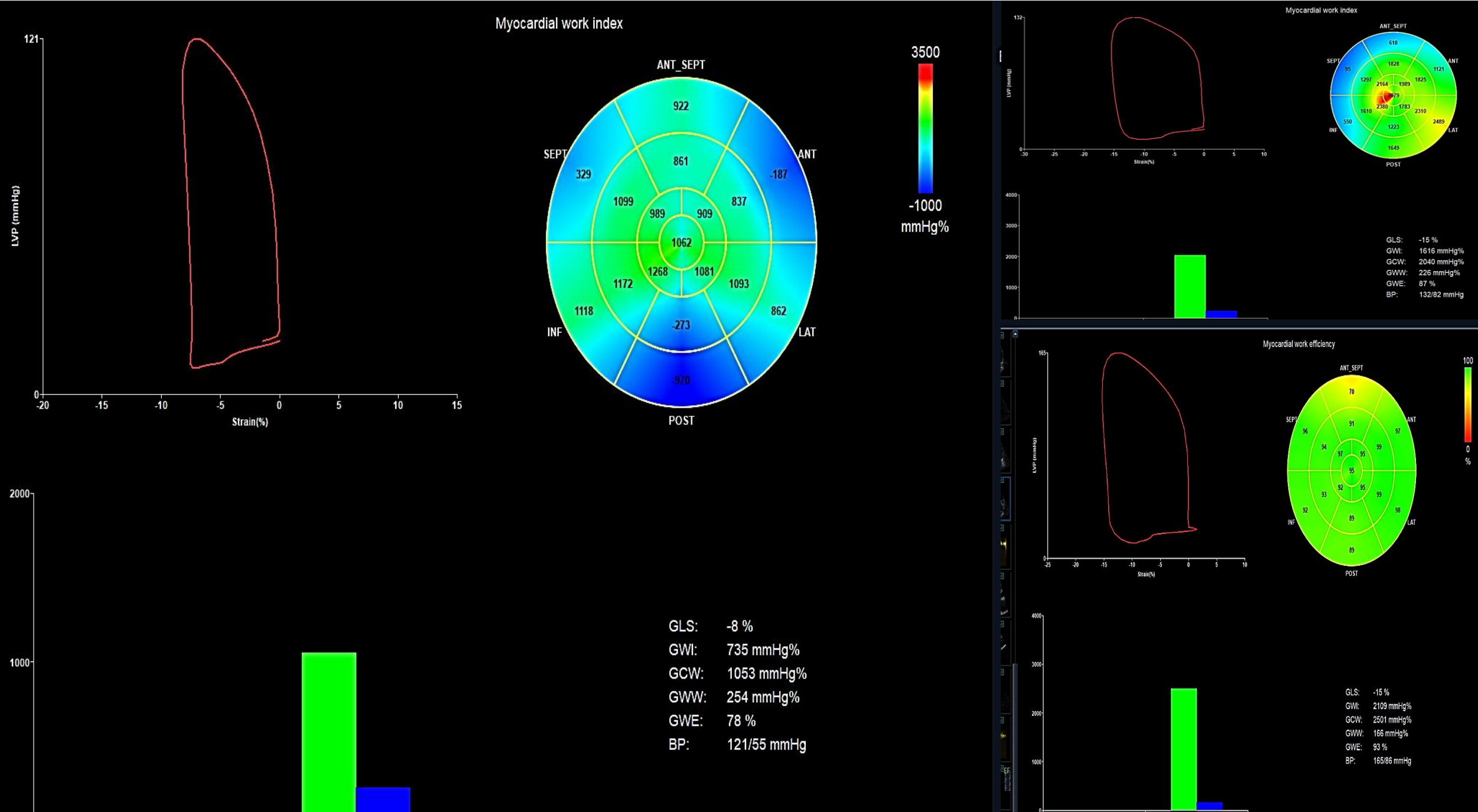
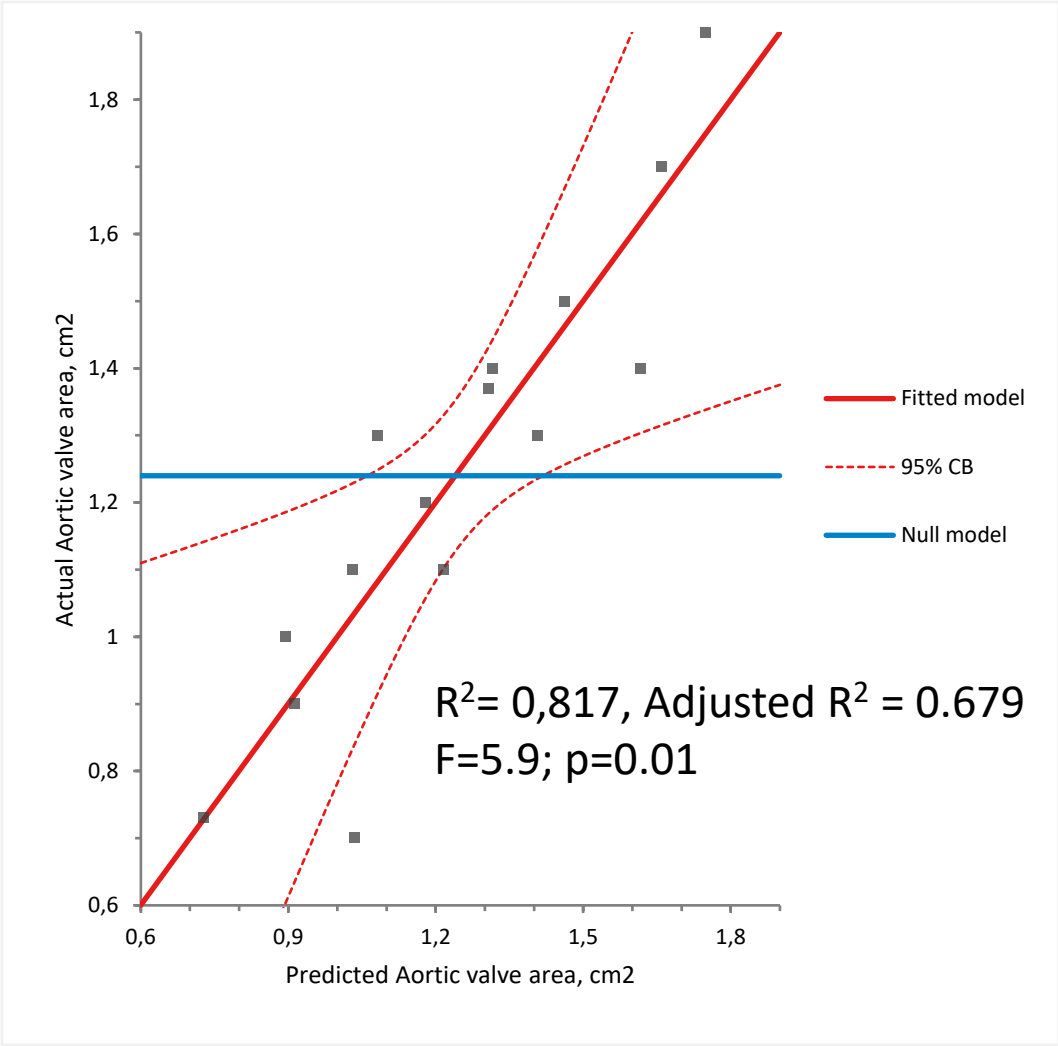


Fig 3 : Aortic valve area estimation using indices of myocardial work. Parameters included in the model are LVEF%, LV-GLS%, global work efficiency (GWE), global wasted work (GWW), global work index (GWI), and global constructive work (GCW). Significant p-values are in red.



Parameter	Estimate	95% CI	SE	t	p-value
Constant	14,67	5,784 to 23,55	3,8525	3,81	0,0052
LVEF	0,04659	0,01032 to 0,08286	0,015729	2,96	0,0181
LV-GLS%	0,01803	-0,06963 to 0,1057	0,038015	0,47	0,6480
Global Work Efficiency %	-0,1752	-0,2707 to -0,07965	0,041417	-4,23	0,0029
GWW, mmHg%	-0,009648	-0,01511 to -0,004185	2,3690E-03	-4,07	0,0036
GWl, mmHg%	-0,001111	-0,002351 to 1,303E-04	5,3808E-04	-2,06	0,0729
GCW, mmHg%	0,001732	4,698E-04 to 0,002994	5,4737E-04	3,16	0,0133

Fig 4. Left ventricular longitudinal strain with apical sparing pattern in cardiac amyloidosis. The photo collage has been created just by 3-clicking the apical 3-chamber cine-loops. The AI based software searches the 2 other apical loops to compute the Bull's eye with "cherry on the top" without any more human aid on the 2D spacetime with the LV in motion.

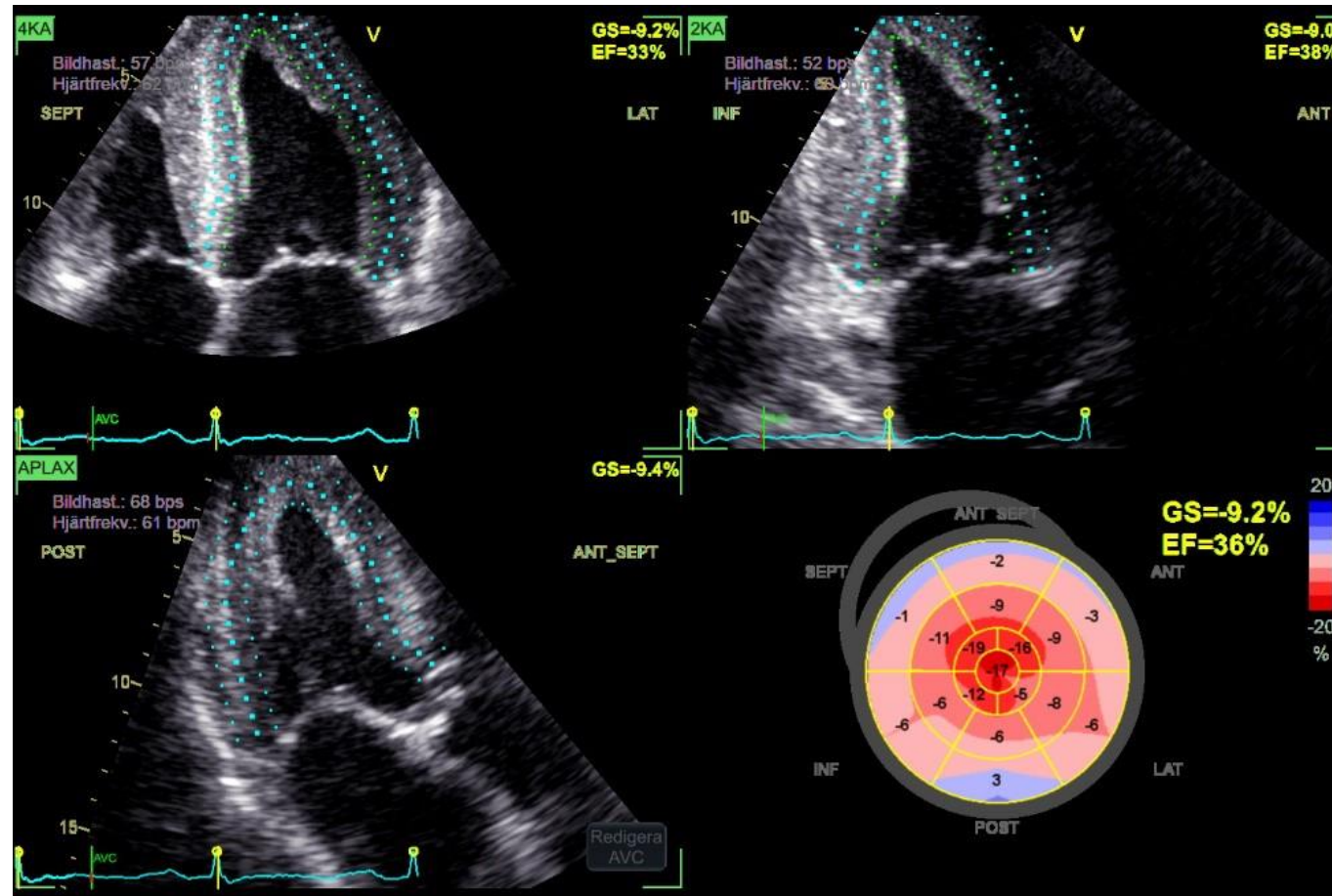


Fig 5. Myocardial work efficiency and the apical sparing strain: the differing pressure strain loops in different apical segments (the green pressure strain loops in panels C, and D) may suggest that the preserved apical strain may not be homogeneously distributed. Fig A is the global pressure strain loop in red. Bar diagrams: the green represents constructive work; blue represents wasted work. Pathophysiological significance of such heterogeneity is currently unknown.

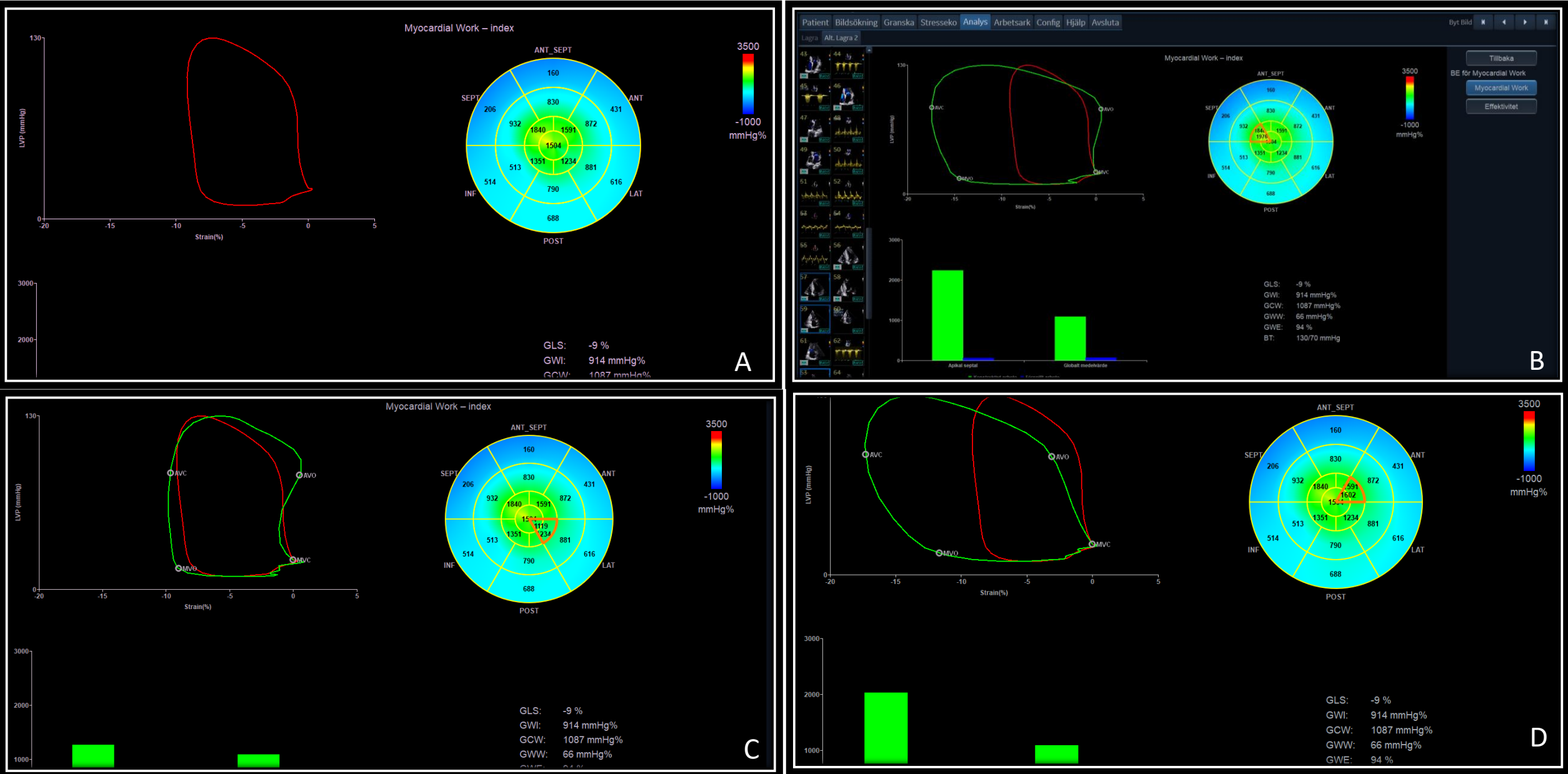


Figure 6. A patient with sigmoid type hypertrophic cardiomyopathy. On the right side a Bull's eye plot, created by tracking 3 apical loops, shows regional strain gradients. On the left side myocardial work index showing a distorted and truncated pressure strain loop, suggesting a stiff left ventricle with low global strain and low work efficiency.

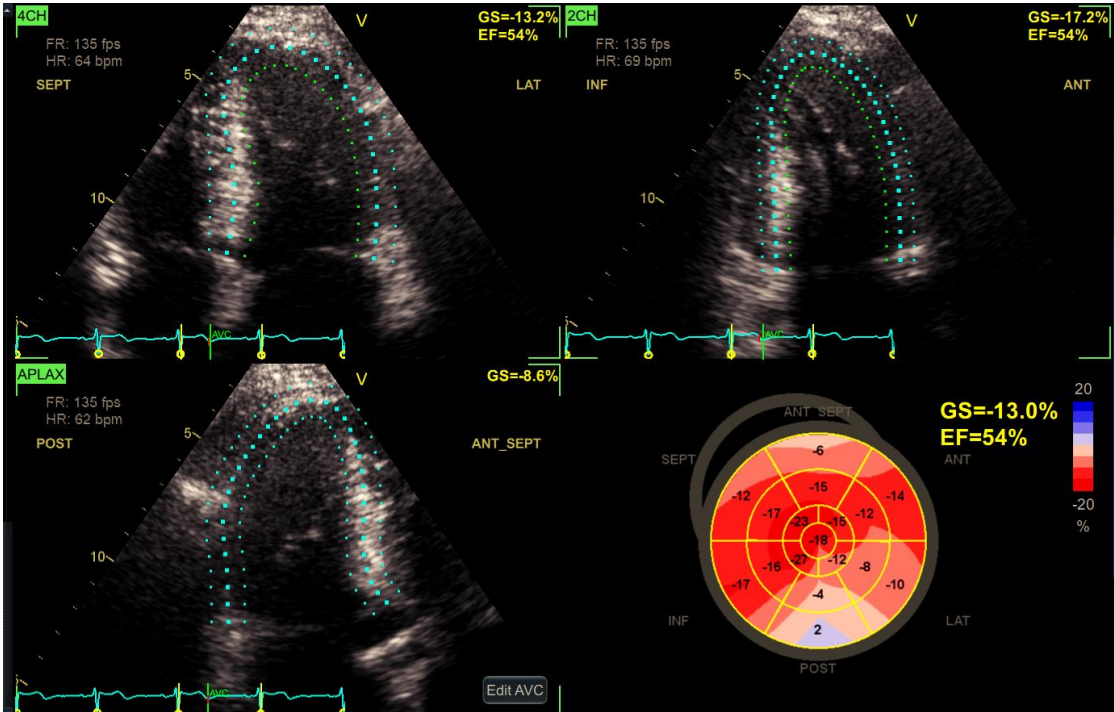
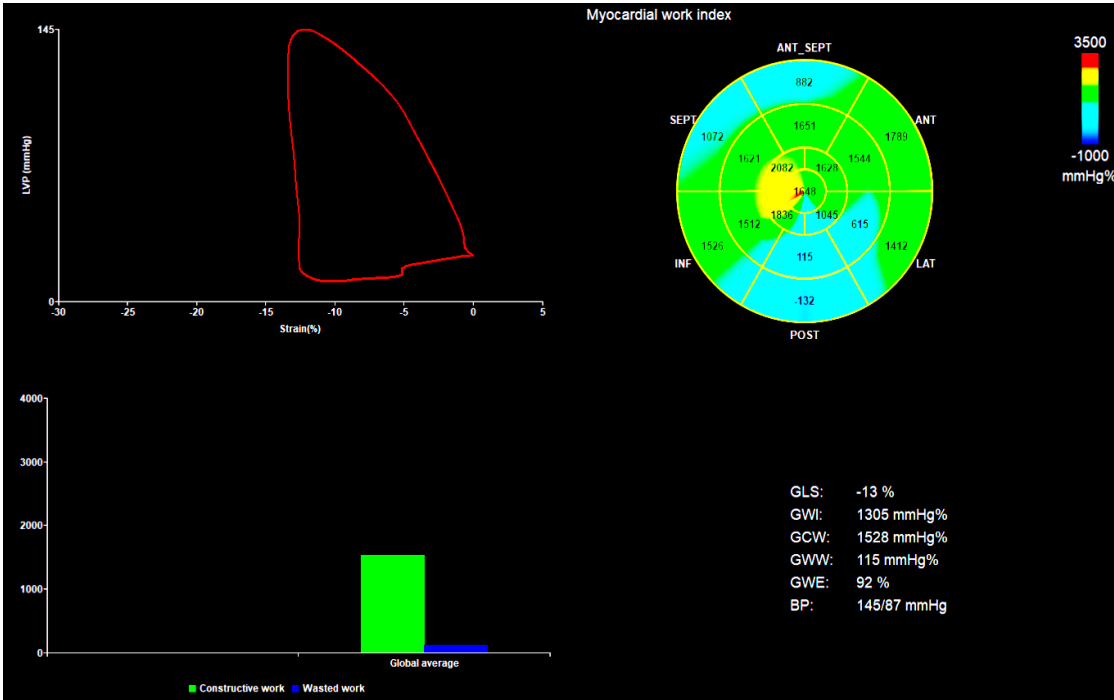
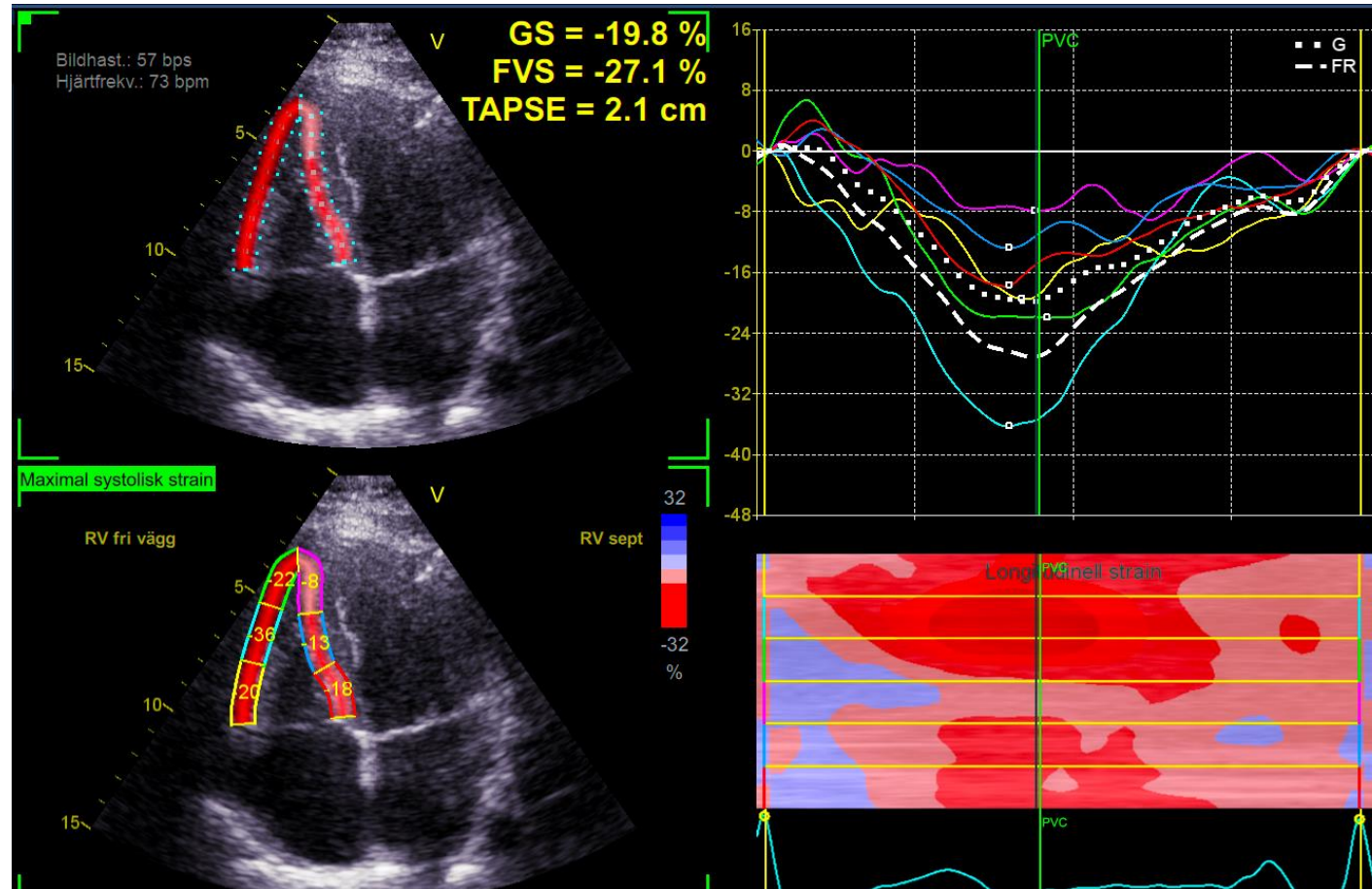
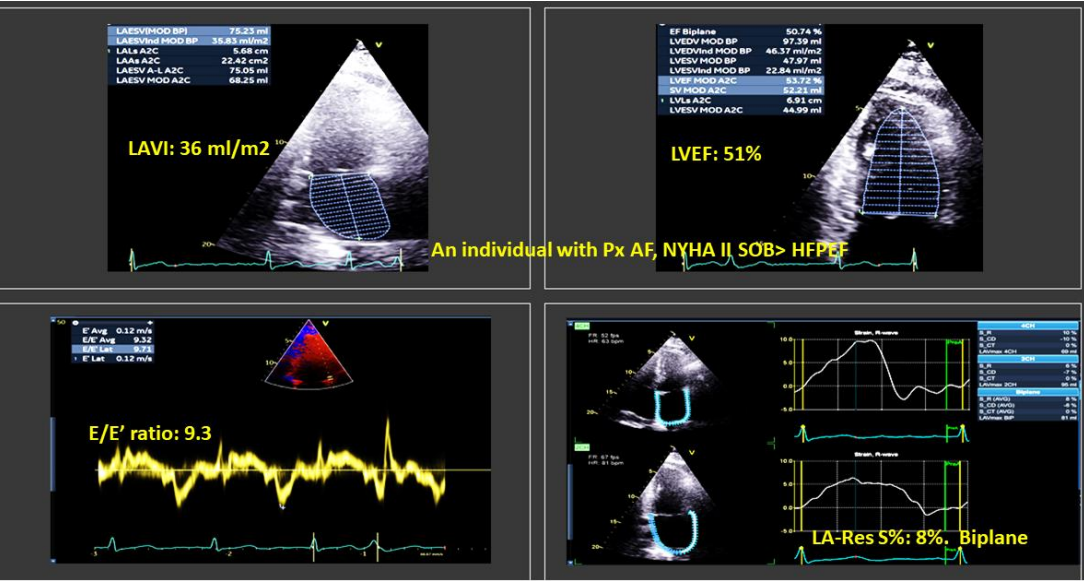
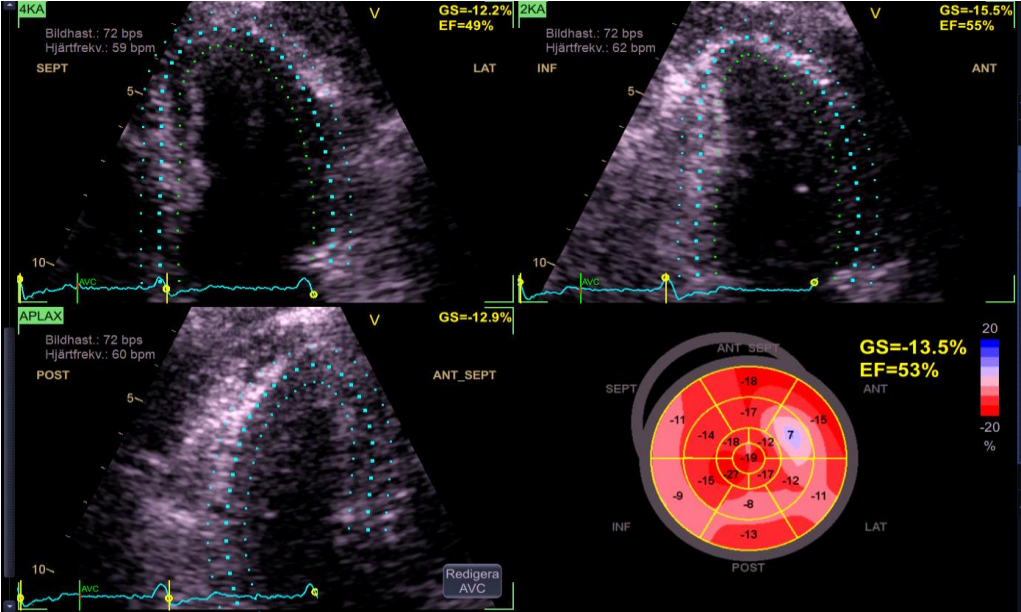
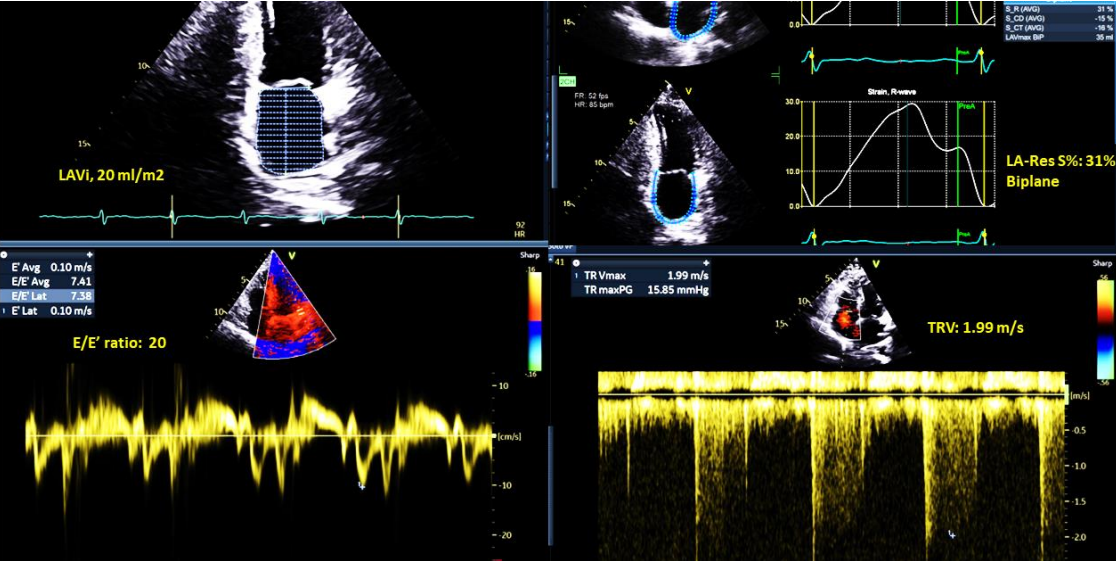


Fig 7. 2D strain imaging of the right ventricle. Applying a "3-click" method that is by placing the cursor at the two basal and the third at the apical segment, the software simultaneously generates TAPSE, FAC% and global strain in no time, thereby facilitating an accurate assessment of RV systolic function.



Graphic abstract



An individual with Px AF, NYHA II SOB> HFPLF

