

Mechanical dyssynchrony in a 42-year-old patient with left-ventricular non-compaction cardiomyopathy– a case report.

Dyssynchronia mechaniczna u 42-letniego pacjenta z kardiomiopatią z niescalenia mięśnia lewej komory– studium przypadku.

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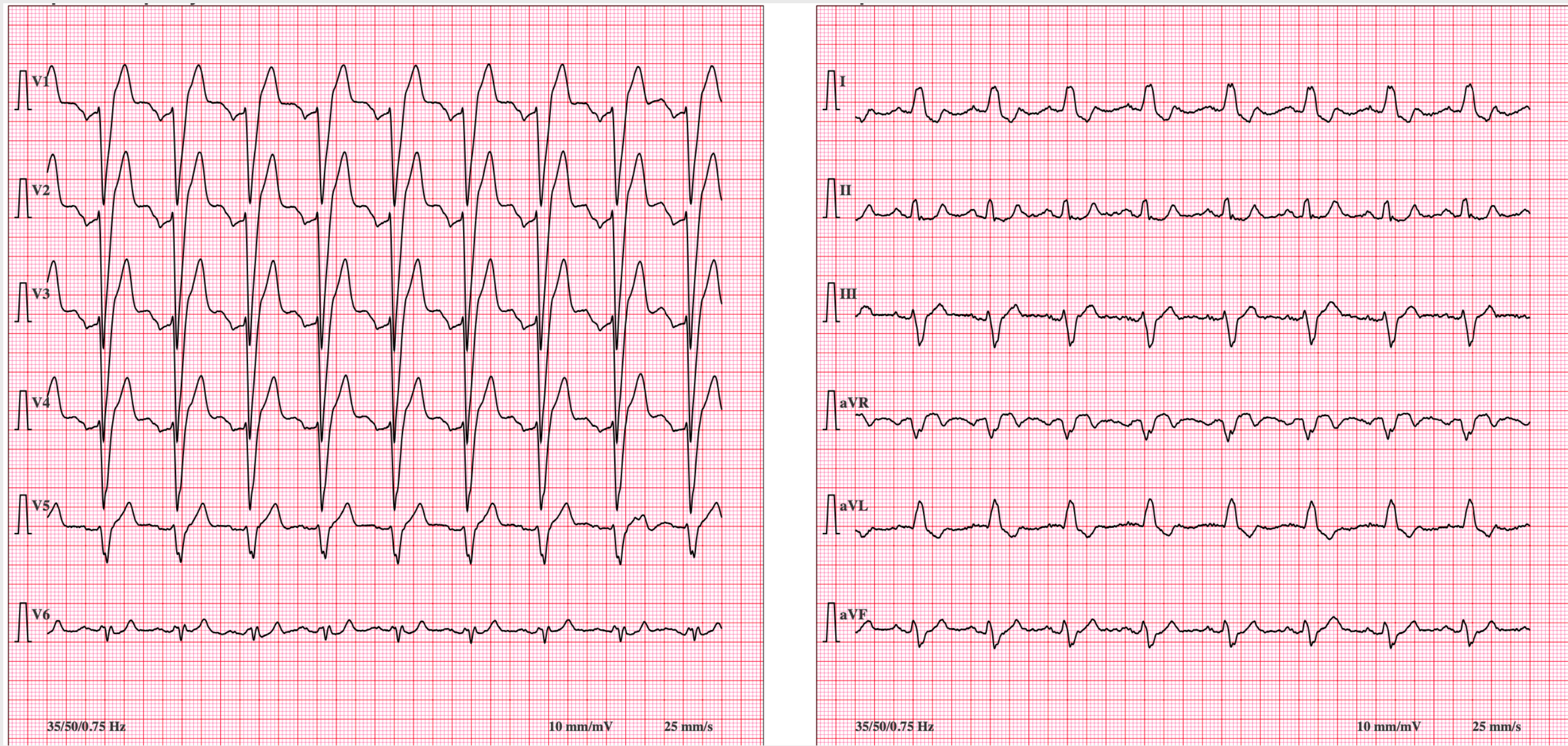
Introduction

Echocardiographic evaluation of dyssynchrony involves assessment of atrioventricular, inter-, and intraventricular dyssynchrony.

A 42-year-old male with left-ventricular non-compaction cardiomyopathy diagnosed in magnetic resonance was admitted to our department. On admission, the patient presented with dyspnea in the New York Heart Association (NYHA) class II, non-characteristic chest pain, and peripheral edema.

Electrocardiogram (ECG)

- the sinus rhythm of 75 beats per minute,
- left axis deviation
- left bundle branch block (LBBB) with wide QRS complex (160ms)

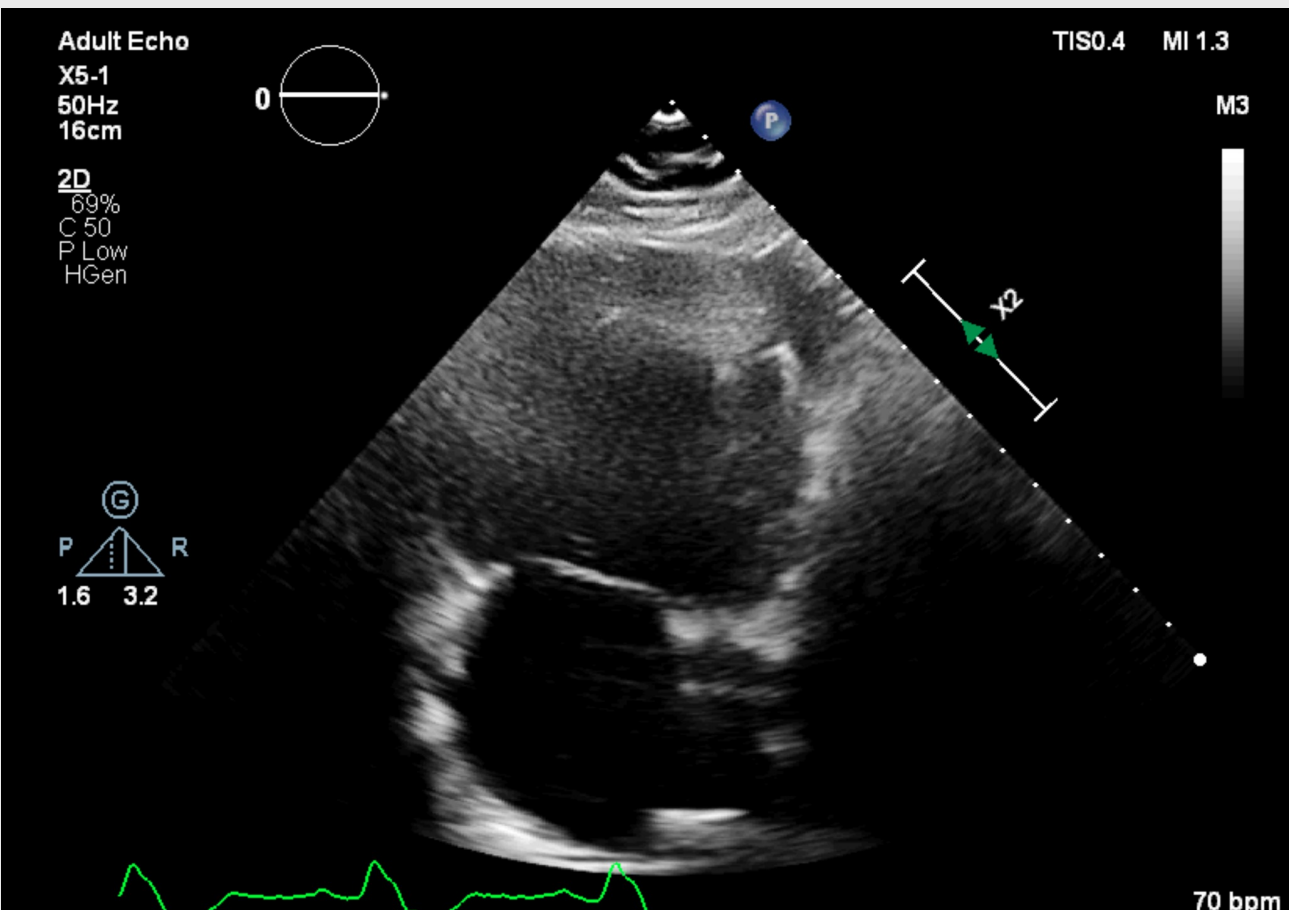
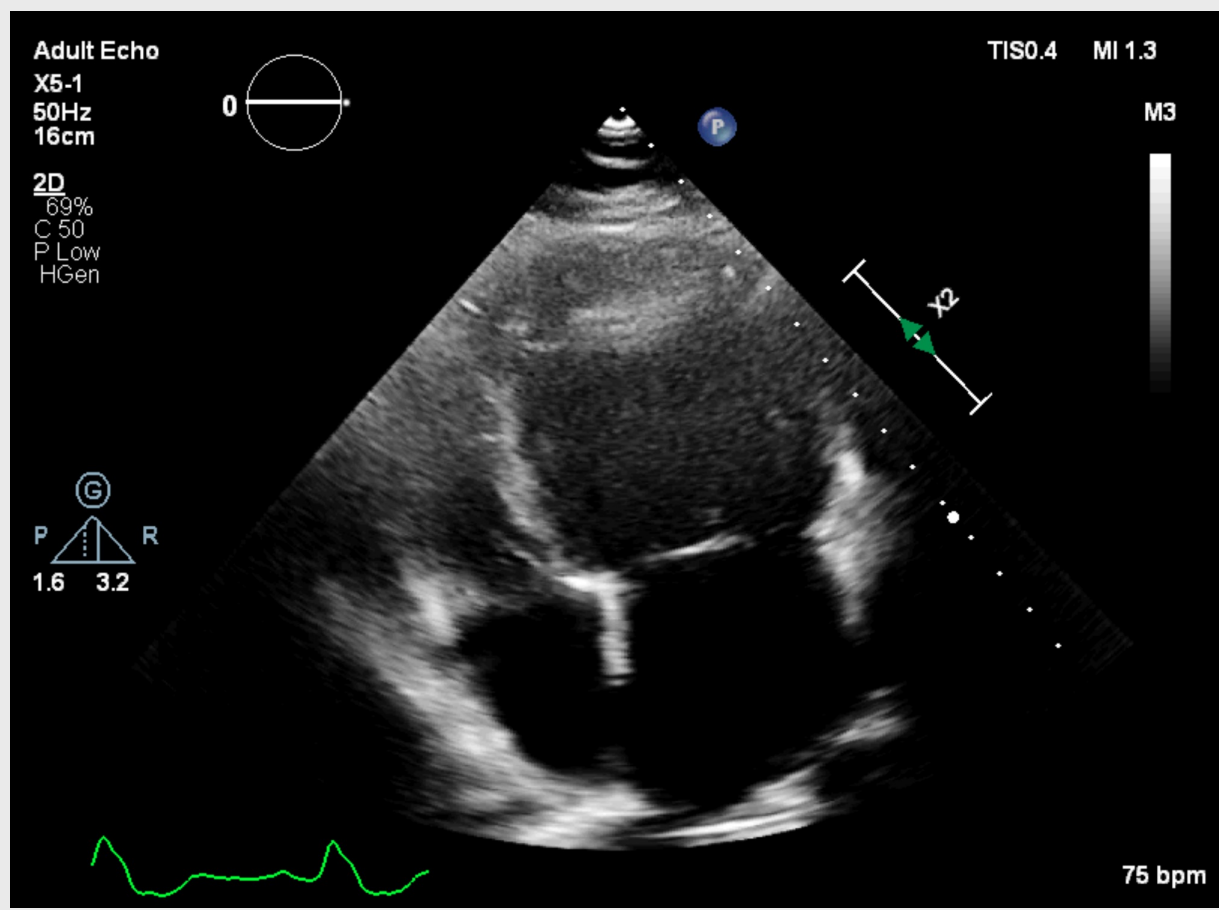
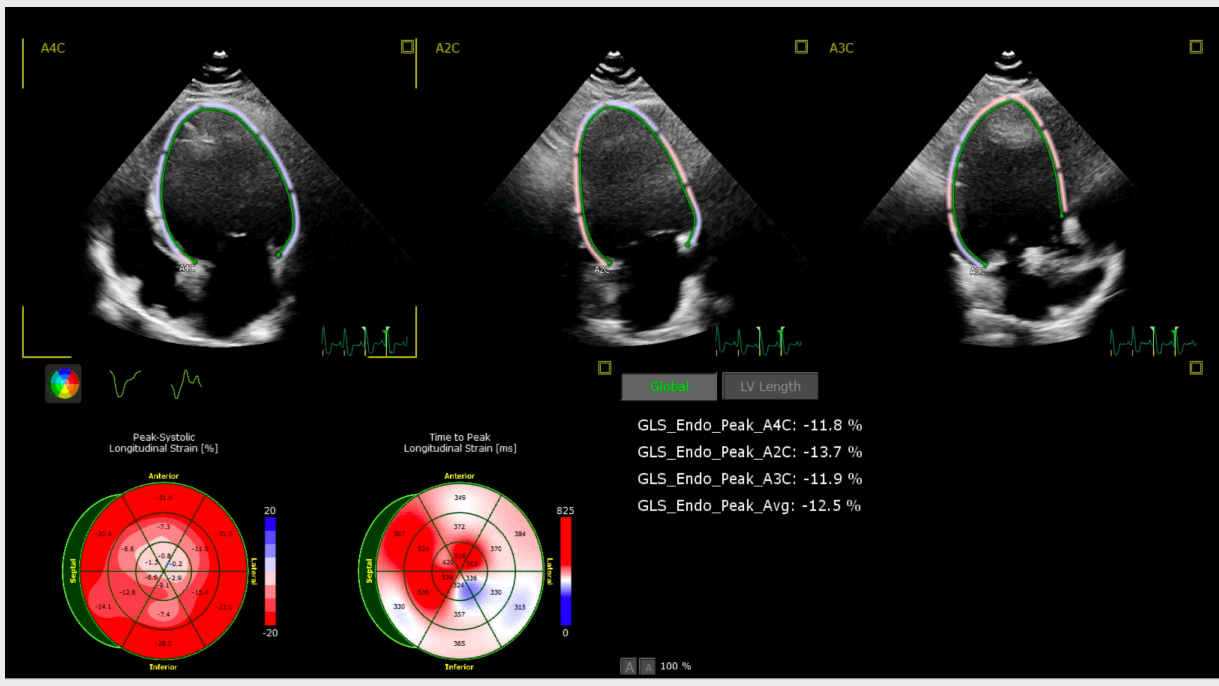


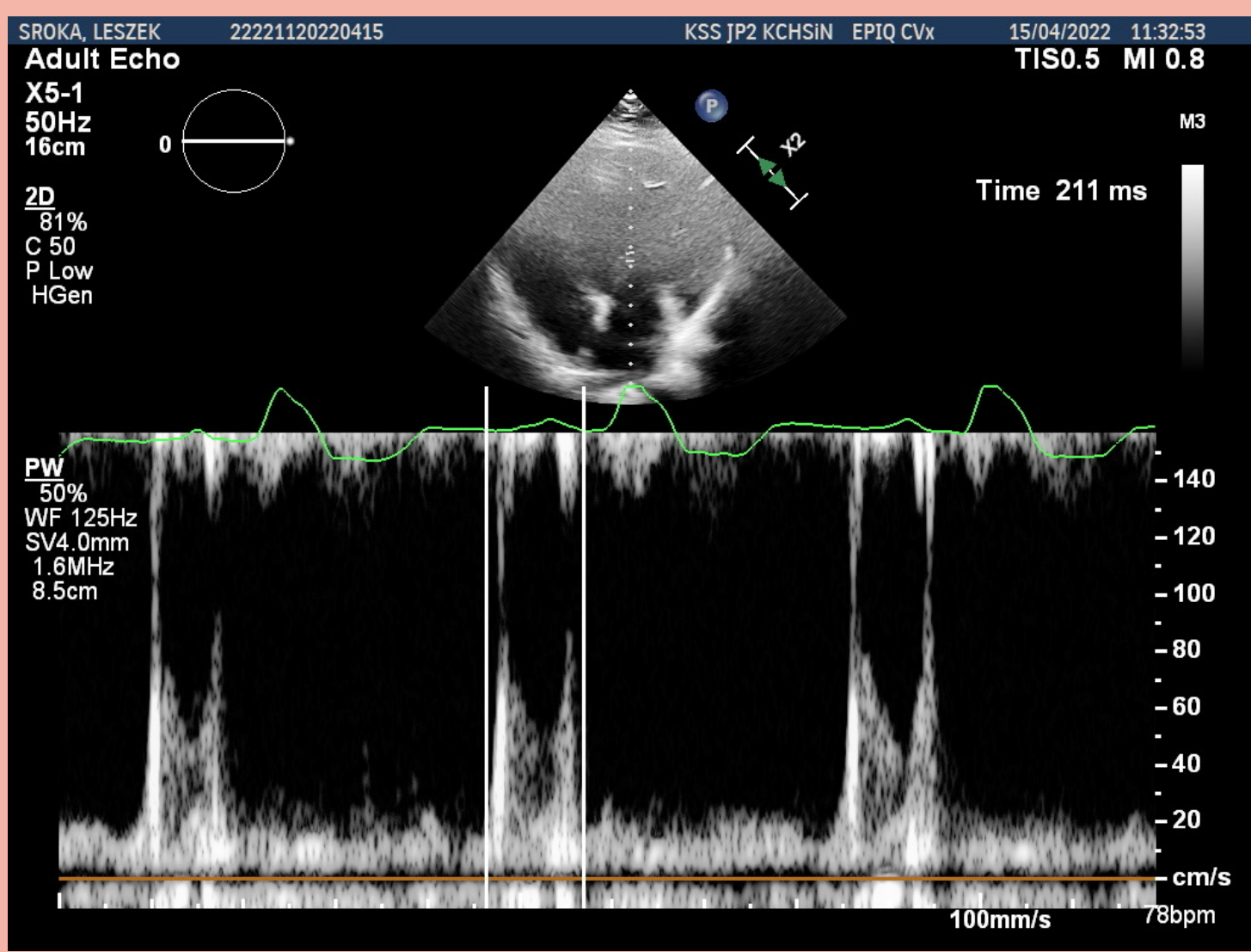
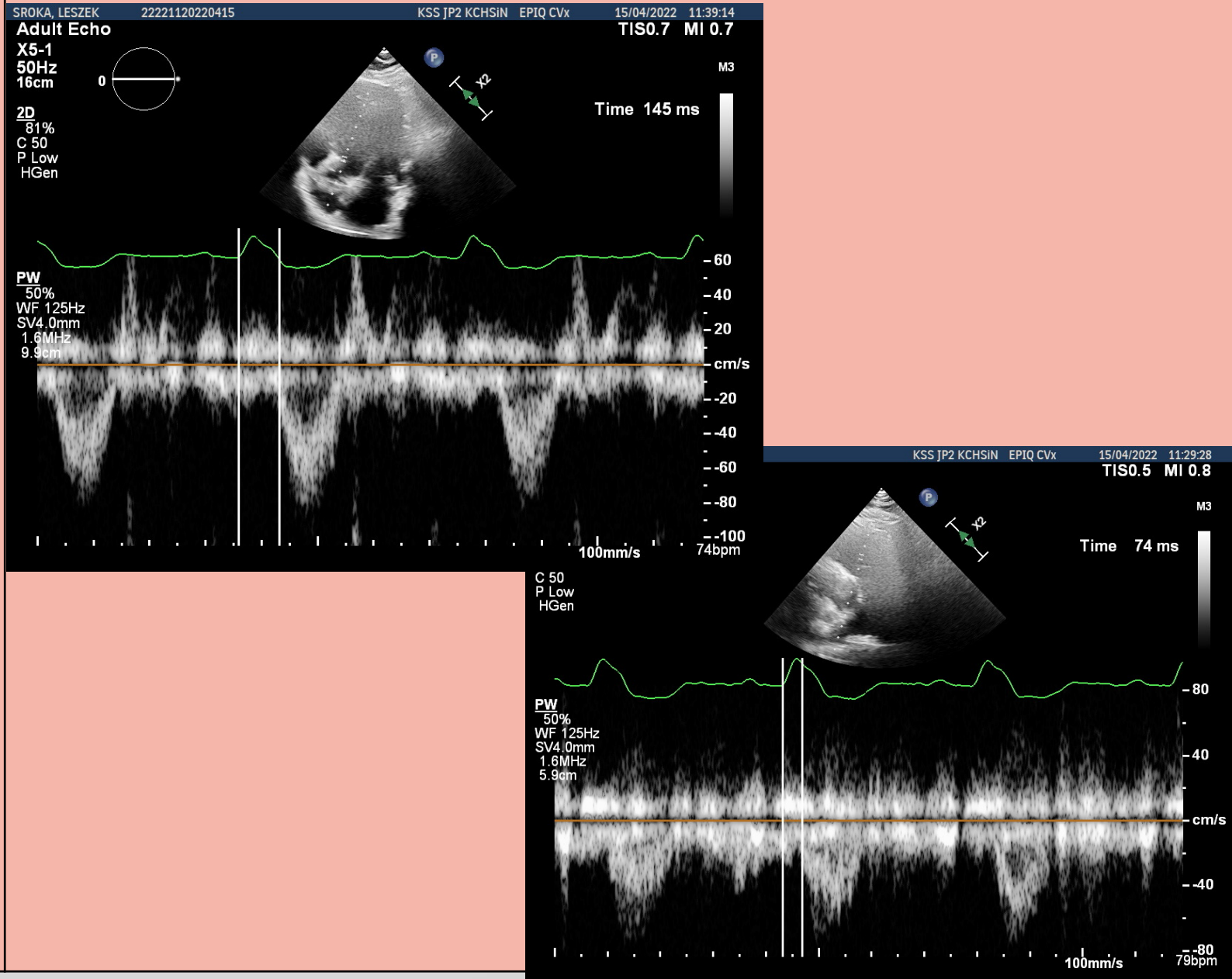
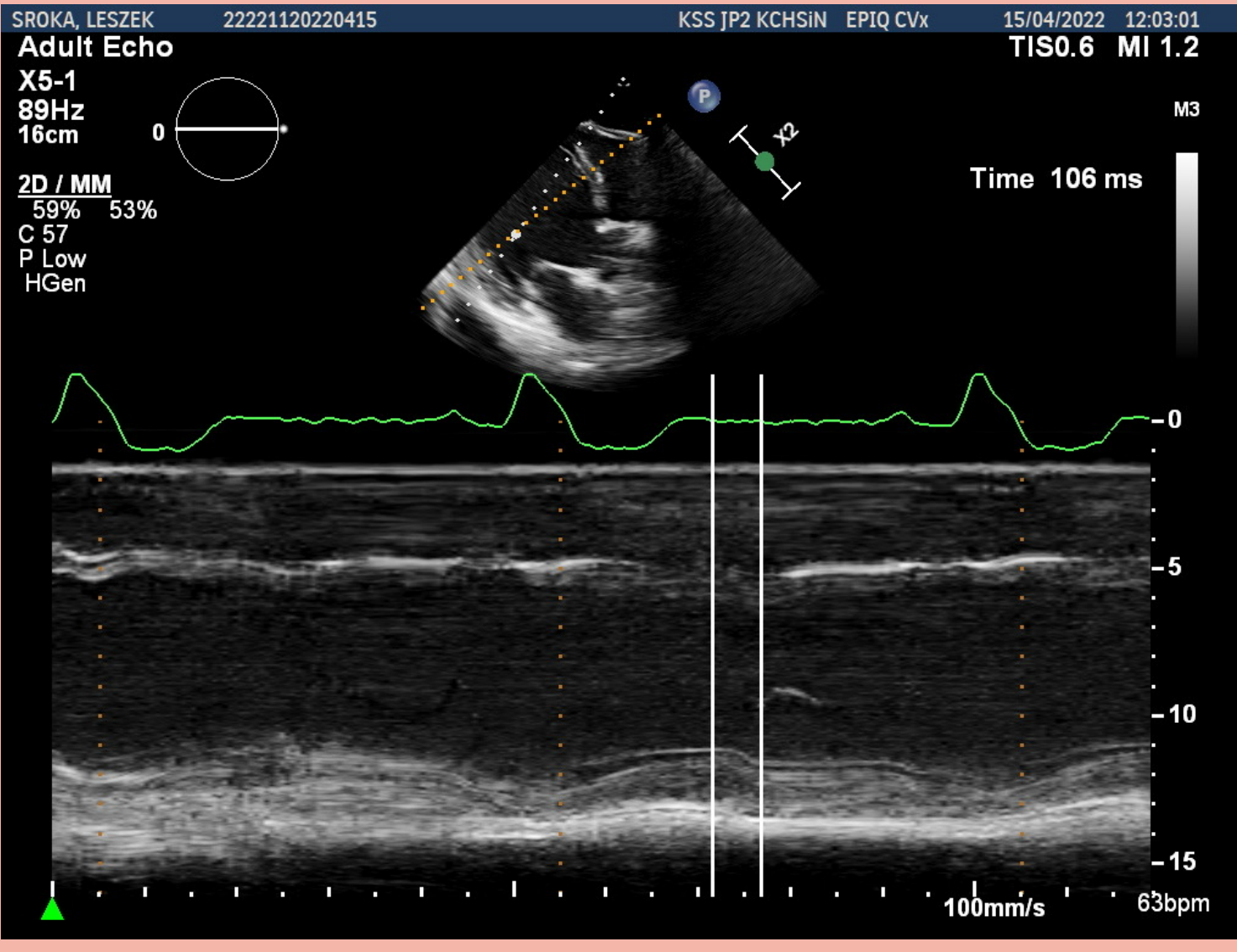
Results

- N-terminal pro B-type natriuretic peptide (NT-proBNP)- 174 pg/mL,
- At the 6-minute walk test patient made a 420m distance with dyspnea 4/10 on the Borg scale.
- Angiotomography of coronary arteries was made, and ischemic etiology of heart failure was excluded.

Transthoracic echocardiogram (TTE)

- Reduced ejection fraction (EF=30%),
- EDV: 202 ml, ESV: 127 ml
- GLS= -12,5
- RVFWS= -11,1; RV4C= -11,6



DYSSYNCHRONY	Atrioventricular	Interventricular	Intraventricular
Cut-off	Diastolic filling time (LVFT) /RR interval duration <40%	>40 ms between left ventricular and right ventricular pre-ejection time	septal to posterior wall motion delay (cut-off >130 ms)
Result	27,73% 	71 ms 	106ms 
			

Conclusions

The patient was consulted with an electrocardiologist and qualified for cardiac resynchronization therapy (CRT) implantation. The width of the QRS complex in ECG is crucial in choosing the right patients for the CRT implantation nonetheless additional tools to measure mechanical dyssynchrony can be useful.