

Supplementary material

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Table S1. Classification criteria for main electrocardiographic diagnoses

Diagnosis	Classification criteria
Normal heart rate	60–100 beats per minute
QRS interval	Measured from the end of the PR interval (or beginning of the Q wave) to the end of the S wave. Normal range: 70–110 msec
PQ interval	Measured from end of P wave to start of QRS complex. Normal range: 120–200 msec
ST interval	Measured from the end of the QRS complex (the J point) to the beginning of the T wave.
QT interval	Measured from the start of the Q wave to the end of the T wave.
QTc interval	Calculated based on Bazett's formula. Normal range: men 350–450 msec, women 360–460 msec
Sinus rhythm	positive P wave in leads I, II, aVF and V3–V6 negative P wave in lead aVR positive, negative or biphasic P wave in leads III, aVL and V1–V2
Atrial rhythm	The P wave has a different (but constant) shape to the P wave of the sinus rhythm. PQ interval >100 msec. Heart rate ≤100/min

Atrial fibrillation	<p>The absence of P waves</p> <p>Presence of the irregular fibrillation waves</p> <p>The frequency of the f waves most often >350/min</p> <p>An irregular rhythm of the QRS complexes</p>
Atrial flutter	<p>Presence of the flutter waves, in leads II, III, aVF usually biphasic</p> <p>Lack of an isoelectric line between the F waves in the limb leads</p> <p>The frequency of the F waves most often >250/min</p> <p>Steady rhythm of the QRS complexes, less often irregular, usually slower than the F waves</p>
Normal axis	ranges from +90 to -30 degrees
Left axis deviation	ranges from -31 to -90 degrees
Right axis deviation	ranges from +91 to +180 degrees
Extreme axis deviation	ranges from +181 to -90 degrees
Frequent ventricular extrasystoles	<p>More than one ventricular extrasystole in ten normal (sinus) the QRS waves</p>
Left ventricular hypertrophy	<p>In patients without intraventricular conduction abnormalities at least one of the following:</p> <p>R in aVL >1.1 mV (11 mm);</p> <p>R in I + S in III >2.5 mV (25 mm);</p> <p>R in V5 or V6 >2.6 mV (26 mm);</p> <p>S in V1 + R in V5 or V6 >3.5 mV (35 mm);</p> <p>S in V2 + R in V5 or V6 >4.5 mV (45 mm);</p> <p>S in V3 + R in aVL >2.8 mV (28 mm) (men);</p> <p>S in V3 + R in aVL >2.0 mV (20 mm) (women);</p> <p>In the presence of LAH at least one of the following:</p>

	<p>S in III + (maximum R + S from one of the precordial leads) >2.8 mV (28 mm) women and >3.0 mV (30 mm) men;</p> <p>S V1 or V2 + R V6 + S V6 >2.5 mV (25 mm);</p> <p>In the presence of RBBB at least one of the following:</p> <p>R in I >1.1 mV (11 mm);</p> <p>S in V1 >0.2 mV (2 mm);</p> <p>R in V5 lub V6 >1.5 mV (15 mm);</p> <p>In the presence of LBBB:</p> <p>S in V1 + R in V5 >4.5 mV (45 mm);</p> <p>auxiliary criteria — left atrial hypertrophy and/or QRS complex >155 msec (classified as ‘possible LVH’)</p>
<p>Right ventricular hypertrophy</p>	<p>In patients without intraventricular conduction abnormalities:</p> <p>R in aVR \geq0.5 mV (5 mm)</p> <p>R in V1 \geq0.7 mV (7 mm)</p> <p>rSR’ in V1 — R’ > 1 mV (10 mm) (QRS <120 ms)</p> <p>S in V5 >1 mV (10 mm)</p> <p>S in V6 > 0.3 mV (3 mm)</p> <p>R in V1 + S w V5 lub V6 >1.05 mV (10.5 mm)</p> <p>In the presence of RBBB:</p> <p>R-wave amplitude in V1 > 1.5 mV (15 mm)</p>
<p>LBBB</p>	<p>The duration of the QRS complex \geq120 msec</p> <p>Wide, interlocked R wave or R wave with a plateau at its apex in leads I, aVL, V5, and V6, or rarely RS complex in leads V5–V6</p>

	<p>QS or rS complex in leads V1–V3</p> <p>Time to R-peak in V5, V6 >60 msec</p> <p>ST and T changes opposite to the main deflection of the QRS complex</p>
RBBB	<p>The duration of the QRS complex is ≥ 120 msec.</p> <p>S-wave wider than R and/or >40 msec in leads I and V6.</p> <p>QRS complex with morphology rsr', rsR', rSR' (r' or R' wider than r) or wide, often interlocked R wave in leads V1 and/or V2.</p> <p>Time to R-peak in V1 >50 msec.</p> <p>Secondary ST – T changes in leads V1 – V2 and possibly V3</p>
LAH	<p>Left axis deviation.</p> <p>The qR complex in lead aVL.</p> <p>Time to R-peak in lead aVL >45 msec</p> <p>QRS duration <120 msec</p>
LPH	<p>Right axis deviation.</p> <p>qR complexes in leads III and aVF</p> <p>rS complexes in leads I and aVL</p> <p>Time to R-peak in lead aVF >45 msec</p> <p>QRS time <120 msec.</p> <p>No features of a right ventricular hypertrophy</p>
Pathologic Q wave	<p>Must be present in at least two corresponding leads:</p> <ol style="list-style-type: none"> In V2, V3 - a QS complex or Q wave of any depth and duration ≥ 20 ms; In any two adjacent leads from the group - I, aVL, V6; V4–V6; II, III, aVF — QS complex or waves Q with an amplitude ≥ 0.1 mV (1 mm) and duration ≥ 30 ms

ST depression	<p>Measured in the J — point, must be present in at least two corresponding leads:</p> <ol style="list-style-type: none"> 1. Leads V2, V3 — decrease in the J point ≥ 0.05 mV (0.5 mm); 2. Leads other than V2 and V3 - decrease in the J point ≥ 0.1 mV (1 mm)
ST elevation	<p>Measured in the J — point, must be present in at least two corresponding leads:</p> <ol style="list-style-type: none"> 1. Leads V2, V3 — women ≥ 0.15 mV (1.5 mm), men ≥ 40 years old - ≥ 0.2 mV (2 mm), men aged <40 years - ≥ 0.25 mV (2.5 mm) 2. Leads other than V2, V3 — women and men ≥ 0.1 mV (1 mm)
Negative T wave	<p>Inversion of T waves (negative T) with amplitude ≥ 0.1 mV (1 mm)</p>

Abbreviations: LBBB, left bundle branch block; RBBB, right bundle branch block; LAH, left anterior hemiblock; LPH, left posterior hemiblock