



Original article

Electrocardiogram reports in a cardiology tests clinic



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ABSTRACT

Background: The electrocardiogram (ECG) is the oldest and the most frequently used test in cardiology. The aim of this study is to verify, in different patients' groups, which are the most frequent ECG reports in a cardiology tests clinic.

Methods: This is a retrospective evaluation of all ECGs performed in a cardiology clinic in Fortaleza, Ceará, Brazil. The main indications and results were evaluated.

Results: A total of 1150 ECGs were performed; 63% were normal, and the most frequent abnormalities were altered ventricular repolarization (AVR) and intraventricular conduction disturbance (16% of cases). In the preoperative groups, the ECG report was normal in 67% of cases, and the most frequent abnormality was intraventricular conduction disturbance (32.8%). In the clinical evaluation group, the report was normal in 60%, and the most frequent abnormality was also intraventricular conduction disturbance (18.4%). In the hypertension group, the report was normal in 56%, and the most commonly found abnormality was altered ventricular repolarization (22.5%). In the group with diagnosis or suspect coronary disease, the ECG was normal in 43%, and the most frequent abnormality was altered ventricular repolarization (34%). In the group with tachycardia, the ECG was normal in 65% of cases, and the most frequent abnormality was altered ventricular repolarization (11.7%). In the group of patients with history of syncope, the ECG was normal in all cases.

Conclusion: The ECG was normal in the majority of cases and the most frequent abnormality found was altered ventricular repolarization, independently of the indication for the test performance.

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Informes de electrocardiogramas en una clínica de exploraciones cardiológicas

R E S U M E N

Palabras clave:

Electrocardiograma
ECG
Exploraciones de cardiología
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Antecedentes: El electrocardiograma (ECG) es la exploración cardiológica más antigua y más comúnmente utilizada. El objetivo de este estudio es verificar, en diferentes grupos de pacientes, cuáles son los informes de ECG más frecuentes en una clínica de exploraciones cardiológicas.

Métodos: Se ha llevado a cabo una evaluación retrospectiva de todos los ECG realizados en una clínica de cardiología de Fortaleza, Ceará (Brasil). Se evaluaron las principales indicaciones y los resultados.

Resultados: Se realizó un total de 1150 ECG; un 63% fueron normales, y las anomalías más frecuentes fueron las siguientes: alteración de la repolarización ventricular (ARV) y trastorno de la conducción intraventricular (16% de los casos). En los grupos preoperatorios, el informe del ECG fue normal en el 67% de los casos, y la anomalía más frecuente fue el trastorno de la conducción intraventricular (32,8%). En el grupo de evaluación clínica, el informe fue normal en el 60%, y la anomalía más frecuente fue también el trastorno de la conducción intraventricular (18,4%). En el grupo de hipertensión, el informe fue normal en el 56%, y la anomalía más frecuente observada fue la alteración de la repolarización ventricular (22,5%). En el grupo con diagnóstico o sospecha de enfermedad coronaria, el ECG fue normal en el 43%, y la anomalía más frecuente fue la alteración de la repolarización ventricular (34%). En el grupo con taquicardia, el ECG fue normal en el 65% de los casos, y la anomalía más frecuente fue la alteración de la repolarización ventricular (11,7%). En el grupo de pacientes con antecedentes de síncope, el ECG fue normal en todos los casos.

Conclusión: El ECG fue normal en la mayoría de los casos y la anomalía observada con mayor frecuencia fue la alteración de la repolarización ventricular, con independencia de cuál fuera la indicación para realizar la exploración.

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Introduction

Among all tests used in cardiology, the electrocardiogram (ECG) is the oldest and the most frequently used. According to American Guidelines on ECG, this test should be done even for patients without cardiopathy suspect, included in the following conditions (class I): (1) for clinical evaluation of individuals older than 40 years; (2) to evaluate patients before the administration of cardiotoxic drugs; (3) to evaluate individuals before ergometric test; (4) to evaluate individuals at any age who have jobs that require high cardiovascular performance (e.g. astronauts, fireman, policeman) or whose performance is linked to public safety (e.g. pilots, bus drivers, air traffic controllers). There is no consensus (class II) regarding the need of ECG in the evaluation of competitive athletes. There is consensus that ECG should not be done (class III) in the routine evaluation of individuals younger than 40 years without risk factors.¹⁻⁴

As preoperative evaluation, the ECG should be performed (class I) in patients older than 40 years and in heart transplant donors or cardiopulmonary transplant receptors. There is no consensus (class II) regarding the ECG performance in preoperative evaluation in patients aged 30-40 years. There is consensus that ECG should not be done (class III) in patients younger than 30 years in the preoperative period, without risk factor for coronary disease.¹

The aim of this study is to verify, in different patients' groups, which are the most frequent ECG reports in a cardiology tests clinic.

Materials and methods

In the period between 1st August and 31st October 2012 a total of 1150 ECGs were performed in the Unicordis, a cardiology tests clinic in Fortaleza, Ceará, Brazil. The study was retrospective and all patients in the period were included in the study. The population was of ambulatory patients. The performance and interpretation of ECGs was done according to recent guidelines, published by the Brazilian Society of cardiology.⁵ Patients' age distribution is summarized in Fig. 1. The most prevalent age was 30-49 years. The majority of patients (61%) were female. The indications for ECG performance were preoperative evaluation (45%), clinical evaluation (30%), hypertension (13%), coronary insufficiency (4%), tachycardia/palpitation (4%), examination for job selection process (2%), mitral valve prolapse (1%) and syncope/pre-syncope (1%) (Table 1). All the ECGs were performed by a Cardiologist.

Results

A total of 1150 tests were analyzed; 444 were male (38.7%) and 706 were female (61.3%), with a mean age of 49.6 ± 19.2

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