

ECG diagnosis - Laudo ECG - 2009

Dr. Paulo Miranda

Dear colleagues of the forum,
Which would be the diagnosis of this ECG? The data we have are only those stated in the ECG itself.
Sincerely,

Prezados colegas do forum, qual seria o laudo para este ECG. Os dados que temos são apenas os que constam no próprio ECG.
Atte,

Paulo Miranda

ECG de Repouso

Exame: 1319

Nome:

FC 59 bpm

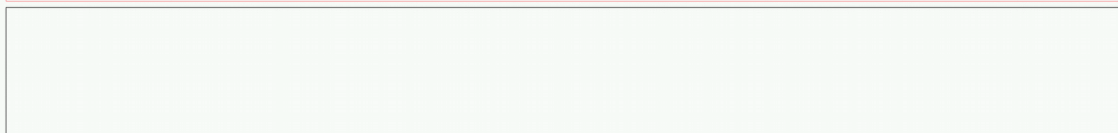
Reg.Clin.:

Filtros: 60Hz Muscular

Data: 14/10/2009

Nasc.: 29/03/1984

Vel.: 25 mm/s



ECG DIAGNOSIS

1. Normal variant in a person with 45 years old. Gender?
2. QRS axis -30 degree
3. Prominent Anterior Forces(PAF): Cause? Extreme counterclockwise of the heart in one plane around the long axis.
4. Early Repolarization Variant (ERV) or Early Repolarization Pattern.

The denomination Early Repolarization Syndrome (ERS) is not correct if we define syndrome as a group of symptoms that collectively indicate or characterize a disease, psychological disorder, or other abnormal condition, or a complex of symptoms indicating the existence of an undesirable condition or quality. We do not think the denomination Benign Early Repolarization (BER) today is appropriate, because it indicates a type of given clinical evolution, and recent papers have cast a doubt about whether this electrocardiographic pattern is really benign. Why?

Because:

- Notching or slurring of the terminal QRS complex in several leads
- Characteristic ST segment elevation, upward, concave, in precordial leads, from V1 to V5.
- The concavity is observed at the initial up-sloping portion of ST segment or upwardly concave ST segment morphology.
- Concordant T waves of large amplitude (prominent, matching T waves), typical pseudo-asymmetrical ('symmetroid') or slightly asymmetrical, matching T waves

POSSIBLE CLINICAL DIAGNOSIS:

Physiological athlete's heart (Veteran: more than 35yo). ERV is seen in individuals with high vagal tone, such as athlete's heart.

COMMENTARIES

PAF criteria: We consider there is presence of PAF in ECG, when the voltage of R wave in any precordial lead of the anterior or anteroseptal wall from V1 (+115°) through V4 (+47°) is greater than the normal maximal limit for gender and age. Electro-vectocardiographic criteria of PAF should be age-related and gender-related.

Thus, in lead V1 in adults between 20 and 30 years old, R wave > 8.9 mm in women and in men > 5.3 mm is considered a criterion for PAF.

From 30 to 40 years old, in women R wave voltage > 5.4 mm and in men > 5.8 mm is considered a criterion for PAF.

Finally, from 40 to 60 years old, R wave > 4.9 mm in women, and > 4.0 mm in men is considered a criterion for PAF. In this case R wave in V1 has 7,5mm

The normal amplitudes of R waves in lead V2 are:

From 20 to 30 years old, R wave > 13.9 mm in women and > 9.2 mm in men is considered a criterion for PAF.

From 30 to 40 years old, R wave > 12.1 mm in women and > 10.1 mm in men is considered a criterion for PAF.

From 40 to 60 years old, R wave > 12.0 mm in women and > 9.1 mm in men is considered a criterion for PAF. In this case R wave has 27mm!!!

The normal amplitudes of R waves in lead V3 are:

From 20 to 30 years old, R wave > 11.6 mm in women and > 8.2 mm in men is considered a criterion for PAF.

From 30 to 40 years old, R wave > 9.4 mm in women and > 7.1 mm in men is considered a criterion for PAF.

From 40 to 60 years old, R wave > 8.4 mm in women and > 7.1 mm in men is considered a criterion for PAF.

In the presence of PAF in the anterior wall (tall R waves) in right and/or middle precordial leads V1 through V3 or V4, the following differential diagnosis should be excluded clinico-electro-vectocardiographically

1) Normal subjects: PAF are observed in only 1% of normal subjects We distinguish two main types:

- I) Normal variant with CCW rotation of the heart around the longitudinal axis;
- II) Athlete's heart.
- 2) Misplaced precordial leads
- 3) Strictly posterior, posterobasal, high posterobasal, posterior or dorsal, posterolateral, posteroinferior, and postero-lateral-inferior MI;
- 4) Right ventricular hypertrophy (RVH): vectocardiographic types A and B;
- 5) Diastolic LVH, volumetric or eccentric LVH, secondary to septal hypertrophy (magnitude of increase of vector 1AM) and CCW heart rotation around the longitudinal axis;
- 6) CRBBB, Kennedy type III, vectocardiographic type c, Kennedy type II, or Grishman type and Kennedy type I, or Cabrera type;
- 7) Pre-excitation variant of Wolff-Parkinson-White syndrome, with accessory anomalous pathways (Kent fibers), located in a posterior location (Type A): right posterior, right and left posterior paraseptal and left posterior paraseptal and left posterior pre-excitation;
- 8) HCM: O-HCM and NO-HCM forms;
- 9) Progressive muscular dystrophy, progressive muscular dystrophy of childhood, Duchenne's cardiomyopathy, Duchenne's muscular dystrophy, X-linked muscular dystrophy, pseudo-hypertrophic muscular dystrophy, childhood muscular dystrophy;
- 10) Endomyocardial fibrosis;
- 11) Dextroposition. Example: left pneumonectomy.
- 12) Left Septal Fascicular Block
- 13) A combination of the above.

All the best

Andrés R. Pérez Riera

ECG DIAGNOSTICO DO ECG

5. Variante normal numa pessoa de 45 anos . Gênero?
6. Eixo elétrico do QRS -30 graus. Pode ser normal.
7. Forças Anteriores proeminentes (FAP): Causa? Extrema rotação anti-horária no eixo longitudinal
8. Variante de repolarização precoce ou Padrão de repolarização precoce: a denominação de síndrome de repolarização precoce é incorreta porque nos definimos síndrome como um grupo de sintomas que coletivamente indicam o caracterizam uma doença, desordem psicológica ou outra condição anormal assinalando uma condição subjacente. Nos pensamos que a denominação de repolarização precoce benigna tampoco é adequada hoje uma vez que assinala uma evolução boa fato que em recentes papers tem sido levantado duvidas em relação ao curso benigno em todos os casos.
Em que fundamentamos este diagnóstico
Because:

- No entalhe o borra mento na parte terminal do QRS em várias derivações
- Característica elevação do segmento ST de concavidade superior de V1 a V6.
- The concavity is observed at the initial up-sloping portion of ST segment or upwardly concave ST segment morphology.
- Ondas T concordantes de grande voltagem pseudo-simétricas

POSIBLE DIAGNÓSTICO CLÍNICO:

Coração de atleta em veterano (> de 35a) A repolarização precoce é vista em estos individuos com frecuencia com hiper ton vagal

COMENTARIOS

Consideramos a presence de FAP no ECG quando a voltagem da onda R em qualquer precordial de V1 a V4 utrapassa a voltagem normal para idade e gênero.

Assim em V1 adultos de 20 a 30 anos a R >8.9mm em mulheres e >5.3mm em homens assinala FAP.

Entre 30 e 40 anos em mulheres ondas R de voltagem >5.4mm e em homens >5.8mm considera-se FAP

Finalmente de 40 a 60 anos uma R de V1 >4.9 mm em mulheres e >40mm em homens es considerado critério de FAP.

Causas de FAP

- 1) Variante normal: em atletas e não atletas.
- 2) Má colocação de eletrodos
Infarto dorsal ou latero dorsal
- 3) SVD
- 4) SVE
- 5) BCRD
- 6) Cardiomiopatia hipertrofica obstrutiva e não obstrutiva.
- 7) Duchenne
- 8) endomicrocardiofibrose
- 9) Dextroposição
- 10) BDAM
- 11) Combinação das anteriores

Saudações

Andrés R. Pérez Riera

Great case, Dr. Miranda!

Thanks to Dr. Riera for another master class, which I suggest everyone to copy and save in their files (I do it, and I already have a collection of classes by Andrés!). One day I will publish a book, and I will keep all royalties, and it will be called: "Teachings by Dr. Andrés".

Have a nice weekend!

Muy lindo caso Dr Miranda!

Gracias Dr Riera por otra clase magistral, que sugiero a todos la copien y guarden en sus archivos (yo lo hago y ya tengo una colección de clases de Andrés!). Un día voy a sacar un libro, y me quedaré con todas las regalías, se llamará: "Las enseñanzas del Dr, Andrés".

Buen fin de semana!

Adrián Baranchuk

A reciproca é verdadeira dear friend Eu aprendo a lot with you. You are amazing a great person
At the best

Andrés

Dear Prof. Dr. Ricardo Perez Riera,

Thank you very much for the wonderful description of the submitted ECG. I will try to forward it to all my colleagues so they may benefit from it too.

Just as Dr. Baranchuk, I have your contributions in a specific folder that I always use for consultations.

Sincerely,

Prezado prof. Dr. Ricardo Pérez Riera ,

Muito grato pela magistral descrição do ECG enviado. Procurarei repassar aos colegas na integra para que tambem se beneficiem da mesma,

Como Dr Baranchuk tenho suas participações em uma pasta especifica que sempre uso para consulta.

Atte,

Paulo Miranda
