Questions?
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Visit the web site!
www.nelsonsekgsite.com
Jan 2018
90 year old man

Your Ladder Diagram would be helpful

Tracing 1
A ladder diagram is valuable because it forces logical thought. Looking closely; the P–P cycle is regular at 140/minute. The P waves are conducted to the ventricles with a long PR interval and morphology of LBBB. The alternating positive complexes are unrelated to atrial stimuli, and bear no constant relationship to the conducted QRS complexes. They recur at a consistent interval ("interectopic interval") of 1.56 sec. This is evidence of a parasystolic ventricular focus. A fusion complex (F) supports the diagnosis of ventricular parasystole.
January 2018

19 Year Old Male

Take Your Choice

A
DX: SPRUE
K = 2.2
Ca = 6.0

B
DX: HYPOPARATHYROIDISM
K = 4.5
Ca = 4.0

C
DX: HEAT STROKE
K = 6.3
Ca = 10

D
DX: CHRONIC RENAL FAILURE
K = 6.3
Ca = 2.5
This unhappy young man has chronic renal failure -- the correct answer, therefore, is D.

Note the long interlude between QRS and the onset of the T-wave (0.36 sec.). Prolonged QoT suggests hypocalcemia and the patient’s serum calcium of 2.5 mg % supports the EKG impression.

Note also the prominent and reasonably symmetrical T-waves, particularly well seen in lead V4 and V5. This should raise the concern of possible hyperkalemia and correlates with his measured serum potassium of 6.3. The EKG frequently provides a warning light that the patient’s “lytes” are abnormal.
Tracing 3
83 Year Old Woman

Your observations please.
This is an interesting and difficult tracing, beautifully diagrammed above. For most of the EKG, the P waves are dissociated from the QRS complexes. The QRS morphology shows RBBB and right axis deviation of the blocked forces (pattern = RBBB + LPFB). This could be due to the discharge of a junctional focus or a ventricular site, in the left anterior fascicle. The evidence is that it is a ventricular focus at 47/minute. An explanation is shown in the ladder diagram. There is a single P wave conducted (arrow) -- a capture beat with LBBB morphology. The next beat is a ventricular fusion complex (F) which provides proof that the ventricle is the source of the wide QRS beats. The ventricular discharge depolarizes the A-V junction and establishes a long refractory period, preventing passage of most of the atrial impulses. One ventricular impulse succeeds in retrograde conduction to the atrium (double arrow). It resets the sinus timetable and delays the next P wave. When it arrives beyond the refractory period, it is conducted as the "capture beat".
Tracing 4

28 Year old woman

Single EKG - Your observations please.
Should she marry your bro..??

Home
This unfortunate young lady has sustained both inferior and extensive lateral MIs. The EKG biatrial abnormality accompanied the bedside evidence of serious heart failure. Advice is cheap and often not heeded, but you should suggest to your bro that he look elsewhere!
Date: 6/28

Date: 11/21  Now what?  RX Should be?
Tracing 5: Answer

Date: 6/28

The top tracing shows sinus rhythm with bifascicular block - RBBB + LAFB.

Q Waves in V1-V4 Indicate an age? Anteroseptal M.I.

Date: 11/21  Now what?  RX Should be?

In the lower tracing, numerous APCs are present - several non-conducted. However, the ominous observation is now there is LBBB!!

This elderly man has “Bilateral Bundle Branch Block” which is a premonition for the development of complete AV block. An electronic pacer is in order....(because of his advanced dementia, one was not inserted)
Tracing 6

Date: 10/14

Date: 7/18

What’s present now??

75 Year old woman

Observations?
"First-degree" AV block sets the stage for "second-degree" AV block. In the top tracing, when the atrial rate is 65 per minute, the PR interval is prolonged to 0.44 seconds.

In the lower, when the rate increases to 90 per minute, Wenckebach AV block occurs. In both tracings, note the P wave evidence of biatrial enlargement.