

Reversible Unusual bradyarrhythmia Associated with Hypothyroidism

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ABSTRACT

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A sixty year old lady presented with complaints of dizziness and syncope of two weeks duration. ECG abnormalities were noted which reversed with treatment with thyroxin.

Keywords: Bradyarrhythmia, Hypothyroidism, Binodal disease.

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A sixty year old lady presented with complaints of dizziness and syncope of two weeks duration. She was feeling unwell for the past one year. There is no history of any chronic medical illnesses.

On examination, she was not pale and her temperature was normal. The pulse was 60 beats per minute, regular, and the blood pressure was 140/90mmHg. The JVP was normal. There was no cardiomegaly, the S1 was soft, S2 was normal and there was no S3 or S4. There were no murmurs there was no evidence of congestive heart failure. The examinations of other systems were unremarkable and the deep tendon reflexes were normally elicitable.

The investigations were as follows: Hb =10.5 g%, urea, creatinine and electrolytes were within normal limits. The thyroid function tests were as follows: T3 =0.42ng/ml, T4 =3.2micro g/dl, TSH = 60micro IU/L

The initial ECG (Figure 1) shows sinus bradycardia, prolonged PR interval, varying p wave morphology and

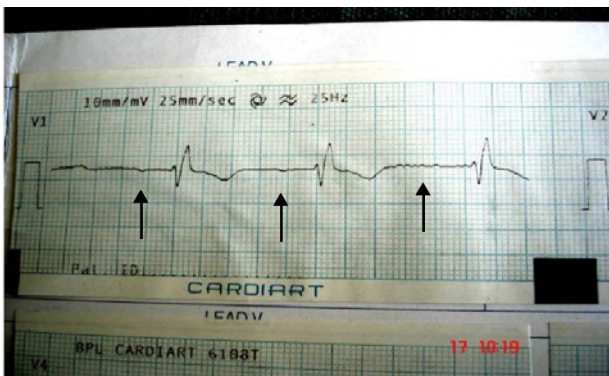


Figure 1. (Lead V₁; arrows indicate p waves)

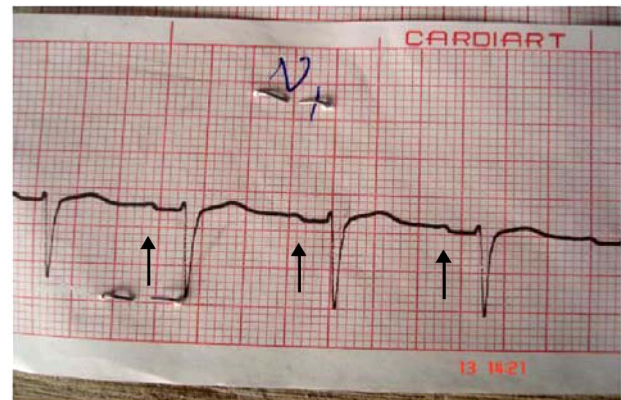


Figure 2. (Lead V₁; arrows indicate p waves)

RBBB. These changes suggest I° AV block wandering SA node and complete RBBB. The whole abnormality indicates binodal disease and pan conduction abnormality.

The patient was started on l-thyroxine 100 micrograms daily. She was reviewed after four weeks. She was symptomatically much better and was not feeling dizzy any more. A repeat ECG showed normal sinus rhythm of 70 bpm. After l-thyroxine administration, the repeat ECG (Figure 2) shows sinus rhythm, with normal PR interval and no RBBB. Possible mechanisms of these ECG abnormalities could be infiltration of the conducting system of the heart by the myxomatous tissue, which is reversed after the administration of l-thyroxine. Usual cardiovascular manifestations of hypothyroidism are sinus bradycardia, cardiomegaly, pericardial effusion and rarely, dilated cardiomyopathy. Binodal disease and RBBB are very unusual manifestations.

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END NOTE

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