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***CASE REPORT***

# Complete Atrioventricular Block in Case with Woven Coronary Anomaly: Coincidence or Cause?

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Woven coronary anomaly is an uncommon entity, of which the incidence is not known clearly. It's usually considered as a benign situation but sometimes it leads to life threatening conditions. We would like to present a case of AV block concominant of woven coronary anomaly.

*Keywords*: coronary anomaly, complete atrioventricular block, woven

## INTRODUCTION

Woven coronary anomaly (WCA) is a rare pathological condition. It's frequency is not known. it is usually determined incidentally during coronary angiography. Although thought to be a benign condition, it has been previously reported that it may lead to life-threatening conditions. A few cases were presented in the literature about WCA. In this article, we present a case of WCA associated with complete atrioventricular block. To our knowledge, this association has not been previously reported in the literature

## CASE

51-year-old male patient was admitted to the emergency room of our hospital with complaint of syncope. The patient was conscious when he reached the emergency room. His medical story included about ten times of syncope over the last year. This syncopes take

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about 5-10 minutes each time. There was no complaint of palpitations before syncope. It was not related to the position. he was admitted to the neurology, ear nose and throat surgery and psychiatry departments for this complaint before, but they could not find any pathology. He had no cardiac risk factors. ECG revealed atrioventricular complete block (Figure 1). The biochemical parameters (creatine kinase MB fraction, troponin, electrolytes, thyroid function tests, etc.) were normal. There was no history of medications. He was admitted to the coronary intensive care unit. Coronary angiography was performed. The right coronary artery was found to split into two twisting thin channels proximally then combined distally (Figure 2). Left anterior descending artery and circumflex artery were normal (Figure 3). Temporary pacemaker was implanted. He did not return to sinus rhythm for 10-day follow-up. Therefore, a permanent pacemaker was implanted. There was no syncope reported during the 18-month period after discharge.

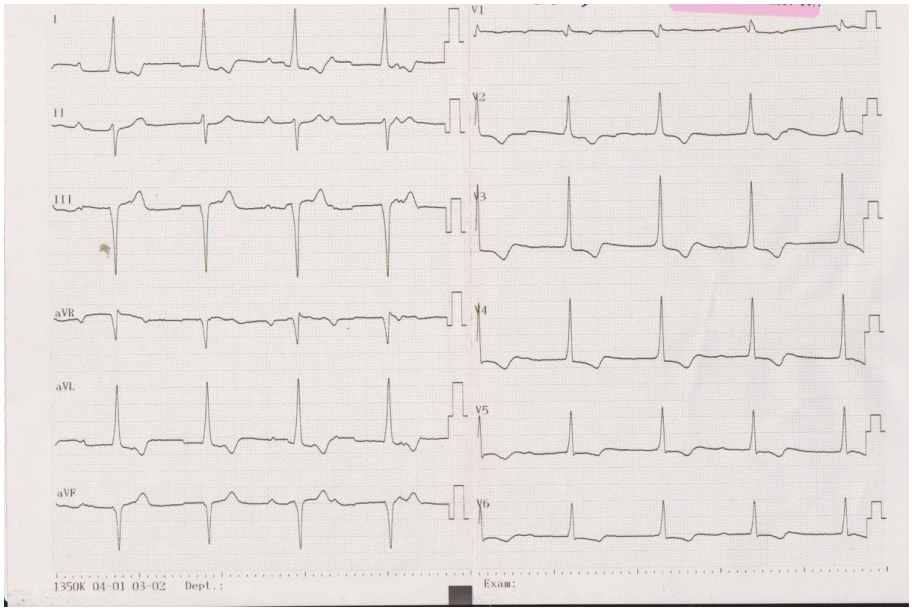


**Figure 1.** The electrocardiogram shows atrioventricular complete block.

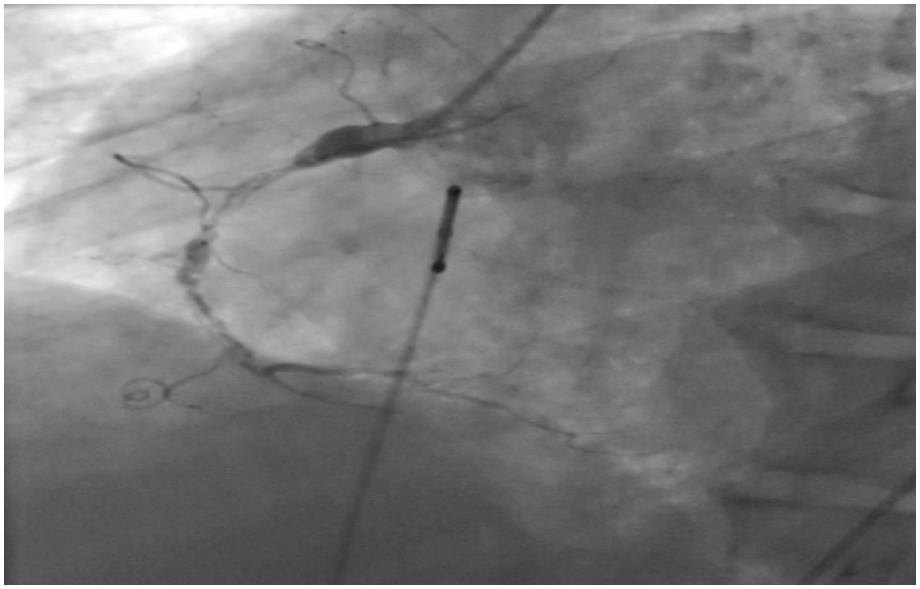

**Figure 2.** Coronary angiogram reveals woven coronary anomaly in RCA.

**Figure 3.** Coronary angiogram shows normal left anterior descending artery and circumflex artery.

## DISCUSSION

WCA is a rare anomaly characterized by the coronary artery dividing into two twisting thin channels proximally then combined distally (1). The etiology and incidence is unclear. It is generally congenital and probably arise from genetic disorders. Some authors assert that this anomaly may be caused by coronary artery dissection (2). It can be misdiagnosed as coronary artery dissection or intracoronary thrombus or chronic arterial occlusion with vasa vasorum bridging collaterals (2, 3). For the right diagnose, multiple angiographic projections should be carefully examined with digital zooming in patients with suspected WCA.

WCA is generally considered as a benign situation in patients of whom coronary blood flow is not affected. Patients are not complicated during the 3-5-year follow-up period according to few case reports (4, 5, 2). However, some authors asserted that the twisted thin channels in WCA may induce thrombus formation (6, 5). Soylu et al. (7) presented one case of infarct-related WCA. In our case, we found a complete AV block which is a life threatening condition accompanied by WCA .

There are contradictory opinions in the literature about the formation of the WCA and whether it causes complications or not. More research should be carried out to understand the nature of this malformation.

In conclusion, although it considered a benign condition, WCA can lead to life-threatening situations, such as complete heart block which has taken place in our case. New studies will be guiding about the nature of the pathology, possible complications, and the treatment.

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