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Spastic atrioventricular block (AV-Block): Which appropriate care? (A case report and review of the literature)

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Abstract
The coronary artery spasm is an intensive vasoconstriction that causes a vessel's occlusion. Spastic atrioventricular-block is secondary, most of the time, to an impairment of the right coronary artery. It is a disease more common among Asiatic; its positive diagnosis is based on coronarography with a provocative test of the coronary spasm and a telemetry monitoring. The medical treatment consists of calcium channel blockers and the nitrated by-products. Cardiac pacing is required in case of failure of the drug treatment. We report the case of a 44-year-old woman, admitted for a complete atrio-ventricular block secondary to a spasm of the right coronary artery, which required, in addition to medical treatment, the establishment of a Pace maker.

Keywords: atrioventricular-block, coronary spasm; spastic angina

Introduction
The coronary artery spasm is an intensive vasoconstriction that causes a total or subtotal vessel's occlusion. It can be liable of a serious conduction disorder.
We report the case of a coronary spasm complicated to a complete AV-block.

Observation
It is a 44-year-old woman, diabetic, receiving a treatment by levothyroxine for a hypothyroidism; she consulted for recurrent syncope episodes preceded by intermittent angina pain, at rest, self-limited. At the admission the physical examination, the electrocardiogram and the trans-thoracic echocardiographic were within normal limits. The biological check-up has revealed biological euthyroidism with a normal electrolyte panel without any mobilization of cardiac enzymes. Our patient benefited from a normal returning coronarography (Fig1) and the review was complemented by a Methergine provocative test, which led to diffuse spasm of the right coronary artery (Fig2) with the occurrence of a complete AV-block (Fig3), associated with a clinical discomfort. Despite the fact that the spasm was lifted by injection of nitrated by-product, the AV-block has persisted, thing that led us to set up a probe of temporary stimulation. Few hours later, she got back her spontaneous sinus rhythm and the pacing lead was removed the day after. The patient was initially put under CCB and molsidomine with a holter ECG programming after two weeks. The evolution was marked by the recurrence of the clinical and electric symptomatology, where from the implementation of a Pacemaker one month later with favourable evolution.

Discussion
Coronary spasm is a multifactorial disease, of whom smoking which remains the most incriminated risk factor [1]. It is a disease with male ascendancy, more common among Asiatics, in particular Japanese population [2].

Spastic AV-block is secondary most of the time to an impairment of the right coronary artery [3]. Its positive diagnosis is based on coronarography with a provocative test of the coronary spasm and a telemetry monitoring. Many tests were proposed to study the coronary vasomotion. Methergine test remains the most commonly used between them in current practice [4]. This test, easy to perform needs to be done in the cath lab and consistently when highlighting coronary arteries without defects or with non-significant damage [4]. The medical treatment is the one of spastic angina. Smoking cessation is essential and recommended in class 1 by Japanese guidelines [5]. CCB have proved their effectiveness in AV spastic blocks as Bo Goa and AL study shows [3]. They are recommended next to the nitrated by-products, in class 2a by the European Society of Cardiology [6]. Other products like Nicorandil (2a), vitamin E and Fasudil (2b), were proposed by Japanese companies [5]. Sometimes the efficiency of the medicinal treatment is obtained only after association of several therapeutic classes. In a case reported by Pavlovic and Al. In 2011, two different CCB were used together with a nitrated by-product and a molsidomine to obtain finally a good result [7]. In another case published in 2012, in Portugal the clinical and electric symptomatology has persisted in spite of the institution of a treatment by CCB and nitrated by-product at optimal dose, thing that motivated the medical team to set up a pacemaker with a good evolution [8].

Conclusion
Spastic AV-block is a rare complication, but it can be a severe outcome of coronary spasm. Its positive diagnosis is based on coronarography with a provocative test and telemetry monitoring. CCB and nitrated by-products are the cornerstone of the medical treatment. A cardiac pacing must be suggested in the case of recurrence or obstinacy of the symptomatology under an optimal medical treatment.

Attachments

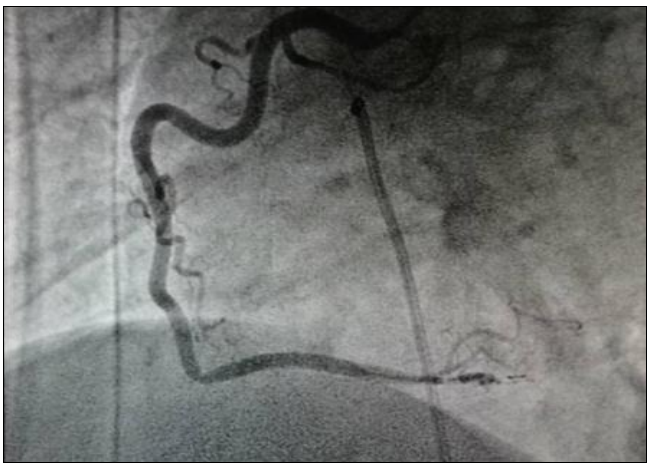

Fig 1: Angiographic Aspect of The Right Coronary Artery Before Injection of Methergine

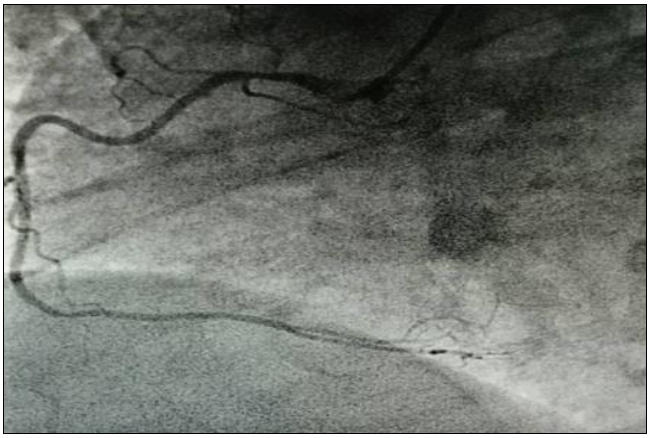

Fig 2: Diffuse Spasm of The Right Coronary Artery After Methergine Injection.

Fig 3: Electrocardiogram After Injection of Methergine Showing Complete Atrioventricular Block

Références

1. Coronary Artery Spasm. Review and Update ∗Ming-Jui Hung, Patrick Hu, Ming-Yow Hung. Int. J Med. Sci. 2014, 11.
2. Racial Heterogeneity in Coron Rary Artery Vasomotor Reactivity: Differences Between Japanese and Caucasian Patients: Beltrame *et al*. Journal of the American College of Cardiology. 1999; 33:6.
3. The Use of Calcium Channel Blockers in the Treatment of Coronary Spasm and Atrioventricular Block.
4. Gao B, Zhang Z, Qian J, Cao C, Hua X, Chu M *et al*. Cell Biochem Biophys. 2015; 72(2):527-31.
5. Mise en évidence d'un spasme coronaire par le test au Méthergin. Christian Spaulding *et al*. La Presse Médicale. 24 janvier • tome 33 • n°1, 2004.
6. Guidelines for Diagnosis and Treatment of Patients With Vasospastic Angina (Coronary Spastic Angina) (JCS). Japanese Circulation Society, 2008.
7. ESC. Guidelines on The Management of Stable Coronary Artery Disease, 2013.
8. Vasospastic Angina Pectoris Complicated by Acute Myocardial Infarction and Complete Atrioventricular Block. Pavlovic *et al*. Vojnosanit Pregl. 2011.
9. High-Degree Atrioventricular Block Induced by Prinzmetal Angina. Ferreira F *et al*. Rev Port Cardiol. 2012; 31(3):233-5.