

# Thrombotic Coronary Ectasia and the Interest of Oral Anticoagulation: Case Report

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## Abstract

Coronary ectasias are relatively rare and poorly understood pathologies. Atherosclerosis is mostly incriminated. They expose to the risk of intracoronary thrombosis by blood stasis. Stenosing lesions may be associate. We report the case of acute coronary syndrome occurring on ectatic and thrombotic artery.

**Keywords:** Coronary; Ectasia; Thrombosis; Anticoagulation

## Introduction

The first case of coronary ectasia was reported by Charles Bougon in 1812 [1]. It is an uncommon disease and its incidence has been reported in different studies as between 0.3% and 5% [2]. This entity remains poorly known and represents a particular form of coronary pathology. In addition, large thrombus burden in coronary ectasia patients complicated with acute myocardial infarction is also particularly challenging [3]. We report the case of acute coronary syndrome occurring on ectatic artery.

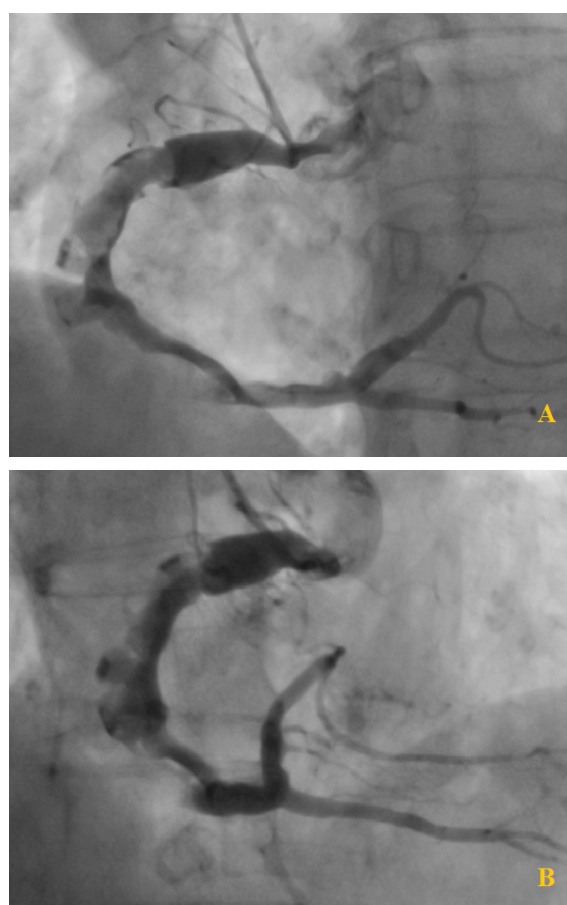
## Case Presentation

We report the case of a 78 year-old female patient who had a history of high blood pressure, diabetes mellitus and dyslipidemia. She was a non smoker and had no other chronic disease. She was admitted to the hospital because of intermittent chest pain for 6 hours. The pain was a pressure sensation without any radiation, precipitated by exertion and relieved by resting for 5 min. On arrival, her blood pressure was 120/80 mmHg and her pulse rate was 75/min. The lungs, heart, and peripheral arteries were unremarkable. Electrocardiogram, chest X-ray and blood work were normal except for the troponin level which was 3.5 ng/mL (for a threshold of 0.03 ng/mL). Thereafter, emergency coronary angiography was arranged. The right coronary angiogram showed a large ectatic vessel with huge, non-obstructive thrombus at the middle and the distal segments of the artery without significant stenosis (TIMI 3 flow) (Figure 1). The left coronary angiogram showed atheromatous vessels without significant stenosis. No percutaneous coronary intervention was needed and no thromboaspiration was performed because the artery had already a TIMI 3 flow.

Then, the patient was transferred back to our cardiac care unit for further intensive care. After intravenous heparin and oral medication including dual antiplatelet (aspirin and clopidogrel), angiotensin-converting enzyme inhibitor, beta blocker, and statin, the patient's chest pain symptom was relieved gradually. Oral anticoagulation (acénocoumarol) was then prescribed. The patient was discharged after 5 days of treatment. An angiographic control was arranged in 3 months. The result was spectacular with a complete disappearance of the thrombosis (Figure 2). The patient was asymptomatic. We decided to stop oral anticoagulation and to continue dual antiplatelet therapy.

## Discussion

Coronary Artery Ectasia (CAE) was defined by Hartnell et al. as an arterial segment with a diameter at least 1.5 times the diameter of the adjacent normal coronary artery [4]. They are more frequent in men



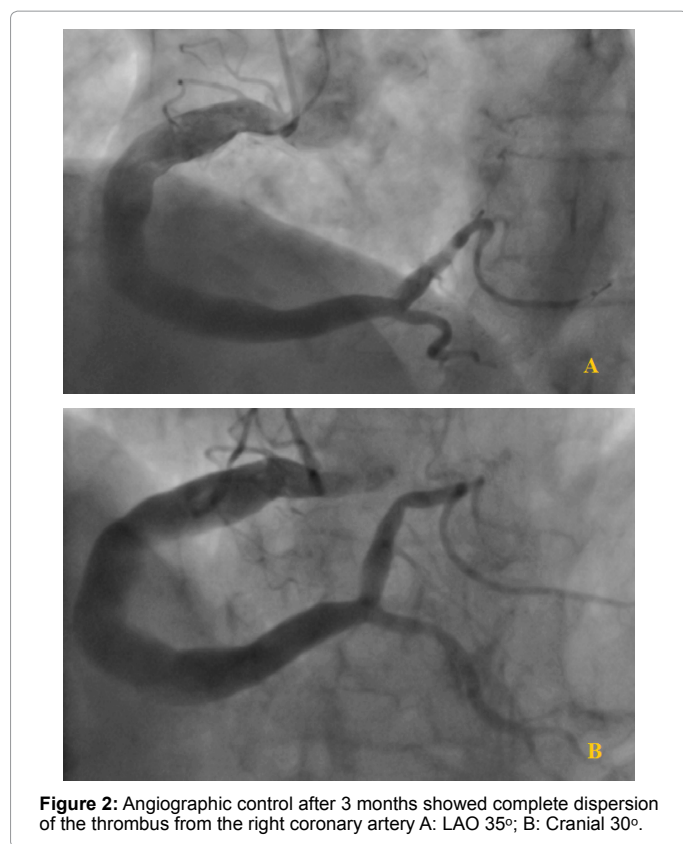
**Figure 1:** Large ectatic right coronary artery with huge thrombus burden A: LAO 35°; B: Cranial 30°.

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than in women 2.2% and 0.5% respectively [2]. More than 50% of CAE are reportedly caused by atheromatous disease [2,4,5]. Other causes may be incriminated such as syphilis, mycotic or bacterial infection, Kawasaki disease, trauma, congenital heart disease, inflammatory disorders and connective tissue disorders [6-8]. The involvement of the right coronary is classic, ranging from 40% to 70% according to the reported series [7,9]. Ectatic arteries have been shown to be prone to thrombosis, dissection, rupture and spasm [3]. There is still no consensus for management of CAE. It is important to mention that conducting large scaled randomized trials which compares different treatment modalities is difficult because of relative rarity of this condition. Administration of aspirin to all CAE patients is logical, because it has been strongly associated with coronary artery disease and reported cases of myocardial infarction [10]. Nitrates may cause steal syndrome and exacerbate the symptoms by dilating the epicardial coronary arteries. Therefore they are not recommended [11]. Additional therapeutic decisions may be required in case of thrombotic artery such as thrombolysis, heparin infusion of glycoprotein IIb/IIIa receptor inhibitors [12,13]. Thrombus aspiration during primary percutaneous coronary intervention may be needed depending on the thrombus burden [13]. Chronic anticoagulation is suggested by many teams, but no large scale study proved its benefit. The anticipated benefit must be counterbalanced with the risk of hemorrhage. In previous case reports, warfarin was frequently used to achieve complete resolution of residual thrombosis [14]. In our case, we did not use warfarin because it is unavailable in our country, so we decided to prescribe acenocoumarol.

Tuncer et al. reported two cases of CAE [15]. A large thrombus was found in both patients and they were treated with aspirin, warfarin and metoprolol. One patient benefited from coronary angiography, which revealed that the thrombus had almost completely disappeared after 3

months. Warfarin was then discontinued in both cases and replaced by clopidogrel.

Percutaneous or surgical intervention may be necessary in case of obstructive lesions and significant myocardial ischemia [16,17]. When transluminal coronary angioplasty is indicated, the technical difficulties encountered are the disparity in size between the healthy and the ectatic segment and the fear of deploying the stent in a fragile and aneurysmal segment [18]. The use of covered stents is of great help in the revascularization of these patients [16]. Additionally in case of saccular coronary aneurysms and increased risk of rupture, surgical resection may be an option [19].

## Conclusion

Coronary ectasies are rare, often associated with stenosis and represent a particular form of coronary atheroma. The technical difficulties encountered during transluminal coronary angioplasty are related to the anatomical complexity of these lesions. Anticoagulation therapy and the use of covered stents could improve the revascularization of these patients.

## References

1. Jarcho S (1969) Bougon on coronary aneurysm (1812). *Am J Cardiol* 24: 551-553.
2. Swaye PS, ElGuindy AM (1983) Aneurysmal coronary artery disease. *Circulation* 67: 134-138.
3. Befeler B, Aranda JM, Embi A, Mullin FL, El-Sherif N, et al. (1977) Coronary artery aneurysms: Study of the etiology, clinical course and effect on left ventricular function and prognosis. *Am J Med* 62: 597-607.
4. Hartnell GG, Parnell BM, Pridie RB (1985) Coronary artery ectasia. Its prevalence and clinical significance in 4993 patients. *Br Heart J* 54: 392-395.
5. Syed M, Lesch M (1997) Coronary artery aneurysm: A review. *Prog Cardiovasc Dis* 40: 77-84.
6. Antoniadis AP, Chatzizisis YS, Giannoglou GD (2008) Pathogenetic mechanisms of coronary ectasia. *Int J Cardiol* 130: 335-343.
7. Manginas A, Cokkinos DV (2006) Coronary artery ectasias: Imaging, functional assessment and clinical implications. *Eur Heart J* 27: 1026-1031.
8. Díaz-Zamudio M, Bacilio-Pérez U, Herrera-Zarza MC, Meave-González A, Alexanderson-Rosas E, et al. (2009) Coronary artery aneurysms and ectasia: Role of coronary CT angiography. *Radiographics* 29: 1939-1954.
9. Krüger D, Stierle U, Herrmann G, Simon R, Sheikhzadeh A (1999) Exercise-induced myocardial ischemia in isolated coronary artery ectasias and aneurysms ('dilated coronopathy'). *J Am Coll Cardiol* 34: 1461-1470.
10. Mavrogeni S (2010) Coronary artery ectasia: From diagnosis to treatment. *Hell J Cardiol* 51: 158-163.
11. Gziut AI, Gil RJ (2008) Coronary aneurysms. *Pol Arch Med Wewn* 118: 741-746.
12. Steg PG, James SK, Atar D, Badano LP, Lundqvist CB, et al. (2012) ESC Guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation: Task Force on the management of ST-segment elevation acute myocardial infarction of the European Society of Cardiology (ESC). *Eur Heart J* 33: 2569-2619.
13. Tanabe Y, Itoh E, Nakagawa I, Suzuki K (2002) Pulse-Spray thrombolysis in acute myocardial infarction caused by thrombotic occlusion of an ectatic coronary artery. *Circ J* 66: 207-207.
14. Myler RK, Schechtman NS, Rosenblum J, Collinsworth KA, Bashour TT, et al. (1991) Multiple coronary artery aneurysms in an adult associated with extensive thrombus formation resulting in acute myocardial infarction: Successful treatment with intracoronary urokinase, intravenous heparin, and oral anticoagulation. *Cathet Cardiovasc Diagn* 24: 51-54.
15. Tuncer C, Sokmen G, Sokmen A, Suner A (2008) Diffuse coronary ectasia and intracoronary thrombus involving left circumflex coronary artery and presenting as acute coronary syndrome: Report of two cases. *Int J Cardiol* 128: e25-e27.

16. Bajaj S, Parikh R, Hamdan A, Bikkina M (2010) Covered-stent treatment of coronary aneurysm after drug-eluting stent placement: Case report and literature review. *Tex Heart Inst J* 37: 449-454.
17. Pastormerlo LE, Ciardetti M, Coceani M, Trianni G, Ravani M, et al. (2016) Self-expanding stent for complex percutaneous coronary interventions: A real life experience. *Cardiovasc Revasc Med* 17: 186-189.
18. Stefanadis C, Toutouzas K, Tsiamis E, Toutouzas P (2002) New stent design for autologous venous graft-covered stent preparation: first human application for sealing of a coronary aneurysm. *Catheter Cardiovasc Interv Off J Soc Card Angiogr Interv* 55: 222-227.
19. Singh SK, Goyal T, Sethi R, Chandra S, Devenraj V, et al. (2013) Surgical treatment for coronary artery aneurysm: A single-centre experience. *Interact Cardiovasc Thorac Surg* 17: 632-636.