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Case Report

Atherosclerotic Monstrous Double Aneurysm of the Left Main Coronary Artery: A Very Rare Angiographic Finding

showed a large ectasia of the medium tract and a very large aneurysm (11.2 x 8.5 mm) originating at the distal segment of the left main coronary artery. The true aneurysm involved the ostia of the left anterior descending, the ramus intermedius and circumflex coronary artery (Figure 1 and Figure 2).

The right coronary artery was dominant and ectatic, without significant stenoses. The left ventricular ejection fraction was normal with no wall motion abnormalities. The patient was transferred in a Cardiochirurgic Center to perform by-pass surgery.

Discussion and Conclusion

The most common cause of coronary aneurysm is the atherosclerosis. Other causes include arteritis, Kawasaki disease, congenital malformations, angioplasty sequelae, laser procedures, traumatic injury, dissection, connective tissue disorders, Takayasu's arteritis, congenital (anomaly or genetic disorders such as Ehler-Danlos syndrome, Marfan syndrome) mycotic and idiopathic disease. The LMCAA is a rare clinical entities, encountered incidentally in approximately 0.1% of patients undergone routine angiography [6,7]. The sizes of LMCAAs may be fusiform or saccular.

The natural history and prognosis appears to be related to the presence or absence of associated coronary lesions rather than to the aneurysm itself.

The management of this angiographic finding is challenging because its rarity ensures that data on treatment are confined to anecdotal case reports and expert consensuses [8,9]. Added to this is the association between this abnormality and acute myocardial infarction and sudden cardiac death, although this may be related to concomitant coronary stenoses rather than a direct consequence of the aneurysm. The primary complication of LMCAA can be myocardial ischemia or infarction with rupture being rare. Percutaneous coronary intervention or by-pass surgery is the first treatment choice for LMCAA in the setting of acute coronary syndrome [10,11]. In the elective setting there is also no general agreement on management of LMCAA because of their rarity and unpredictable courses [11].

Both conservative therapy with anticoagulants and surgery are reported for the possible therapy for LMCAA. Surgical approach has been recommended for LMCAA with stenotic coronary lesion and conservative therapy has been proposed for patients without stenotic lesions [12,13].

Summary

Coronary artery aneurysm is a rare disease diagnosed in 0.3 to 4.9% of patients undergoing coronary angiography. The incidence of left main coronary artery aneurysm (LMCAA) is extremely rare: 0.1% [1]. Coronary artery aneurysm involves the right coronary artery, the left anterior descending and circumflex coronary arteries in descending order of frequency [2] and atherosclerosis is the most common cause. Other causes include arteritis, Kawasaki disease, angioplasty sequelae, laser procedures, traumatic injury, dissection, connective tissue disorders, Takayasu's arteritis, congenital (anomaly or genetic disorders such as Ehler-Danlos syndrome, Marfan syndrome) mycotic and idiopathic diseases. Although surgery has been recommended to prevent complication, there are no large available data comparing medical and surgical therapy [3-5]. The LMCAA is a rare clinical entities, encountered incidentally in approximately 0.1% of patients undergone routine angiography [6,7]. The sizes of LMCAAs may be fusiform or saccular. Management of these cases is still controversial, based on anecdotal experience rather than controlled trials.

We present a case of a 68 year old man referred to our Institution because of gravesent dyspnea and orthopnea. The angiographic study showed a left main large aneurism involving the ostia of the left anterior descending artery and circumflex artery. The patient was referred to Cardio chirurgic Center for by-pass surgery intervention.

Case Report

A 68 year old man was referred to our Hospital because of worsening dyspnea and orthopnea. He had a past medical history of hypertension, dislipidemia and polivasculopathy. Laboratory data were normal. Physical examination showed bilateral pulmonary crackles. Electrocardiogram was normal without Q waves or ST-T segment changes. The patient was treated with conservative therapy: diuretics and inotropic agents ev. The situation evolved better rapidly.

Four days later a coronary angiography was performed and

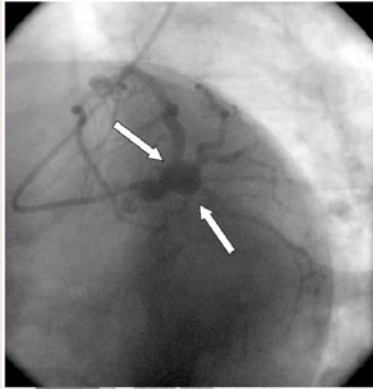


Figure 1: Angiogram of giant double left main coronary aneurysm (11.2 x 8.5 mm: 30° left, -30° caudal view, white arrows).

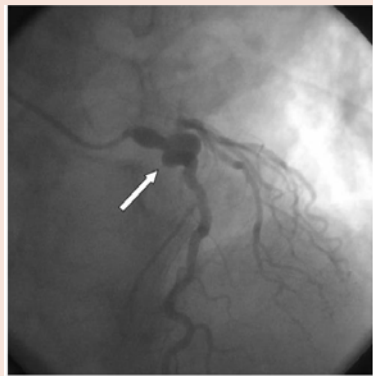


Figure 2: Angiogram of Left Main Coronary Aneurysm (3,7 x 4 cm: right 40° cranial, 0° antero-posterior view, white arrow).

But thromboembolization from the aneurysm can be a fatal complication in all patients because of the occlusion of a coronaric vessels [14].

In our patient there were relevant risks of aneurysm rupture because of a giant ectasia of the distal tract of the left main, involving the ostia of the left anterior descending artery, circumflex and ramus

intermedius. Surgery was also strongly indicated because of the dimensions and of the side of the LMCAA.

References

1. Lenihan CD, Zeman MH, Collins MG (1991) Left main coronary artery aneurysm in association with severe atherosclerosis. A case report and review of the literature. *Cathet Cardiovasc Diagn* 23-31.
2. Syed M, Lesch M (1997) Coronary artery aneurysm: a review. *Progr Cardiovasc Dis* 40: 77-84.
3. Kessler M, Hamby RI, Hilsenrath J (1980) Aneurism of the left main coronary artery. *Br Heart J* 44: 228-230.
4. Smith MD, Cowley Mj, Vetrovec GW (1984) Aneurysm of the left main coronary artery: a report of three cases and review of the literature. *Cathet Cardiovasc Diagn* 10: 583-591.
5. Newcomb EW, Youngman DJ, Burton NA (1984) Atherosclerotic aneurysm of the left main coronary artery. *J Am Coll Cardiol* 4: 1062-1064.
6. Bricker DL, Rittman DV Jr (1990) Arteriosclerotic aneurysm of the coronary arteries: surgical treatment. *Texas Heart Inst J* 14: 23-30.
7. Hawkins JW, Vacek JL, Smith GS (1990) Massive aneurysm of the left main coronary artery. *AM Heart J* 119: 1406-1408.
8. Lazarus A, Donzeau-Gouge P, Spaulding C, Weber S, Guérin F (1992) Surgical treatment of an atherosclerotic aneurysm of the left main coronary artery. *Am Heart J* 123: 222-224.
9. Fukaya Y, Miyakawa M, Senga O, Hikita H, Kouzu S, et al. (1994) Surgical management of left main coronary artery aneurysm. *Ann Thorac Surg* 57: 228-230.
10. Nogaki H, Shioi K, Mase T, Aoyama T, Miura A, et al. (1998) Two cases of coronary artery aneurysm including one case of the left main coronary artery aneurysm. *Nippon Kyobu Geka Gakkai Zasshi* 46: 513.
11. Lijoi A, Parodi E, Dottori V, Scarano F, Podestà A, et al. (2001) Atherosclerotic aneurysm of the left main coronary artery. *Minerva Cardioangiol* 49: 343-347.
12. Alioglu E, Turk UO, Engin C, Tengiz I, Tuzun N, et al. (2009) Left main coronary artery aneurysm in young patient with acute myocardial infarction. *J Cardiovasc Med* 10: 494-496.
13. Ormerod JO, Lim J, Chandrasekaran B, Ramcharitar S, Garg S, et al. (2016) How should I treat a patient with giant left main coronary artery aneurysm without associated stenosis? *EuroIntervention* 11: 1080-1082.
14. Zhang S, Liu G, Tielian Yu, Zhou G, Zheng R (2015) Giant right coronary artery aneurysm secondary to Kawasaki disease in child: a case report. *Int J Clin Exp Pathol* 8: 9468-9470.

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