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CARDIOLOGY IMAGES

Bilateral giant coronary aneurysms with cardiogenic shock

Aneurisma coronario gigante bilateral con choque cardiogénico

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Giant coronary aneurysms are a serious and potentially fatal complication of coronary disease. They are characterized by abnormal dilation of the coronary arteries, generally due to atherosclerosis and thrombus formation[1,2]. This condition may affect blood flow to the heart muscle, which may cause complications like acute myocardial infarction and cardiogenic shock[1,2]. Due to their size, giant aneurysms have a higher risk of rupture and, therefore, of causing potentially fatal internal bleeding[1,2]. Thus, it is essential to treat giant aneurysms to prevent serious complications.

The treatment focus may vary depending on the location and severity of the aneurysm. Some treatment options include open surgery and endovascular embolization[1,2]. In open surgery, an incision is made in the affected area, and a clip is placed or the aneurysm is sutured to prevent rupture. In endovascular embolization, a catheter is inserted through the blood vessels to the site of the aneurysm and embolization material is placed to block the blood flow and prevent rupture[1,2].

It is important to keep in mind that individual cases of bilateral giant aneurysms can vary significantly in terms of location, treatment and results[1,2].

We describe the case of a 61-year-old man with a history of hypertension, overweight and a family history of sudden death, who was seen in the emergency room due to intense chest pain radiating to the right arm. The electrocardiogram results on admission showed ST segment elevation in leads V1 to V3, as well as symmetrical peaked T waves in leads V2-V6. In addition, the echocardiogram showed acute inferior-posterior hypokinesia from the base to the apex, anterior mid-septal hypokinesia and a 35% ejection fraction. The levels of ultrasensitive troponin I were also considerably elevated. He was treated with aspirin, ticagrelor and a heparin infusion and subsequently developed hypotension associated with cardiogenic shock, which was controlled with inotropes and vasoactive drugs. Coronary angiography revealed a thrombosed occlusion of the proximal anterior descending artery, with a 30 x 25 mm aneurysm, as well as a critical proximal lesion and 21 x 19 mm aneurysmal dilation of the right coronary artery (Fig. 1). In light of these findings, he underwent myocardial revascularization surgery using the on-pump, beating heart technique, in which a bypass is done from the left mammary artery to the anterior descending artery, a vein is grafted to the circumflex artery, and another is grafted to the posterior descending artery. An intra-aortic counterpulsation balloon was implanted prior to surgery, which was removed on the day after the intervention.

Due to the patient's favorable recovery in the days following surgery, he was discharged. He underwent follow up three months after discharge using coronary tomography angiography which showed severe aneurysmal dilations in the middle third of the anterior descending artery. A patent mammary artery graft to the anterior descending artery was also found. The middle third of

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Figure 1. **A:** 30 x 25 mm thrombosed aneurysm is shown in the proximal anterior descending coronary artery. **B:** In addition, a proximal lesion can be seen, along with a 21 x 19 mm aneurysmal dilation of the right coronary artery.

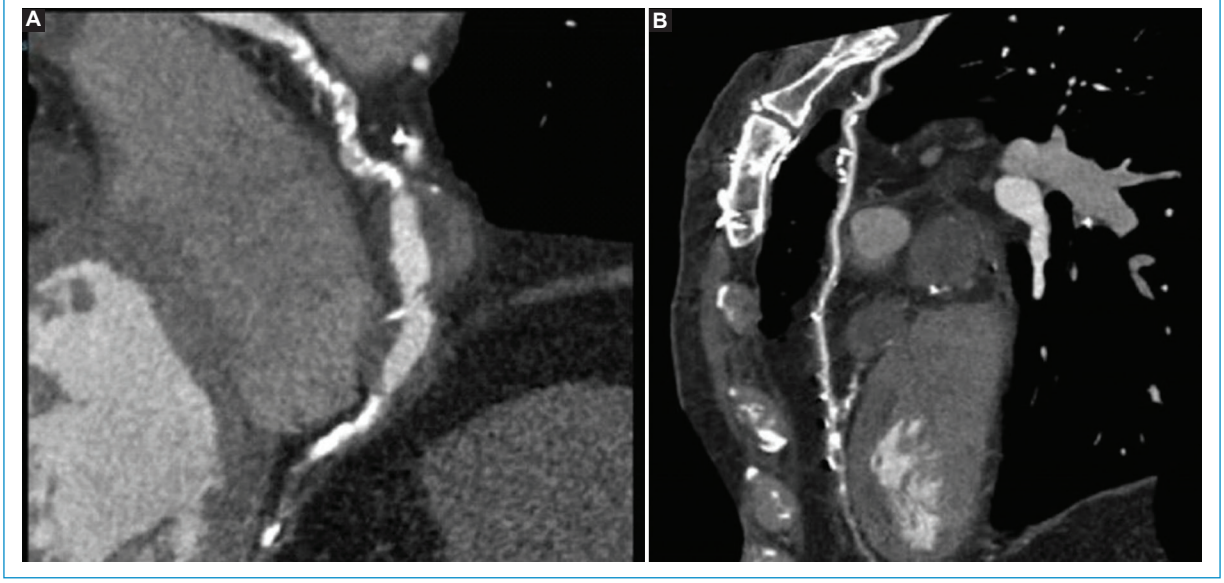

Figure 2. Follow up coronary angiography at three months. **A:** acute dilation of the middle third of the right coronary artery. **B:** severe aneurysmal dilations can be seen in the middle third of the anterior descending artery, as well as a patent mammary artery graft to the anterior descending artery.

the right coronary artery was very dilated (Fig. 2). Follow up was done by tomography angiography due to the need to verify the patency of the coronary grafts. Therefore, tomography was selected as this is a non-invasive procedure which is less expensive than angiography.

This case shows the importance of prompt diagnosis and treatment of giant coronary aneurysms, as well as the need for surgical intervention in certain cases to restore adequate blood flow to the heart muscle and prevent serious complications.

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Conflicts of interest

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