Giant Coronary Artery Aneurysm with a Fistula into the Left Ventricle —A Case Report—

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Abstract = Giant aneurysm of the coronary arteries is a very rare condition. In a patient with such an aneurysm of the right coronary arteries and a fistula into the left ventricle, surgical treatment with aneurysmectomy and obliteration of the fistula was successful.

Key Words: Coronary artery, Aneurysm, Fistula

INTRODUCTION

Though aneurysmal dilatation of a coronary artery associated with a fistula within the intracardiac chamber is not uncommon, giant aneurysm formation is very rare; only a few cases have been reported (Scott, 1948; Valdivia, 1987; Lim, 1977). Here, we experienced a unique case of a giant coronary artery aneurysm. Treatment with aneurysmectomy and obliteration of the fistula was successful.

CASE REPORT

A 41-year-old Korean male was first seen in 1983, at the age of 35, because of palpitation and dyspnea on exertion for 10 years. A right heart catheterization and angiography were performed, and a huge aneurysmal dilatation of the right coronary artery with fistulous communication into the left ventricle revealed. An operation was suggested, but the patient refused medical advice.

In December 1989, the patient was readmitted to Seoul National University Hospital because of aggravation of dyspnea.

On examination, the blood pressure was 130/90mmHg and rate 110/min.

The heartbeat was irregular, and a Gr III/IV pansystolic murmur was heard along the left sternal border.

The liver was two finger breadths palpable. Laboratory findings revealed a normal blood count, urinalysis, blood chemistry, and a negative serology.

The chest roentgenogram showed a marked cardiac enlargement with a bulging of the right cardiac border (Fig. 1).

Atrial fibrillation and left ventricular enlargement was noted on EKG.

Follow-up cardiac catheterization and angiography revealed a huge chamber, larger than the left ventricle, at the right coronary side. Left coronary angiography was normal. Right coronary angiography was not performed for fear of rupture. Oxygen saturation and pressure profile were unremarkable.

An MRI scan also revealed a huge chamber compressing both RA and RV (Fig. 2).

An operation was done via sternotomy and under the usual cardiopulmonary bypass and cold cardioplegia.

On opening the pericardium, a giant aneurysm was seen along the entire course of the right coronary artery.

It measured about ca 20 x 15 x 15 cm and extended into the right side of the chest, completely compressing the right atrium and superior vena cave far below (Fig. 3).

After a cross-clamping of the aorta the aneurysm was incised wide open.
The prognosis appears to be poor, and death can occur suddenly from rupture, peripheral coronary embolism, or bacterial endocarditis (Seabra-Gomes et al., 1974). Aneurysmal dilatation of the coronary artery associated with a fistula between an intracardiac chamber is not uncommon and, in these instances, the aneurysm is thought to be related to the high flow through the fistula (Ebert et al., 1971). While most of the reported aneurysms were small and diagnosed at autopsy, giant aneurysms rarely occur, and as in our case, these are particularly prone to occur in the fistula from the right coronary artery entering either the posterior wall of the left ventricle or right ventricle (Lim et al., 1977; Meyer et al., 1967).

In our case, the aneurysm was thought to be congenital because there was no evidence implicating other possible causes.

Surgical treatment of giant coronary artery aneurysm has not been discussed well. Surgical treatment of a small aneurysm, however, with excision of the aneurysm and use of an saphenous vein graft to reestablish continuity of the artery, has been described (Ebert et al., 1971; Dawson et al., 1972).

Aneurysmorrhaphy combined with thrombectomy and endarterectomy, along with bypass of the aneurysm with a vein graft without excising the aneurysm, have also been described (Anabtawi et al., 1974; Gharamani et al., 1972).

As in Lim’s case in 1977, we performed the operation with aneurysmectomy and closure of both proximal and distal ends of the aneurysm successfully without a bypass procedure, probably because of a large collateral blood supply from the left coronary artery.

REFERENCES
좌심실로 통하는 관상동맥류를 동반한 거대 관상동맥류

-1례 보고-

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백완기 안철

거대 관상동맥류는 매우 드문 질환이다. 저자들은 좌심실로 통하는 관상동맥류의 경우 관상동맥류의 가장 드문 1례에서 괴이한 형태 및 관상 동맥류에 의한 정맥류의 혈액 순환을 시행하여 좋은 결과를 얻었기에 보고하는 바이다.