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Pericardium-covered stent implantation in a complicated giant coronary artery aneurysm in an adolescent boy

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Introduction

We report an adolescent in whom pericardium-covered stent was successfully implanted in a giant coronary aneurysm which is ruptured and caused an intrathoracic hematoma.

Case

A 16-year-old boy Syrian refugee, admitted to our emergency room because of sudden onset of chest pain and respiratory distress 8 months ago. Echocardiography was demonstrated a mirror-image dextrocardia, massive pericardial effusion and compression of right heart chambers. After the successful pericardiocentesis, control echocardiography showed a cystic formation contiguous with the right atrioventricular groove that was not previously noted. The coronary CT was demonstrate a giant aneurysm originated from distal part of the right coronary artery (RCA). Diagnostic coronary angiography confirmed the presence of giant aneurysm 20 mm in diameter located at the distal part of RCA (fig 1A). However, the family and the patient refused therapeutic options and they left the hospital without permission. The patient re-admitted to our emergency department with the complaint of chest pain. Electrocardiogram demonstrated ST-T wave changes in precordial leads. Transthoracic echocardiography showed a mild dilatation of left heart chambers with mild systolic dysfunction. Echocardiography also demonstrated giant coronary aneurysm previously detected and huge thoracic mass compressing the heart and left lung. A multislice CT showed a huge mediastinal hematoma arising from the pericardial space with bulging into the distal lobe of left lung. A giant aneurysm (24 × 32 mm) and a small one (6x4 mm) at the distal part of a right coronary artery were also detected in multi-slice CT. Blood leakage from coronary aneurysm was considered as the source of pericardial hematoma. Therefore, we decided to use covered stent for the exclusion of giant aneurysm. A 3.0 mmx27 mm pericardium-covered stent was implanted to exclude both aneurysms (fig 1B). However, persistence of stenosis at the proximal site was detected after implantation. Thereafter, we implanted an another pericardium-covered stent at the proximal site so that which resulted that stents overlapped each other. The final angiogram showed both improvement of blood flow and the disappearance of stenosis (Fig 1C). We did not encounter any complications during the procedure. Elective surgery was planned, as there was no regression of hematoma previously occurred.

Figure I