Chylopericardium after Cardiac Surgery: Successful Conservative Approach

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ABSTRACT
A 41-year-old man underwent an aortic valve replacement associated with ascending aorta’s replacement for aortic valve disease and aorta’s aneurysm. On the tenth postoperative day he developed a chylopericardium responsible for tamponade. After drainage and medium chain triglyceride diet, he clinically recovered and was discharged 2 weeks later. Herein are reviewed aetiology and therapeutics of this rare complication following intrapericardial cardiac surgery.

RÉSUMÉ
Un homme de 41 ans, opéré d’un remplacement valvulaire aortique associé à un remplacement de l’aorte ascendante, a présenté dans les suites un chylopericarde compliqué d’une tamponnade. Cette complication a été traitée par un simple drainage péricardique associé au traitement médical, avec succès. Nous revoyons ici les étiologies et différentes modalités thérapeutiques de cette rare complication de la chirurgie cardiaque.

1. INTRODUCTION
Chylopericardium is a rare but potentially serious complication after cardiac surgery. To remember anatomic interrelationships between thoracic duct and heart lymphatic vessels may help to understand etiopathologic consequences of their possible surgical injury.

2. CASE REPORT
A 41-year-old man was admitted for a recent symptomatic dyspnea (New York Heart Association Class II) related to an aortic valve disease known for 7 years. The patient had no severe medical history. Transthoracic Doppler echocardiography noticed an aortic stenosis with a surface area of 0.45 cm²/m², and a mean gradient of 90 mmHg. Ascending aorta maximal diameter was measured at 50 mm with an associated grade 3 aortic regurgitation on a bicuspid valve. Left ventricular hypertrophy was confirmed with preserved left ventricular ejection fraction of 60%. Cardiac computerized tomography coronary scan showed large calcifications of the aortic valve without any coronary lesions. Surgery consisted in an aortic valve replacement by a mechanical prosthesis Saint Jude Medical n°27 combined to an ascending aorta replacement with a supra coronary Dacron tube n°30. Neither pleural space was surgically opened, and the thymus was visually normal. Because of postoperative bleeding, the patient was reoperated on for tamponade the fifth day. No evidence of chylopericardium was observed at that time. Ten days after initial surgery the patient presented again clinical signs of tamponade and bedside echocardiography confirmed a large peri- cardiac effusion about 25-30 mm compressing right ventricle. Surgery was performed again through a subxiphoid incision revealing 700 ml of a milky liquid under pressure. The whole cutaneous incision was reopened to check if there wasn’t any superficial infection. Two preternal, two retrosternal small drains (diameter n°14) and one pericardial drain diameter n°30 were placed. In addition, a left pleural drain was performed for pleural effusion with no argument for an associated chylothorax. Retrosternal drains were progressively removed and never gived more than 50 ml/day. Bacteriological analysis was negative in all cases. Biochemical analysis found triglycerides, and cytological examination revealed a majority of lymphocytes, compatible with chylopericardium. The pericardial drain was the only one to produce a chylous liquid; however its drainage’s flow reduced as the medium-chain triglyceride diet started (on the 8th day). Drainage’s volumes are showed in table 1. Discharge echocardiography (performed on the 14th day) noticed a pericardial effusion about 17 mm in front of right ventricle without any consequence on the filling of the right cavities. No significant pleural or pericardial effusions were noticed on a thoracic scanner at discharge. Fat free diet was continued for one month. One year after his surgery the patient is still doing well and the CT scan showed no pericardial effusion anymore.

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