INTRODUCTION
Surgery on the mitral valve can lead to aortic dissection (AD), but this complication has been more frequently described after invasive cardiovascular procedures in patients with Marfan syndrome.1 The occurrence of sharp thoracic or abdominal pain during postoperative period of heart surgery may pose diagnosis and therapeutic challenges. Differential diagnosis from myocardial infarction, arterial thromboembolism, lung atelectasis, pneumothorax and pneumonia, in addition to atypical thoracic and abdominal pain often constitute a clinical conundrum.2-4

The aim of reporting this case is to increase the physicians' awareness about the development of AD during early or late postoperative periods of mitral valve surgery, and to emphasize that the outcome depends on prompt diagnosis and precocious treatment.

CASE REPORT
A 61 years old male, with history of arterial hypertension and chronic atrial fibrillation complained of moderate right infra-scapular pain, which started on the 40th postoperative day of a re-do mitral valve surgery. Three days later, the pain irradiated to his back and lower limbs. Eighteen years before, he was submitted to implant of biologic prosthesis to correct mitral valve myxomatous degeneration. After nine years of follow-up, the valve was first changed because of calcification and partial stenosis. About 40 days, before the present admission, a new replacement by mitral valve metallic prothesis was performed, without intercurrences. There was no technical difficulty or complication due to aortic cannulation, as evaluated by transesophageal echocardiography done during the redo mitral valve surgery. Furthermore, the two-dimensional echocardiography done before discharging the patient after surgery did not demonstrate AD.

On admission, physical examination showed light decrease on vesicular murmur in the base of the right hemithorax, irregular heart rhythm and presence of metallic click in mitral area. Laboratory tests, including cardiac injury markers, as well as electrocardiogram were unremarkable. Chest X-ray showed discrete opacity in the right lung base, which was clinically managed as pneumonia. Transthoracic echocardiography study revealed indicative features of DeBakey type II dissection, without complications, and normal functioning mitral metallic prothesis. The computed angiotomography scanning confirmed the diagnosis of AD, extending from the aortic root distally to the bifurcation of the iliac arteries; and proximally to the brachiocephalic trunks, common carotid and left subclavian arteries (Figure 1). The patient was transferred to the cardiovascular division and received conservative management including the use of beta-blocker. Clinical evolution was characterized by hemodynamic stability. The discharge was on the 20th day after admission, and the patient has been under regular outpatient re-evaluation.
DISCUSSION

The incidence of AD after heart surgeries is lower than 1%,1,3,5 This condition causes 3-5% of postoperative deaths in that group of patients. AD has been more often associated with myocardial revascularization procedures and aortic valve replacement.5,6 The main risk factors for AD are arterial hypertension, atherosclerosis and collagen disorders like the Marfan syndrome.4 Frequently, AD episodes evolve insidiously, but the presenting clinical manifestations are acute. The most common clinical features include intense abdominal or thoracic pain, which is irradiated to the back, and upper or lower limbs, in addition to profuse sweating, syncope and dyspnea.2,4

In this patient, the pain was less intense than classical descriptions, at least partly due to the analgesic medication utilized during his postoperative period. Despite the possible initial misdiagnosis with pneumonia, the echocardiography and images of CT angiography allowed to characterize the final diagnosis of extensive AD. In the present case, the hypothesis of intra-operative iatrogenic AD was ruled out with base on the findings of echographic studies performed during and after the heart valve surgery. Iatrogenic AD is an uncommon, but well-known, lethal complication of trauma during cardiac surgery procedures, including aortic cannulation, aortic clamping, and aortotomy.1,7,8 Perioperative hypertension and the flow pattern of the cannula can play a role in AD.1 Pre-operative steroids and Asian race have been identified as predisposing factors.8 Although the CT images of aortic dissection were very typical, the present case was considered interesting because of the insidious clinical evolution after a re-do mitral valve surgery, phenomenon that may increase the frequency of delayed diagnosis or misdiagnosis. Worth of note was the co-existence of mild signs and symptoms with a conspicuous area of aortic dissection, and the successful management of the patient with conservative measures. Nevertheless, AD must be considered a catastrophic complication of heart surgery, with high mortality rate, mainly due to ventricular dysfunction associated with myocardial ischemia.1,7,8 Careful intra-operative and postoperative monitoring of heart surgery procedures contribute to early diagnosis and prompt treatment of iatrogenic AD, which can improve the outcome.1,7,8

REFERENCES