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Inferior Wall Post-Myocardial Infraction Ventricular Septal Defect: Case Report and Literature Review

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Abstract **Case Report**

Ventricular septal rupture secondary to a myocardial infarction is a fearsome acute complication whose mortality is not negligible in the early phase. We report the case of a septal rupture in a 71-year-old patient admitted to emergency department for the management of an inferior wall post-myocardial infarction. It is an extreme emergency whose management must be multidisciplinary. We emphasize the localization and treatment of this complication.

Keywords: Myocardial infarction, ventricular septal defect, inferior wall, Morocco.

INTRODUCTION

Post-myocardial infraction (MI) ventricular septal defect (VSD) is a rare but no less exceptional complication in the era of aggressive treatments and thrombolysis in the early phase of acute coronary syndrome. Its prevalence was 1 to 2% before the popularization of thrombolysis; however, mortality remains high of around 90% [1] according to some studies. This is an extreme emergency imposing multidisciplinary care between cardiologist, emergency doctor and cardiovascular surgeon. We report in this observation the case of a patient who has presented an acute coronary syndrome with septal rupture St Segment elevation.

PATIENT AND OBSERVATION

He is a 71-year-old man, with as cardiovascular risk factors a tabaco exposure degree at 30 packets year and dyslipidemia admitted for chest pain. The start of the symptoms dates back to 48 hours before his admission by installing the infarction pain associated with dyspnea NYHA stage 4 evolving in an apyretic context and general state conservation. Once admitted to the resuscitation room, the patient was aware with 88/55mmhg hemodynamic instability, tachycardia at 110bpm with the presence of shock signs (cool, cyanosis and marbling). We noted the presence of right heart failure signs, jugular venous distention, hepato-jugular reflux. Auscultation revelled a mill-wheel systolic murmur on mitral valve. On respiratory level, the patient was Tachypneic at 35 breaths per minute. His pulsed oxygen saturation was 94% in open air. The electrocardiogram had objectified inferior wall St Segment elevation with necrosis q waves presence (Figure 1). US troponin was high, the renal function moderately altered and the protein C was 150mg/l. The transthoracic echography shows an inferior wall septal defect measuring 11 mm, leading to a left-right shunt. The right ventricle appears to be hypokinetic non-dilated; the left ventricular function was preserved while the contractile alteration is limited to its lower part (Figure 2). The patient was put under dobutamin 10ug/kg/min, double anti-aging and heparin, he benefited from an emergency coronarography objectifying an acute thrombotic occlusion of the posterior inter- ventricular artery with timed flow = 0 culprit to dilate in emergency, stenosis significant of the average anterior interior artery, significant stenosis of the second marginal artery. The patient was transferred to cardiological intensive care while awaiting the establishment of a balloon in which he dies.

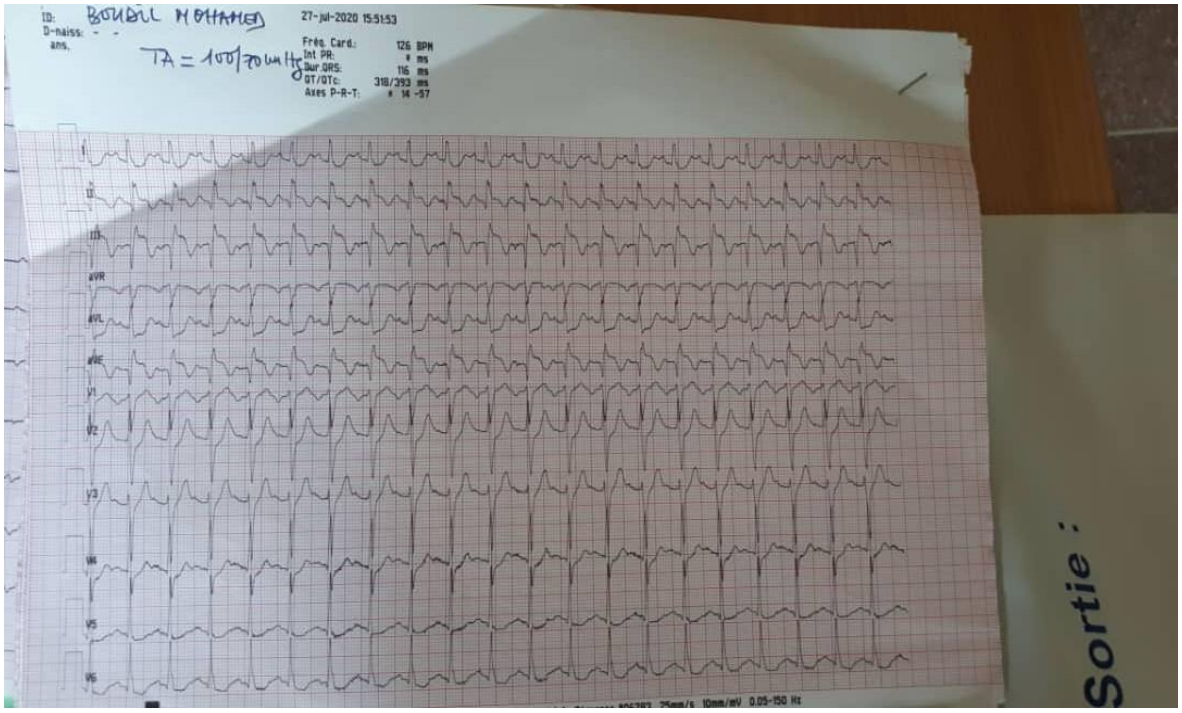

Figure 1: Electrocardiogram had objectified inferior wall St Segment elevation with necrosis q waves presence

Figure 2: Ventricular septal defect

DISCUSSION

Post-myocardial infarction septal rupture is a catastrophic complication involving the vital prognosis which current incidence is between 0.2% to 1% with high mortality exceeding 90% [2]. The average time to this complication is 1 to 5 days [3], in our case it takes 2 days after the Coronary syndrome ST+ starts. Advanced age is one of the most common risk factors in our case the patient was 71-years-old [4]. The anterior part remains the most frequent about 61% against 39% for the posterior part, such as our patient who had a dominant right network with right coronary occlusion. The MI can be complicated with right ventricular insufficiency in 45% of cases [5]. Cardiogenic shock is described in 60% cases as is the case of our patient. The positive diagnosis is echocardiographic. The treatment is medico-surgical as well as intervention. An urgent surgical repair has been initially proposed since the 1980s, because medical treatment alone was sold by mortality of around 100% [6]. AHA/ACC recommends emergency restorative surgery despite an early surgery (3 days-4 weeks) has an intra-hospital mortality of 52% while for delayed surgery, it is around 8% [7]. Waiting for a surgical treatment intra-aortic balloon pump can be put in place (60% of cases).

CONCLUSION

Post-myocardial infraction ventricular septal defect is an extreme diagnostic and interventional emergency whose lethality remains worrying today despite therapeutic advances.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest regarding the publication of his paper.

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