

Myocardial infarction in essential thrombocythemia with excessive coronary artery thrombosis

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Abstract

Here we show a rare case of myocardial infarction with fatal outcome in a patient with essential thrombocythemia and excessive clonal platelet production and thrombosis in all major coronary arteries although on appropriate therapy.

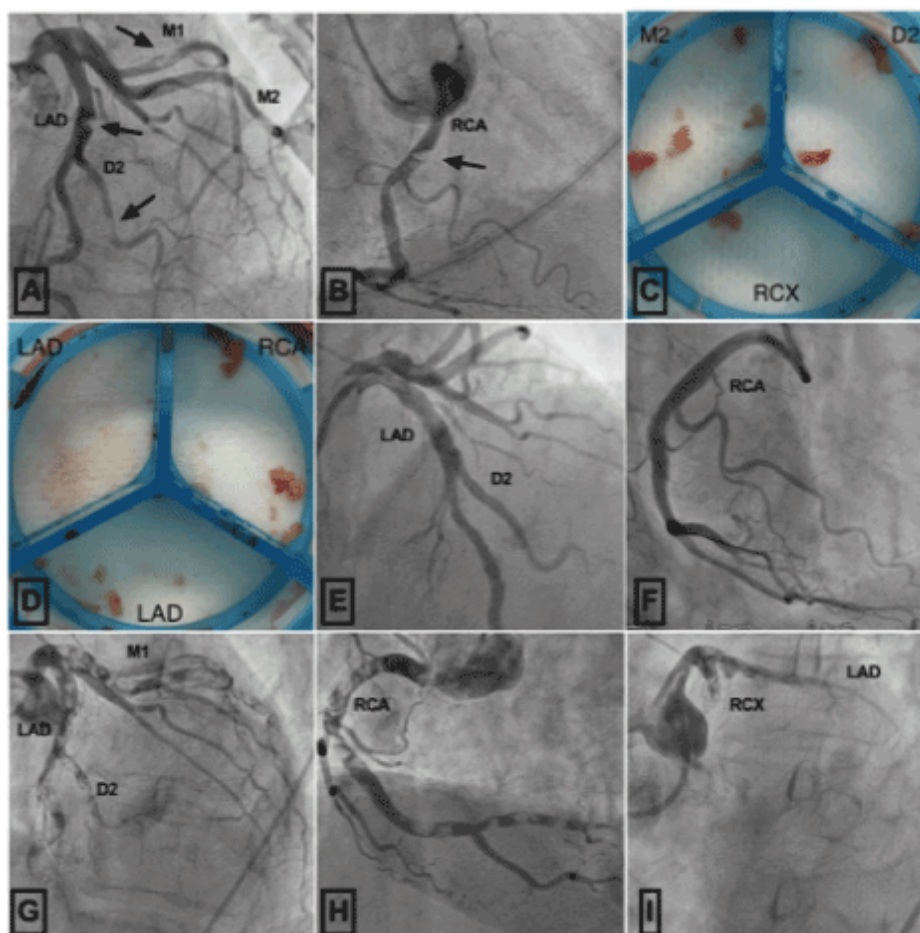


Figure 1. Coronary angiogram showing extensive thrombosis

Case summary

A 72-year old woman with a history of JAK2 + essential thrombocythemia was admitted hemodynamically stable to our emergency department with retrosternal chest pain, dyspnea and ST-segment elevation in nearly all derivations.

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Emergency coronary angiography showed extensive thrombosis in the major branches of the coronary arteries (Black arrows in figure 1A and 1B; Videos S1, S2 and S3). Thrombus aspiration was successful in most arteries (Figure 1C and 1D) with complete regression of symptoms. A remaining proximal left anterior descending stenosis was treated by PCI with a drug eluting stent showing a good result in all coronary arteries. Levocardiography showed a reduced ejection fraction of 40% (Figure 1E and 1F, Video S4 and S5). On day 5, the patient reported recurrence of increasing retrosternal pain and anxiety, combined with progressive troponin elevation. Repeated emergency PCI was performed showing extensive thrombosis in all major main and side branches (Figures 1G and 1H, Videos S6 and S7). This time thrombus aspiration, heparin therapy, integrilin and systemic thrombolysis had no sustainable success. The patient died in protracted cardiogenic shock owing to extensive coronary embolization (Figure 1I).

Discussion

The median overall survival of patients with ET is 14.7 years, while most patients enjoy a normal life expectancy [1]. The initial management requires risk stratification to predict the likelihood of vascular events, disease transformation, and guiding treatment options (history of venous or arterial thrombosis, age, JAK2 V617F mutation, and cardiovascular risk factors) [2]. Myocardial infarction is not uncommon in patients with ET due to excessive clonal platelet production. Our case illustrates a very rare cause with fatal outcome in a patient with ET and excessive clonal platelet production and thrombosis in all major coronary arteries although on appropriate therapy.

Reference

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2. Tefferi A, Vannucchi AM, Barbui T (2018) Essential thrombocythemia treatment algorithm 2018. *Blood Cancer J* 8: 2. [[Crossref](#)]