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# Aortic dissection during rivaroxaban therapy: a challenging care



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## AIM

To report one case of fatal aortic dissection in a patient treated with rivaroxaban.

## CASE REPORT

A 65-year-old man (height, 191cm; weight, 123kg) was hospitalized in Emergency Room for Stanford type A aortic dissection associated with a non-compressive haematic pericardial effusion of 20 mm thick. This patient had been treated with rivaroxaban 20mg once daily for chronic atrial fibrillation and metoprolol (sustained release) 200mg once daily. He had history of pulmonary embolism. On admission, hemoglobin was 16.6 g/dL, platelets 155 x 10<sup>3</sup>µg/L, PT 31% (reference range 70-130%), international normalized ratio 2.8, aPTT 41 sec, and creatinine clearance was 69 mL/min/1.73m<sup>2</sup>. During transfert to Emergency Room the patient received rehydration therapy and acetyl salicylic acid 250mg intravenous injection for myocardial infarction suspicion. Rivaroxaban was stopped on admission. On the night following admission, the patient was transferred from a secondary hospital to a cardiac intensive care unit. A surgical intervention was planned but delayed to the next day because rivaroxaban activity was higher than 30 ng/mL (144 ng/mL). Creatinine clearance was 63 mL/min/1.73m<sup>2</sup>. The patient received prothrombin complex concentrate (25 UI/kg, 120 mL). In the morning, he presented cardiorespiratory arrest on cardiac tamponnade with asystolia and received resuscitation measures with oesotracheal intubation, external cardiac massage, and adrenalin injection. A pericardial effusion draining was attempted but was unsuccessful and the patient died.

## DISCUSSION

In this case of pericardial effusion in an aortic dissection context, management was complex and delayed because of a residual but significant rivaroxaban activity. In literature, a recent case report describe a lethal case of aortic dissection needing emergency surgical aortic repair in a 76-year-old man, with aneurysm of the descending aorta history, and anticoagulated with dabigatran. Despite hemofiltration, surgical revision and massive transfusion of packed blood cells, fresh frozen plasma, platelets, coagulation factors and recombinant factor VIIa, the patient died from intractable bleeding with sustained therapeutic levels of dabigatran [1].

## CONCLUSION

This case highlights the complex management of patients treated with direct oral anticoagulant therapy in emergency contexts given the absence of specific treatment option and especially antidote to reverse its anticoagulant effects. In this context, in cases of aneurysm or aortic dissection history, perhaps vitamin K antagonist should be preferred.

[1] Stein P, Bosshart M, Brand B, Schlicker A, Spahn DR, Bettex D. [Dabigatran anticoagulation and Stanford type A aortic dissection: lethal coincidence: Case report with literature review](#). Acta Anaesthesiol Scand. 2014;58:630-7.