

Idarucizumab administration in a patient with incarcerated bowel hernia

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SOUHRN

Fibrilace síní představuje celosvětově nejčastější poruchu srdečního rytmu. V léčbě fibrilace síní se používají perorální antikoagulancia. Vzhledem k jejich vyšší účinnosti a bezpečnosti ve srovnání s klasickou léčbou warfarinem se častěji podávají přímá perorální antikoagulancia. Absence antidota k většině perorálních antikoagulancií nové generace do jisté míry ztěžuje jejich použitelnost v klinické praxi. Látka idarucizumab, která byla nedávno uvedena na trh, se používá k rušení účinku dabigatranu v případech letálního krvácení nebo při akutních chirurgických a invazivních výkonech. Zatím je nicméně k dispozici pouze málo údajů o její účinnosti a bezpečnosti u geriatrických pacientů. V této kazuistice popisujeme případ úspěšného použití idarucizumabu u geriatrického nemocného s uskřinutou ventrální kýlou.

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ABSTRACT

Atrial fibrillation is the most common rhythm disorder worldwide. Oral anticoagulants are used in the treatment of atrial fibrillation. Non-vitamin K oral anticoagulants have been used more often because of the fact that they are more effective and safer than conventional warfarin therapy. The absence of antidote in the majority of new generation oral anticoagulants leads to some difficulties in clinical usage. Idarucizumab, a recently introduced drug, is used in reversing the dabigatran effect in cases of lethal bleeding or acute surgery and invasive procedures. However, little data are available on the efficacy and safety of idarucizumab in geriatric patients. Here, we present a case of the successful administration of idarucizumab in a geriatric patient with incarcerated bowel hernia.

Keywords:

Anticoagulants

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Introduction

Atrial fibrillation (AF) is one of the leading causes of stroke worldwide. Oral anticoagulant (OAC) therapy is reported to prevent a majority of ischaemic strokes in patients with AF and facilitate in reducing mortality.¹ The anticoagulant effect of warfarin, a traditional OAC used to prevent stroke, can be quickly reversed in case of bleeding or urgent surgeries. The most common reason to terminate warfarin therapy are bleeding events, high monitoring efforts and dose adjustment. Recently, the use of non-vitamin K antagonist oral anticoagulants (NOAC) has rapidly increased,² offering suitable warfarin substitution for stroke prevention in patients with AF. Among NOAC's, only dabigatran, a direct thrombin inhibitor, has a specific antidote to reverse anticoagulant effect. Recently, the use of idarucizumab has been initiated in cases of lethal bleeding or acute surgical settings to reverse the dabigatran effect.³

Here, we present a case of a successful administration of idarucizumab to reverse the dabigatran effect in a patient who required urgent surgery because of incarcerated bowel hernia.

Case report

An 84-year-old woman with constipation and abdominal pain was admitted to our emergency service. She was constipated for four days and had experienced the abdominal pain for 24 h. Her medical history comprised hypertension, diabetes and chronic AF. The cardiac examination was unremarkable, except for arrhythmic heart beats. Electrocardiogram revealed rate-controlled narrow-complex AF. She had been consuming diltiazem (60 mg once a day) and dabigatran (110 mg twice a day). Her laboratory findings were normal, except for the coagulation parameters. In addition, her INR was 1.4 (aPTT: 41.1 s and PT: 18.1 s). Her creatinine clearance was 53 ml/min/1.73 m². We suspected to incarcerated hernia on physical examination. Abdominal tomography was performed to confirm diagnosis and exclude mesenteric ischemic event. Based on these findings, the patient was diagnosed with incarcerated bowel hernia. Accordingly, we scheduled an urgent surgery. She took the last 110 mg dabigatran dose 6 h before the surgery, and idarucizumab (2× 2.5 mg) was administrated in 10 min. Lastly, the patient underwent abdominal surgery after 100 min.

We performed the combined spinal-epidural block, and the surgery lasted for 75 min. Notably, we did not perform intestinal resection. We encountered no bleeding complication during the surgery. After the operation, her INR was 1.3 (aPTT: 22.6 s and PT: 17.2 s). After post-operative two days, the patient was discharged without any complication and with the prescription of dabigatran (110 mg twice a day).

Discussion

As the number of users of NOAC has increased, the need for the reversal of the anticoagulant effect of NOACs is anticipated to increase. Although NOACs are more fre-

quently used in geriatric patients, these are not adequately represented in NOAC trials because of low number of elderly participants and some exclusion criteria (etc. presence of a severe heart-valve disorder, increased the risk of hemorrhage, a creatinine clearance of less than 30 ml per minute).⁴ If creatinine clearance is normal, the termination of the dabigatran effect is anticipated within 12–24 h after the last dose.⁵ A study has recommended delaying elective surgeries for a minimum of 12–24 h to reduce the bleeding risk.² However, some clinical situations, including lethal bleeding, urgent surgeries or urgent interventions, necessitate the use of specific reversal agents for a quick reversal of the anticoagulant effect of NOACs. Our patient underwent combined spinal-epidural block anaesthesia and a successful abdominal surgery without any bleeding complication after the reversal of the anticoagulant effect of dabigatran under idarucizumab administration.

Conclusion

This case highlights the efficacy and safety of idarucizumab in urgent settings and the importance of selecting an anticoagulant with a specific antidote in daily clinical practice. Nevertheless, more studies accumulating real-life data are warranted to develop specific anticoagulation reversal protocols.

Conflict of interest

None declared.

Funding body

None.

Ethical statement

Authors state that the research was conducted according to ethical standards.

Informed consent

We have informed consent from the patient for publication of the case and we are grateful to the patient and her family for their cooperation. We also declare that there is no image or clue that will enable her identity to come out.

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