Introduction

Idarucizumab is a humanized monoclonal antigen binding fragment (Fab) of a recombinant anti-dabigatran monoclonal antibody (IgG1-kappa) that allows rapid and sustained reversal of dabigatran-induced anticoagulation in case of bleeding or urgent surgery. Herein, we report a very unusual case of dabigatran reversal by idarucizumab in a 79-year-old woman with acute kidney failure admitted to a hospital in a context of hemoptysis. Three repeated injections were necessary because of massive dabigatran overdose and high rebounds of dabigatran plasma concentration. Idarucizumab was found on urine immuno fixation up to 6 days after the last injection where it reacted with anti-kappa light chain antibody, but not with anti-gamma heavy chain antibody. Physicians should be aware of the increased half-life of idarucizumab in this context of acute kidney impairment and of its interference with urine immuno fixation because it could lead to false-positive results and misdiagnosis of a paraprotein.
Bone marrow aspiration excluded hematologic malignancies.

The patient was diagnosed with end-stage renal disease and referred to a dialysis center. Anticoagulation was resumed with warfarin. Her last creatinine clearance performed 14 months ago was of 38.5 mL/min (Cockcroft-Gault) and confirmed chronic impaired kidney function. This underlines the importance of regular assessment of renal function in patients receiving dabigatran and of a dose reduction according to the label recommendation in the case of renal impairment.

Idarucizumab, dabigatran, and idarucizumab–dabigatran complexes are mainly excreted in urine. Thus, idarucizumab can be detected on urine IF where it reacts with anti-KLC antibody, but not with anti-gamma heavy chain antibody because it lacks the two heavy chains composing Fc portion. Idarucizumab clearance is reduced in the case of renal impairment, leading to increased half-life and sustained urine excretion. However, one single injection of 5 g idarucizumab was insufficient to neutralize dabigatran. This case also illustrates our previous findings that an initial dabigatran plasma level ≥200 ng/mL before idarucizumab injection could predict dabigatran plasma rebound.

In this rare context of acute kidney impairment and repeated injections of idarucizumab, idarucizumab should not be misdiagnosed with paraprotein on urine IF.
Conflict of Interest
N.G. and D.F. declare financial support by Boehringer Ingelheim. This sponsor had no role in study design; collection, analysis, and interpretation of the data; writing of the report; and decision to submit the report for publication.

Acknowledgments
The authors thank all the technicians from the Department of Biological Hematology and Immunology for technical assistance.

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