

# Idarucizumab: A novel antidote for reversal of dabigatran

Sir,

We read with great interest a recent article by Dwyer *et al.* about dabigatran that was published in, April 2015 issue of the Asian Journal of Neurosurgery.<sup>[1]</sup> In this article, authors are provided a brief, but comprehensive review of the clinical efficacy and safety of dabigatran. Dwyer *et al.* wrote that “there is no specific reversal agent for dabigatran” and proposed an algorithm of dabigatran reversal based on the replacement of deficient coagulation factors and rapid renal dialysis. However, in our opinion, this connotation is now obsolete – A novel drug has been reported to have excellent efficacy and safety for rapid reversal of dabigatran.<sup>[2-5]</sup> Idarucizumab is a monoclonal antibody directed against dabigatran and binds to it 350 times more avidly than thrombin. In preliminary findings from the RE-VERSE AD trial (which were published in the New England Journal of Medicine on June 22, 2015), Pollack *et al.* demonstrated the safety and efficacy of idarucizumab for reversal of dabigatran in 90 patients.<sup>[2]</sup> In all these patients, anticoagulant effects of dabigatran were reversed with remarkable efficacy (88–90%) and safety. The RE-VERSE AD trial is still on-going and aims to recruit 300 patients in nearly 400 hospitals are located in 38 different countries of the world. In another Phase I trial published online in the Lancet on June 15, 2015, Glund *et al.* reported the safety and efficacy of idarucizumab in 47 healthy volunteers.<sup>[3]</sup> No serious adverse effects of idarucizumab were reported in any of these healthy subjects. In view of these reported findings, idarucizumab is a novel and promising drug for reversal of dabigatran. While, we do acknowledge that these trials were only recently reported and that idarucizumab is not widely available at the moment, it is still important for all the scientists in general and neurosurgeons in particular, to keep abreast with the latest developments in the field of medicine. It seems very likely that in the near future, idarucizumab would become the first-line antidote for reversal of dabigatran.

Abdul Rehman, Muhammad Awais,  
Noor Ul-Ain Baloch

Department of Biological and Biomedical Sciences, The Aga Khan University, Karachi 74800, Sindh, Pakistan

**Address for correspondence:**

Dr. Abdul Rehman,

Department of Biological and Biomedical Sciences,  
The Aga Khan University, P.O. Box 3500, Stadium Road,  
Karachi 74800, Sindh, Pakistan.


E-mail: jsmawais@yahoo.com

## References

1. Dwyer CM, Damodaran O, Heckelmann M, Sheridan MM. What neurosurgeons need to know about dabigatran etexilate (pradax®/pradaxa®/praxaxa®). *Asian J Neurosurg* 2015;10:66-8.
2. Pollack CV Jr, Reilly PA, Eikelboom J, Glund S, Verhamme P, Bernstein RA, *et al.* Idarucizumab for dabigatran reversal. *N Engl J Med* 2015. doi: dx.doi.org/10.1056/NEJMoa1502000.
3. Glund S, Stangier J, Schmohl M, Gansser D, Norris S, van Ryn J, *et al.* Safety, tolerability, and efficacy of idarucizumab for the reversal of the anticoagulant effect of dabigatran in healthy male volunteers: A randomised, placebo-controlled, double-blind phase 1 trial. *Lancet* 2015;pii: S0140-673660732-2.
4. Honickel M, Braunschweig T, van Ryn J, Rossaint R, Grottko O. Efficacy of idarucizumab, prothrombin complex concentrate (PCC) and activated PCC to reverse the anticoagulatory potential of dabigatran in a porcine polytrauma model. *Crit Care* 2015;19:P351.
5. Glund S, Stangier J, Schmohl M, Moschetti V, Haazen W, De Smet M, *et al.* Idarucizumab, a specific antidote for dabigatran: Immediate, complete and sustained reversal of dabigatran induced anticoagulation in elderly and renally impaired subjects. *Blood* 2014;124:344.

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

### Access this article online

|  |   |
|--|---|
| <b>Quick Response Code:</b>  | <b>Website:</b><br>www.asianjns.org     |
|  | <b>DOI:</b><br>10.4103/1793-5482.165795 |

**How to cite this article:** Rehman A, Awais M, Baloch NU. Idarucizumab: A novel antidote for reversal of dabigatran. *Asian J Neurosurg* 2016;11:67.