

Intracranial Hemorrhage with Dabigatran (Pradaxa)

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Introduction

Dabigatran (Pradaxa) is a new anticoagulant for non valvular atrial fibrillation through direct inhibition of thrombin activity. It has been gaining popularity over the long established warfarin for its advertised benefits: 1) 35% reduction of stroke risk, 2) no need for regular blood monitoring tests, and 3) no known dietary restriction.

However, Dabigatran can potenitate the risk of progressive intracranial hemorrhage. The optimal therapeutic management of intracranial bleeding complications remains unknown, and can be fatal and irreversible.

Case Report

A 79-year-old woman with atrial fibrillation treated with 150 mg dabigatran twice daily for stroke prevention suffered a ground level fall in her bathroom. She was immediately taken to an outside hospital emergency room immediately at which point her Glasgow Coma score (GCS) was 15. Computerized tomographic (CT) scan demonstrated a left frontal intraparenchymal hemorrhage with minimal midline shift (Figure 1a, 1b). The patient was transferred for emergent management. En route she became unresponsive and required intubation.

On arrival, the patient was intubated and comatose. Her blood pressure was stable and she was not hypertensive. Neurological exam revealed equally reactive pupils. Corneal, gag, and oculocephalic reflexes were intact. In response to central noxious stimuli, she exhibited abnormal flexion of her bilateral upper extremities. Labs were obtained demonstrating a thrombin time (TT) of 107 (normal 14 – 19 s) with normal PT, INR and PTT.

Results

Once stabilized in our emergency department, and now six hours after initial head CT, a repeat head CT demonstrated marked increase in the patient's left frontal hemorrhage with new intraventricular extension (Figure 1c, 1d). The family opted for comfort care and the patient was eventually extubated. She expired shortly thereafter.



Traumatic intraparenchymal hemorrhage. A and B: initial non-contrast head CT on admission showing large left frontal IPH. C and D: Repeat head CT obtained six hours after initial study. There is enlargement of the IPH with intraventricular extension.

Conclusions

- Unlike warfarin, there is no available reliably tested method to reverse the hemorrhagic complications of Dabigatran.
- This report stresses the need for an effective and safe antidote to reverse the hemorrhagic side effects of Dabigatran.

Learning Objectives

Despite its advertised benefits over warfarin, Dabigatran can lead to a fatal intracranial bleeding that is irreversible. The optimal therapeutic management of such complications remains unknown to the point of writing this paper.

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