A Nine Year Retrospective Review of Trends in Oral Anticoagulant Enquiries Reported to the UK National Poisons Information Service

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Objective

Vitamin K antagonists (VKAs) are used as anticoagulants for the long term treatment of venous thromboembolism and thromboembolic prophylaxis in atrial fibrillation. Directly Acting Oral Anticoagulants (DOACs) were introduced to provide effective anticoagulation without the need for routine coagulation monitoring. The effects of DOACs in overdose are not well described. We reviewed trends in oral anticoagulant enquiries reported to the UK National Poisons Information Service (NPIS) since the introduction of DOACs into clinical practice.

Method

A retrospective interrogation of the United Kingdom Poisons Information Database (UKPID) for enquiries reported from the UK to the NPIS between the 1st January 2008 and 31st December 2016 was undertaken. The database was searched for apixaban, dabigatran, endoxaban, rivaroxaban, acenocoumarol, phenindione and warfarin.

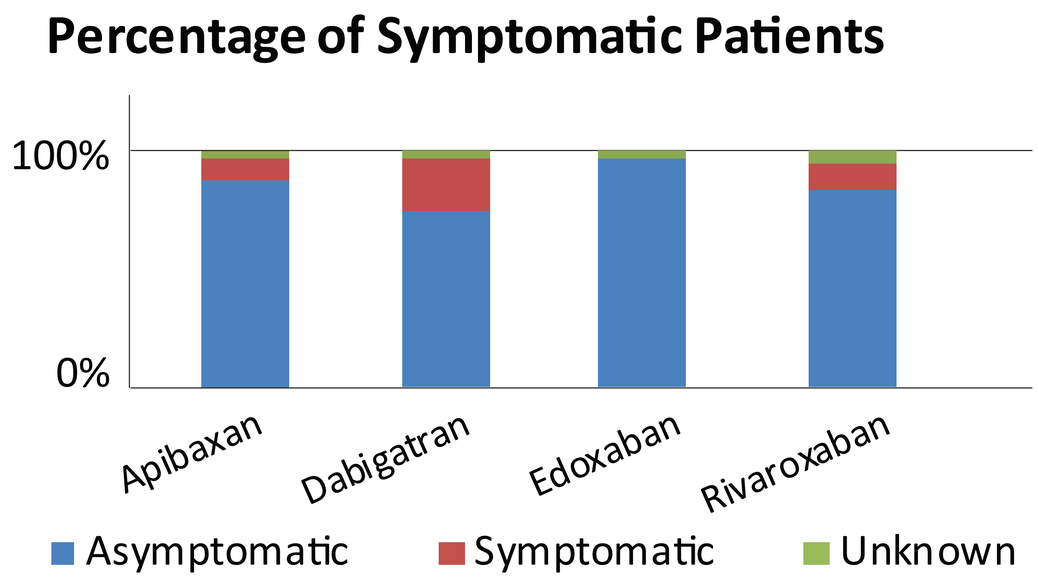
Data were collated in Excel and analysed by the Chi-squared test. Fisher's exact test was used for comparisons which contained a numerical value less than five using graph pad prism software. A p-value of less than 0.05 was considered to be statistically significant.

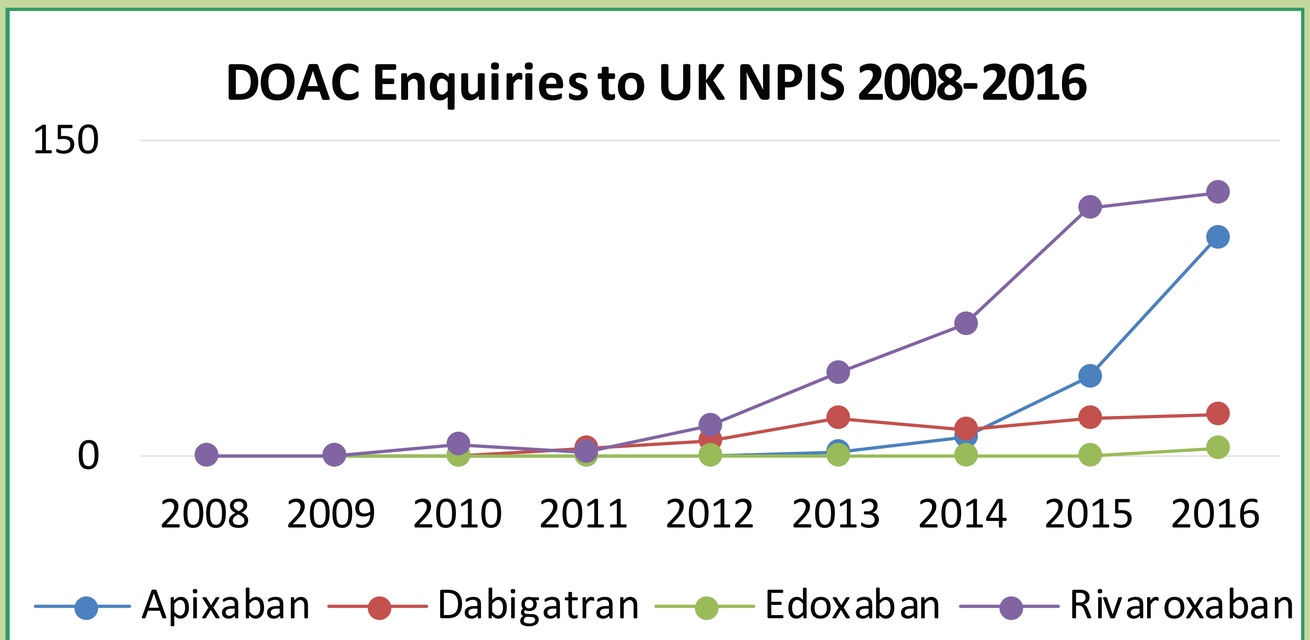
Results

Over a nine year period 2,361 enquiries regarding oral anticoagulants were received, including 1,702 (72%) related to warfarin, 45 (1.9%) to other VKAs and 614 (26%) to DOACs (apixaban 154, dagibatran 82, endoxaban 5 and rivaroxaban 373). Enquiries concerning NOACs increased as a proportion of all oral anticoagulants from 0% in 2008 to 10.8% in 2016.

Of the DOAC exposures, 85.6% were reported as asymptomatic, 11.7% were symptomatic and in 2.6% the clinical features were unknown. The number of cases that were symptomatic were 14 (9%) for apixaban, 18 (21.9%) for dabigatran, 0 (0%) for endoxaban and 40 (10.7%) for rivaroxaban. Dabigatran was associated with a greater proportion of reported symptomatic exposures compared to other DOACs, p = 0.0052. Symptomatic DOAC enquiries reported to the NPIS were classified as: 49 (7.9%) minor severity score; 16 (2.6%) moderate severity score; 6 (0.9%) severe severity score and in 18 (2.9%) enquiries the severity scores were unknown.

Active bleeding was noted in five patents including, penile bleeding, nose bleeds, intracranial bleeding, cerebral haemorrhage and non-site specific bleeding.





Conclusion

DOACs now exceed a tenth of oral anticoagulant enquiries made in the UK to the NPIS. The majority of exposures to DOACs were asymptomatic. Dabigatran was associated with a greater proportion of reported symptomatic exposures compared to other NOACs.