IMPACT OF RIVAROXABAN IN CARDIOVASCULAR DISEASE

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BACKGROUND

Compared to warfarin, the novel oral anticoagulant (NOAC) rivaroxaban has the advantages of a fixed dosing regimen with no need for INR monitoring and fewer potential drug-drug interactions (DDIs),[1] which have been reported to improve adherence to treatment.[2]

OBJECTIVES

- To determine INR control for patients on warfarin
- To compare warfarin to rivaroxaban with respect to treatment adherence, incidence and severity of bleeding and potential DDIs

METHOD

- Following ethics approval, 100 patients (50 on warfarin, 50 on rivaroxaban) were recruited by convenience sampling from hospital outpatient clinics and community pharmacies. Patient recruitment was undertaken between July 1 and December 31, 2016.
- Informed written patient consent was obtained and data collection was completed via a semi-structured interview and using information from patient hospital-related documentation.
- The Rosendaal Linear Interpolation Method was used to measure time in therapeutic range (TTR) for patients on warfarin.[3]
- The validated treatment adherence questionnaire by Anastasi et al[4] was adapted to assess therapy adherence.
- Bleeding complications were classified according to the Bleeding Academic Research Consortium (BARC) criteria.[5]
- Micromedex complete drug interactions and Medscape multidrug interaction checker tools were used to identify and analyse potential DDIs.[6,7]

RESULTS

- The mean age of the 100 patients recruited was 65 ±12.91 years, 53 patients were female and 47 were male, and the mean duration of anticoagulation use was 10 ±5.97 months.
- Over a 6-month period, 768 INR tests were processed (mean 2.56 ±1.58 tests/patient/month), of which 37% were not in TTR.
- Patients on rivaroxaban obtained a significantly higher adherence score (mean 44 ±1.41 out of 45) compared to patients on warfarin (mean 41 ±3.92 out of 45) ($p<0.001$) (Figure 1).
- 24 patients reported BARC Type 1 bleeding (18 warfarin, 6 rivaroxaban) and 10 patients reported Type 2 bleeding (6 warfarin, 4 rivaroxaban) ($p<0.001$) (Figure 2).
- 91 (mean 1.8 ±1.03/patient) and 19 (mean 0.4 ±0.52/ patient) potential DDIs were identified in patients on warfarin and rivaroxaban, respectively ($p<0.001$).

Figure 1: Level of adherence to warfarin vs. rivaroxaban (N=100)
U=719.5, p<0.001

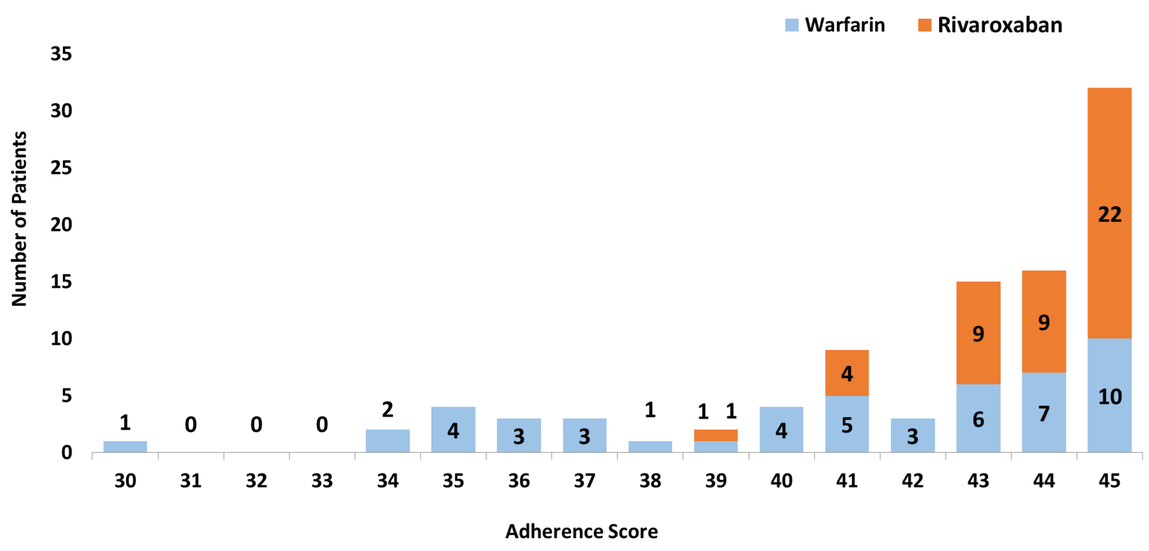
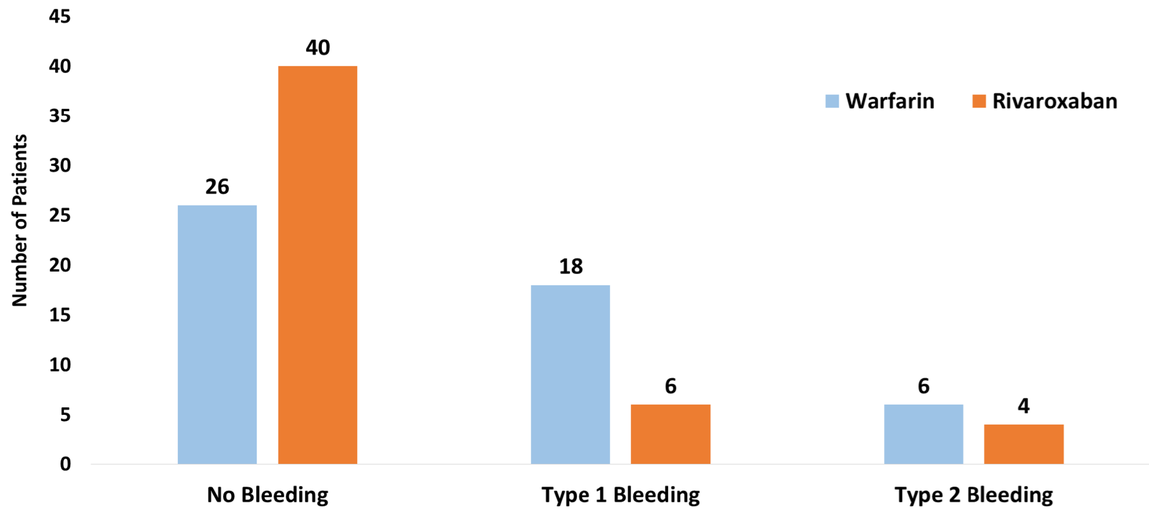


Figure 2: BARC bleeding with warfarin vs. rivaroxaban (N=100)
$X^2(2)=9.37$, $p<0.05$



CONCLUSION

Patients on warfarin were less adherent to treatment, had a higher incidence of BARC Type 1 and 2 bleeding and a greater potential for DDIs compared to patients on rivaroxaban.

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