Dabigatran Etexilate is Effective and Safe for the Extended Prevention of Venous Thromboembolism Following Total Hip Replacement

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INTRODUCTION

Prophylaxis beyond hospital discharge is recommended to reduce the risk of venous thromboembolism (VTE) after hip replacement surgery. Oral thromboprophylaxis not requiring monitoring is an advantage in orthopaedic patients. Dabigatran etexilate is an oral direct thrombin inhibitor under evaluation for this indication.

METHODS

In a double-blind non-inferiority Phase III study, we randomized 3494 patients undergoing total hip replacement to treatment for 28 to 35 days with dabigatran etexilate, 220 mg or 150 mg once-daily, starting with a half-dose 1 to 4 hours after surgery, or subcutaneous enoxaparin 40 mg once-daily, starting the evening before surgery. We evaluated the composite of total venous thromboembolism and death from all-causes (primary efficacy outcome), and major bleeding, during treatment. All efficacy and safety outcome events were centrally adjudicated by blinded independent committees. Patients were followed-up for 3 months after surgery.

RESULTS

The median treatment duration was 33 days, with 87% of patients receiving treatment for 28 to 35 days. The primary efficacy outcome occurred in 6.7% (60 of 897) of the enoxaparin recipients versus 6.0% (53 of 880) of the dabigatran etexilate 220 mg patients (absolute difference,-0.7%; 95% confidence interval [CI], -2.9 to 1.6) and 8.6% (75 of 874) in those who received 150 mg (1.9%; 95% CI, -0.6 to 4.4).

Both doses were non-inferior to enoxaparin according to predefined criteria. There was no significant difference in major bleeding rates between the groups (1.6%, 2.0% and 1.3%, respectively). The incidence of liver enzyme elevations and acute coronary events during the treatment or during the follow-up period did not differ significantly between the groups.

CONCLUSION

Oral dabigatran etexilate once daily, administered for a median of 33 days, was as effective as enoxaparin in reducing the risk of venous thromboembolism after total hip replacement surgery, with a similar safety profile.

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