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Patients Prescribed Direct-acting Oral Anticoagulants Have Low Risk of Post-Polypectomy Complications

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Abstract:




Background & Aims

Use of direct-acting oral anticoagulants (DOACs) is increasing, but little is known about the associated risks in patients undergoing colonoscopy with polypectomy. We aimed to determine the risk of post-polypectomy complications in patients prescribed DOACs.

Methods

We performed a retrospective analysis using the Clinformatics Data Mart Database (a de-identified administrative database from a large national insurance provider) to identify adults who underwent colonoscopy with polypectomy or endoscopic mucosal resection (EMR) from January 1, 2011, through December 31, 2015. We collected data from 11,504 patients prescribed antithrombotic agents (1590 DOAC, 3471 warfarin, and 6443 clopidogrel) and 599,983 patients not prescribed antithrombotics of interest (controls). We compared 30-day post-polypectomy complications, including gastrointestinal bleeding (GIB), cerebrovascular accident (CVA), myocardial infarction (MI), and hospital admissions, of patients prescribed DOACs, warfarin, or clopidogrel vs controls.

Results




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Post-polypectomy complications were uncommon but occurred in a significantly higher proportion of patients receiving any antithrombotic vs controls ($P < 0.001$). The percentage of patients in the DOAC group with GIB was 0.63% (95% CI, 0.3%–1.2%) vs 0.2% (95% CI, 0.2%–0.3%) in controls. The percentage of patients with CVA in the DOAC group was 0.06% (95% CI, 0.01%–0.35%) vs 0.04% (95% CI, 0.04%–0.05%) in controls. After we adjusted for bridge anticoagulation, EMR, Charlson comorbidity index (CCI), and CHADS₂ (congestive heart failure, hypertension, age over 75, diabetes, stroke [double weight]) score, patients prescribed DOACs no longer had a statistically significant increase in the odds of GIB (odds ratio [OR], 0.90; 95% CI, 0.44–1.85), CVA (OR, 0.45; 95% CI, 0.06–3.28), MI (OR, 1.07; 95% CI, 0.14–7.72), or hospital admission (OR, 0.86; 95% CI, 0.64–1.16). Clopidogrel, warfarin, bridge anticoagulation, higher CHADS₂, CCI, and EMR were associated with increased odds of complications.

Conclusion

In our retrospective analysis of a large national dataset, we found that patients prescribed DOACs did not have significantly increased adjusted odds of post-polypectomy GIB, MI, CVA, or hospital admission. Bridge anticoagulation, higher CHADS₂ score, CCI, and EMR were risk factors for GIB, MI, CVA, and hospital admissions. Studies are needed to determine the optimal peri-procedural dose for high-risk patients.

Key Words

endoscopy; anticoagulation; colon polyps; outcomes

Abbreviations

AF, atrial fibrillation; CCI, Charlson comorbidity index; CHADS₂, congestive heart failure, hypertension, age over 75, diabetes, stroke (double weight); CHA₂DS₂VASc, congestive heart failure, hypertension, age over 75 (double weight), diabetes, stroke (double weight), age 65-74, sex (female); CI, confidence interval; CPT, current procedural terminology; CRC, colorectal cancer; CVA, cerebrovascular accident; DOAC, direct-acting oral anticoagulant; EMR, endoscopic mucosal resection; GIB, gastrointestinal bleeding; ICD9, international classification of diseases codes, 9th revision; ICD10, international classification of diseases codes, 10th revision; IQR, interquartile range; MI, myocardial infarction; NDC, national drug code; OR, odds ratio; PAD, peripheral vascular disease; SD, standard deviation; VTE, venous thromboembolism

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Statistical analysis: Yu

Drafting of the manuscript: Yu

Critical revision of the manuscript for important intellectual content: Yu, Chang, Limketkai, Bhattacharya, Soetikno, Kaltenbach

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