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Clopidogrel bisulfate (Plavix) does not increase bleeding complications in patients undergoing rubber band ligation for symptomatic hemorrhoids

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ABSTRACT

Background: The incidence of postprocedural bleeding in patients undergoing rubber band ligation (RBL) for symptomatic internal hemorrhoids while taking clopidogrel bisulfate is unknown. To determine the postprocedural bleeding risk of RBL for patients taking clopidogrel compared with age- and sex-matched controls.

Materials and methods: This is a retrospective case-controlled cohort study analyzing data from 2005 to 2013 conducted at a single tertiary care academic center. The study included a total of 80 rubber bands placed on 41 patients taking clopidogrel bisulfate and 72 bands placed on 41 control patients not taking clopidogrel matched for age and sex. The 30-d rates of significant and insignificant bleeding events after RBL were recorded. A bleeding event was considered significant if the patient required admission to the hospital, transfusion of blood products, or additional procedures to stop the bleeding. Insignificant bleeding was defined as passage of blood or clots per rectum with spontaneous cessation and no need for additional intervention.

Results: There was no significant difference in the number of bleeding events per band placed in the clopidogrel group when compared with the control group (3.75% *versus* 2.78%, $P = 0.7387$). The rate of significant (2.5% *versus* 1.39%, $P = 0.6244$) and insignificant bleeding events (1.25% *versus* 1.39%, $P = 0.9399$) was also similar between the two groups. Two significant bleeding events occurred in the clopidogrel group requiring intervention: cauterization in one patient and colonoscopy and transfusion in the other.

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Conclusions: The risk of a bleeding complication after RBL for hemorrhoids does not appear to be increased in patients taking clopidogrel. Our results support the practice of continuing clopidogrel bisulfate in the periprocedural period as the associated risk of thrombosis is greater than the risk of bleeding.

Introduction

An estimated 8.5 million patients will experience symptoms related to hemorrhoids every year.[1] This results in approximately 3.5 million doctor visits and 168,000 hospitalizations yearly. Hemorrhoidal disease accounts for over 2 million prescriptions with an associated cost of over $43 million annually, not including over-the-counter, homeopathic, or herbal/home treatments. Although the true incidence of symptomatic hemorrhoids is difficult to assess, it is most likely higher than reported numbers.

The 2010 American Society of Colon and Rectal Surgeons practice parameters state that patients with grade I, II, or III internal hemorrhoids in whom medical management has failed can be effectively treated with office-based procedures.[2] The most common office procedure for the treatment of symptomatic internal hemorrhoids is rubber band ligation (RBL). RBL has been shown to be effective and safe, with a relatively low rate of complications. The most common complication is bleeding, with a reported incidence of 0.8%-3.8%.[3,4] Bleeding at the time of procedure is usually well controlled, and postprocedural bleeding is usually secondary and delayed.[5] In fact, studies have shown that bleeding after proctologic procedures can occur as late as 18 d after surgery.[6] Other complications can include anorectal pain, urinary retention, and in rare instances severe pelvic sepsis. Overall the complication rate for RBL is reported to be 3.5%-10%.[2]

Clopidogrel bisulfate is a commonly prescribed antiplatelet agent, often used in conjunction with aspirin ("dual antiplatelet therapy," [DAPT]).[7] There are an estimated 80 million patients in the United States who are on clopidogrel therapy, which is not surprising given that cerebral vascular disease and coronary artery disease are the main indications for DAPT and are the top two causes of death worldwide.[8] Cessation of DAPT places at-risk patients at a significantly higher risk for thromboembolic complications but continuation carries an increased risk of hemorrhage. Furthermore, there are no specific reversal agents for clopidogrel.

Multiple studies have noted an increased risk of bleeding in patients taking anticoagulants or other "blood thinners" during the periprocedural period.[2,4,9] Owing to these concerns, the 2010 American Society of Colon and Rectal Surgeons practice parameters state that the "performance of a banding procedure is contraindicated in this group because the exceedingly high incidence of postprocedure bleeding." Of note, the data these recommendations are based on analyzed bleeding complications in patients taking anticoagulants or antiplatelet therapy but do not address the rate of bleeding in patients taking specific medications.[2] The purpose of this study is to elucidate the risk of bleeding in patients on uninterrupted clopidogrel bisulfate therapy undergoing RBL for symptomatic internal hemorrhoids.

Materials and methods

Patients at the Ochsner Clinic Foundation that underwent suction RBL for symptomatic grade I, II, and III hemorrhoids between 2005 and 2013 were selected for analysis. All patients had failed conservative medical therapy before RBL and the procedure was performed in an outpatient setting by or under the supervision of a board-certified colorectal surgeon. The study was approved by the Institutional Review Board at the Ochsner Clinic (IRB #2011.182.A). Patients taking clopidogrel bisulfate (Plavix, Bristol-Myers Squibb, NY, New York) at the time of the procedure were identified and data were collected in a retrospective manner with documentation of age, gender, date of procedure, dosage and current use of clopidogrel, indications for antiplatelet medication, postprocedure bleeding complications, and associated interventions within 30-d of banding. Patients were excluded from the study if clopidogrel was discontinued in the period leading up to the procedure, if the patient was concurrently on anticoagulant therapy or nonsteroidal anti-inflammatory drugs, or if they had a history of prior anorectal surgery. The control group consisted of an age- and gender-matched cohort of patients who underwent RBL during the same time period and were not on any antiplatelet agents, anticoagulants, or nonsteroidal anti-inflammatory drugs. Most patients were seen in the clinic for a follow-up visit within 4-6 wk after their initial procedure.

The primary outcome measure was any bleeding complication within 30 d of the banding procedure. Significant bleeding was defined as patients requiring hospital admission, transfusion of blood products, or any additional intervention to control hemorrhage. Insignificant bleeding was defined as passage of blood or blood clots per rectum with spontaneous cessation and no need for further intervention. Statistical analysis was performed using a two-sample *t*-test for continuous variables and a chi-squared test for nominal values. Sample size calculations for equivalency, assuming a power level of 80% and a significance of 5%, showed that 36 patients were required in each study arm. Statistical analysis was performed using Statview software (SAS Institute Inc, Cary, NC). A *P*-value ≤ 0.05 was considered statistically significant.

Results

A total of 80 bands were placed on 41 patients on active clopidogrel bisulfate therapy at the time of the procedure. In the clopidogrel bisulfate group there were 17 women (41.46%) and 24 men with a mean age of 70.3 $\pm$ 1.88 y. Of these, 26 patients were on clopidogrel alone (63.41%) and 15 patients were on both clopidogrel and aspirin (36.59%). The control group consisted of 41 patients with a similar gender and age