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Case Report

Secondary haemorrhage after rubber band ligation of haemorrhoids in patients taking clopidogrel – a cautionary note

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Rubber band ligation (RBL) of symptomatic internal haemorrhoids, a technique refined by Barron[1] in the early 1960's, is a well-tolerated and effective procedure which can be performed in an outpatient setting. It is recommended as the initial mode of therapy for grades 1 to 3 haemorrhoids.[2] However, the procedure is not without complications. Pain, secondary haemorrhage and life threatening pelvic sepsis are rare but have been described.[3] Secondary haemorrhage occurs up to two weeks post-procedure when the bands slough off the haemorrhoidal mucosa, possibly in the presence of concurrent infection,[3] leaving an ulcer with a blood vessel at its base. Patients are at greater risk of secondary haemorrhage if taking anti-platelet and/or anti-coagulant medication.[3,4]

New thienopyridine derivatives such as clopidogrel are potent anti-platelet drugs which are increasingly used in the management of patients with peripheral vascular, cardiovascular and cerebrovascular disease. We report two cases of life threatening secondary haemorrhage in patients taking regular clopidogrel who underwent rubber band ligation of haemorrhoids 10 and 15 days previously. In both patients significant haemorrhage was controlled by using irrigation catheter tamponade of the anal canal along with transfusion of fresh frozen plasma and platelets.

CASE REPORT 1 A 72-year-old female with a history of ischaemic heart disease and previous myocardial infarction gave a history of recent bright red rectal bleeding with alteration in bowel habit. Her medication included daily clopidogrel 75mg. Pancolonoscopy demonstrated internal haemorrhoids which were treated by proctoscopy and RBL.

Ten days later she presented to the Accident and Emergency department with significant painless fresh rectal bleeding associated with systemic symptoms of dizziness and nausea. Blood pressure was 90/50 mmHg and pulse 105 beats/min. Resuscitation with oxygen and intravenous fluids was initiated. A full blood count taken on admission revealed haemoglobin of 7.7g/dl. Significant fresh rectal bleeding persisted. Rigid sigmoidoscopy confirmed the source of bleeding as the site of previous haemorrhoidal banding. A silastic irrigation catheter was inserted into the anal canal and 50mls of water used to inflate the balloon. The patient was transfused 2 units of platelets, 2 units of fresh frozen plasma and 5 units of packed red cells. Bleeding stopped without operative intervention. Two days later a flexible sigmoidoscopy confirmed the source of bleeding, with no other pathology evident to a distance of 55cm from the anoderm. The patient made an uneventful recovery and was discharged home with advice to recommence clopidogrel in 7 days.

CASE REPORT 2 A 56-year old woman was referred by her family doctor with a 3 month history of loose stools associated with intermittent bright red rectal bleeding. She had a history of

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ischaemic heart disease, hypercholesterolaemia and cerebrovascular disease with a stroke 18 months previously. Medication consisted of nicorandil, bisoprolol and clopidogrel. Flexible sigmoidoscopy and barium enema demonstrated no colonic mucosal pathology. Proctoscopy confirmed internal haemorrhoids treated by RBL. The patient was given dietary advice and discharged.

Fifteen days later she presented to the A & E department with a significant painless fresh rectal bleed associated with nausea, dizziness and light-headedness. On arrival she was peripherally shut down with a blood pressure of 80/48 mmHg and a pulse of 100 beats/min. Haemoglobin was 13.4 g/dl. After resuscitation with oxygen and intravenous fluid, rigid sigmoidoscopy confirmed the source of blood loss was from an ulcer at the site of previous haemorrhoidal banding. Further bleeding with episodes of hypotension necessitated irrigation catheter tamponade of the anal canal. Repeat haemoglobin was 7.3g/dl. Six units of packed red cells were transfused with 4 units of platelets and 2 of fresh frozen plasma. The bleeding stopped without requiring operative intervention. Three days later a gentle rigid sigmoidosopy confirmed the presence of a thrombosed vessel at the base of an ulcer where a rubber band had sloughed off, with no abnormality seen more proximally.

DISCUSSION

Rubber band ligation of haemorrhoids causes tissue necrosis and submucosal fixation of the haemorrhoid. Bands should be placed 2cm above the dentate line to prevent immediate perianal pain and discomfort.[5] Complications of RBL are well recognized. In review of over 8000 patients undergoing RBL, complications occurred in 14% of patients.[6] The commonest complication was post-procedure pain in 5.8% and haemorrhage in 1.7%.[6] Septic complications can also occur after rubber ligation of haemorrhoids.[7] Bat [3] reported three patients who required a blood transfusion after a secondary haemorrhage post-RBL. Two of the three patients were taking regular aspirin. Massive life-threatening lower gastrointestinal haemorrhage on the 17th day post-RBL in a patient taking aspirin has also been reported.[4]

Aspirin and other non-steroidal anti-inflammatory drugs act by irreversibly inhibiting cyclo-oxygenase preventing platelet thromboxane A2 formation, an important mediator of platelet aggregation. The thienopyridine derivatives (clopidogrel and ticlodipine) also inhibit platelet aggregation but by a different mechanism. They are prodrugs, metabolised in the liver to active metabolites which are non-competitive antagonists of the platelet adenosine diphosphate receptor. Bleeding is prolonged approximately twofold. Antiplatelet effect occurs 24-48 hours after administration, with maximal inhibition obtained at 3-5 days.[8] Recovery of platelet function after discontinuing these drugs is slow, 7 to 14 days or the lifespan of a circulating platelet. The combination of aspirin and clopidogrel has synergistic antiplatelet effects [8] and bleeding time is significantly increased in patients taking combined therapy.[9] Surgeons and anaesthetists should exercise great caution with patients taking both antiplatelet agents.

There has been widespread adoption of the new antiplatelet agents in the management of patients with cardiovascular, cerebrovascular and peripheral vascular disease. Compared to aspirin, the CAPRIE trial demonstrated that clopidogrel had a better side effect profile and is better tolerated by patients.[10] Sibon and Orgogozo recently highlighted the risk of further ischaemic strokes when anti-platelet drugs are discontinue.[11] In their study 4.49% of all strokes were related to discontinued anti-platelet agents, with ischaemic events occurring between 6 and 10 days after discontinuation. The risk /benefit ratio for patients taking clopridogrel and undergoing surgical procedures or investigations likely to require biopsy (such as colonoscopy) need to be addressed by clinicians. In a recently published long-term follow up of patients undergoing RBL, Gordon[12] addresses the issue of increased bleeding rates post-RBL in patients taking anti-platelet agents, non-steroidal anti-inflammatory drugs or anticoagulants. Whereas adverse events may not occur in the hands of others, it is his practice to request that patients discontinue this medication for at least 1 week prior to, and 2 weeks post-RBL.[13] These cases illustrate the rare but potential risk of significant secondary haemorrhage in patients undergoing minor surgical procedures such as RBL of haemorrhoids when taking regular clopidogrel. It is difficult to institute treatment guidelines regarding the use of anti-platelet agents with RBL of haemorrhoids on the basis of anecodote, without any supporting evidence from well-conducted randomised trials. Such hard data would be very difficult to obtain. However, in

light of our experience we recommend a change in practice.

We recommend patients discontinue clopidogrel 7 days prior to haemorrhoidal banding. For this to be practical, all colorectal referral letters should ideally be screened for patient symptoms and medication. If there is a high index of suspicion of haemorrhoidal bleeding, patients should be contacted and asked to discontinue clopridogrel 1 week prior to outpatient attendance. Patients should recommence clopidogrel 14 days post-RBL. Should, in the opinion of the clinician, the risk of discontinuing the anti-platelet agent potentially outweigh the benefit then the patient must be made fully aware of the risk of secondary haemorrhage before RBL is undertaken.

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