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THE INCIDENCE OF POSTOPERATIVE VENOUS THROMBOSIS IN PATIENTS WITH ULCERATIVE COLITIS

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Abstract

Patients with Ulcerative Colitis (UC) have prothrombotic tendencies, due it is suggested, to abnormalities in their coagulation profiles (including alterations in protein C, S and factor V Leiden activity). However it is unknown whether this necessitates additional perioperative anti-thrombotic prophylactic measures for major surgery. We studied 79 patients with UC and 18 patients with Familial Adenomatous Polyposis (FAP) who underwent major abdominal surgery examining their postoperative courses for both clinical and radiological evidence of venous thrombosis. In patients with UC 180 procedures were identified, 70 patients undergoing a subtotal colectomy, 51 an ileoanal pouch and 41 reversal of their ileostomy. The remaining procedures included adhesiolyses, repairs of fistulae, revision of stomas and excision of J-pouch. Eighteen patients with FAP underwent 35 operations, 13 undergoing restorative panproctocolectomy, 5 a subtotal colectomy with an ileorectal anastomosis, 4 a proctectomy and ileoanal pouch formation and 13 reversal of ileostomy none developing a venous thrombosis. Nine UC patients were investigated for postoperative venous thrombosis, but only three (3.8%) had their diagnosis proven radiologically. Three patients had a pulmonary embolus (PE), one after a subtotal colectomy, one after a J pouch formation and one following the resection of a pouch. Therefore the overall postoperative thrombosis rate, on an intention to treat basis, was 1.7% (3/180). From this we conclude that standard perioperative antithrombotic modalities are sufficient to maintain any potential increase in postoperative thrombotic risk at an acceptable level in patients with UC undergoing laparotomy.

Introduction

Patients with inflammatory bowel disease have an increased thrombotic tendency and have been shown to have a three fold increase in risk of developing a deep venous thrombosis (DVT) and PE[1] compared to the average surgical population .The mechanism by which this occurs is unclear although there are many potential contributing factors including alterations in protein C, S, and factor V Leiden activity[2 3]. Furthermore, patients with exacerbations of their disease have a tendency to dehydration and may manifest increased plasma viscosity as a result of acute-phase protein release.

As intra-abdominal surgery is a major risk factor for venous thrombosis, patients with UC may therefore be expected to have an increased risk of deep venous thrombosis and pulmonary embolism, especially in relation to emergency surgery. However, it is unclear whether this is actually so and whether these patients should receive anti-thrombotic precautions perioperatively greater than those routinely administered. We therefore retrospectively studied our experience of patients undergoing major abdominal surgery for UC including patients with FAP as a control group having similar age demographics and operative histories. Postoperative courses were examined for evidence of suspected and proven venous thromboses in order to suggest how these patients may be best managed perioperatively.

Methods

Patients with UC and FAP undergoing abdominal procedures between 1991 and 2001 in a tertiary referral centre under a single consultant surgeon were identified using the Hospital Inpatient Enquiry (HIPE) system, our Inflammatory Bowel Disease database and theatre logbooks. Their postoperative courses were examined for clinical or radiological evidence of deep venous thrombosis or pulmonary embolism within one month of major abdominal or pelvic surgery; the data being retrieved using radiological databases and the patients' own medical records. Standard perioperative anti-thrombotic measures included: thromboembolic deterent (TED) stockings, early postoperative mobilisation and low molecular weight heparin (Enoxaparin 1991-1999 20mg BD,Tinzaparin 199-2001 3,500 IU subcutaneously) administration subcutaneously.

Results

79 patients with UC undergoing major abdominal surgery were identified, 53 of whom were male and 26 female. The mean age was 38.2 yrs (range 2.5 – 72). In total, these patients underwent 180 operations: 70 had a subtotal colectomy, 51 had an ileoanal pouch formation and 41 had reversal of their defunctioning ileostomy performed. The remaining procedures included excision of rectum (n = 6), adhesiolysis for small bowel obstruction (n = 3), repair of fistula (n = 3), excision of J pouch (n = 4) and revision of stoma (n = 2).

18 patients with FAP were identified, of whom 11 were male and 7 female. The mean age was 37.2 yrs (range 16.5 – 79).These patients had 35 operations performed: 13 had a restorative panproctocolectomy. Five patients had a subtotal colectomy with an ileorectal anastomosis, 4 a proctectomy with ileoanal pouch formed and a further 13 reversal of their ileostomy.

Postoperatively, nine UC patients were suspected clinically of having developed a postoperative venous thrombosis (2 DVT and 7 PE) and were administered therapeutic doses of heparin. Only three (3.8% of total) however were proven radiologically and therefore only these patients were anticoagulated with warfarin. One PE occurred after a subtotal colectomy (1.4%), one after a J pouch formation (2%) and one after a resection of a pouch for recurrent episodes of pelvic sepsis. Overall the postoperative venous thrombosis rate, on an intention to treat basis, was 1.7% (3 /180) .No patient with FAP was either suspected of or developed a venous thrombosis.

Discussion

Patients with UC have inherent prothrombotic tendencies, the aetiology of which remains to be elucidated. The significance of such venous thromboses is considerable as these patients tend to be of a young age and the associated morbidity is high[3]. Although it has previously been shown that patients with inflammatory bowel disease have increased levels of anti-cardiolipin antibodies[4], elevated titres were not necessarily associated with thromboembolic events during the study period. While further studies have failed to show an exact association between inflammatory bowel disease and hereditary prothrombotic conditions such as factor V Leiden and prothrombin gene mutations[5], the overall increase in clotting tendency remains of considerable concern to clinicians managing these patients in the perioperative setting.

The incidence of venous thrombosis despite prophylaxis after major abdominal surgery when both symptomatic and asymptomatic patients are screened using venography is 6.3%[6]. In this study, however, we have demonstrated for the first time that patients' with UC undergoing major intra-abdominal and intra-pelvic procedures, and receiving appropriate prophylaxis , do not in fact manifest an increased incidence of venous thrombosis in the first postoperative month. No patient with FAP developed a venous thrombosis and this may be a reflection of the different nature of their disease but also of the smaller numbers involved.

We thus conclude that standard prophylactic anti-thrombotic measures in patients with UC undergoing operation appear sufficient to deal with any potential increase in thrombotic risk and that additional measures are not necessary to ensure an acceptable incidence of postoperative venous thrombosis. These patients, therefore, need not be considered exceptionally"high-risk" in issues regarding their consent for intervention and perioperative care.

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