ORIGINAL ARTICLE

Formalin Dab for Radiation Proctitis - An Effective Day Care Procedure

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Summary

The use of high voltage radiotheraphy in pelvic malignancies has led to a common complication which is radiation proctitis. Treatment with rectal formalin is simple and effective and can be done as a day care procedure. The use of formalin dab was assessed as a day care procedure in our surgical unit in which ten patients were prospectively evaluated. Outcome of these patients was encouraging.

Key Words: Radiation proctitis, Formalin dab, Daycare

Introduction

The commonest presentation in radiation proctitis is rectal bleeding. One to five percent of patients after pelvic irradiation will develop massive bleeding which will require repeated admissions and blood transfusions[1]. Presently there is no standard treatment for this condition. Various modalities of treatment have been tried which includes steroid suppositories and enemas, sucralfate, 5-amnosalicylates and formalin. Formalin dab has been widely used with good results[2,3]. Local instillation of formalin has been used successfully in the treatment of hemorrhagic cystitis associated with radiation injury for decades[4]. This prompted investigation into the use of local formalin therapy for proctitis. We evaluated the use of formalin dab in patients with radiation proctitis as a day care procedure.

Materials and Methods

From November 2000 to January 2002 a total of ten patients were seen for hemorrhagic proctitis. Various other studies [2,3] had almost the similar number of patients. These patients with hemorrhagic proctitis had history of endometrial or uterine cancer. They had no other treatment prior to the referral to our hospital for the hemorrhagic proctitis. The median age of patients were 60 years. All them of them were admitted for anemia and received blood transfusions. All these patients had external beam radiotherapy. The mean duration of time from the radiotheraphy to bleeding was 8 months (ranging from 3-12 months). They were all subjected to colonoscopy and a diagnosis of radiation proctitis was made. All these patients were then planned for formalin dab as a day care procedure. They had no other form of treatment prior to this.

Patients were placed in a left lateral position. The anoderm and perineum were protected with gauze to prevent spillage. Four percent formalin was applied through a proctoscope with a formalin soaked gauze. The application continued until mucosal blanching was seen which averaged 2-3 minutes. Three patients required a low dose sedation in the form of midazolam. No general or local anaesthesia was used.

All patients were discharged on the same day with oral analgesics and stool softeners. Patients were followed up at 1 week, 1 month and 6 months and further follow

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up if needed. During follow up they were assessed regarding recurrent bleeding and complications and tolerance of the procedure.

Results

All patients were followed up and seen in our outpatient clinic. Two patients had recurrent bleeding after 1 week which did not require blood transfusion and stopped after 6 weeks. One patient had recurrent bleeding episodes of small amounts which we had to repeat the formalin dab and the bleeding stopped after six weeks at her next follow up. The rest of the patients were well without bleeding. Fig. 1 shows the rectal mucosa before dab with areas of bleeding and Fig. 2 after dab with mucosal blanching. There were no other complications noted such as anal stenosis. When asked about tolerance of the procedure, all of them seemed well except for one who had mild pelvic pain but controlled with oral analgesics post procedure and all when asked were comfortable to be done as a day care procedure including the three patients who needed midazolam.

Discussion

The histological changes seen in chronic radiation enteropathy are characterized by significant submucosal as well mucosal changes. One feature includes focal distortion and destruction of small arteries and arterioles as well as intimal fibrosis and fibrin thrombi within vessels[5]. This injury leads to secondary ischemic changes. This is the basic pathophysiology of chronic radiation proctitis. Radiation induced injury clinically include diarrhea, tenesmus and bleeding. Minor symptoms can be treated with antidiarrhoeals or diet modification. Chronic bleeding is major problem to patients. Various authors have done trials on formalin in radiation proctitis. Saclarides et al[6] and Biswal et al[7] have described 16 patients each in which both had good response rate of cessation of bleeding of more than 75%. The follow up was about 11 months. Coyoli et al[8] managed 7 patients with radiation proctitis with 4% formalin which was done under peridural anaesthesia in which 6 patients, the bleeding ceased immediately. Topical formalin application was first used in radiation induced cystitis. Its action on the radiated bowel is most likely due to chemical cauterization of abnormal vessels. Some complications known to occur include perianal ulceration and fissuring[6]. With careful application and protection to the surrounding area these complications can be minimized. Various other forms of medical therapy include oral and rectal steroids, sucralfate and short-chain fatty acids. Some other forms are argon laser, argon plasma coagulation which prove to be more expensive. Surgical options include excision of irradiated bowel and anastomosis and diverting stoma which has complications of

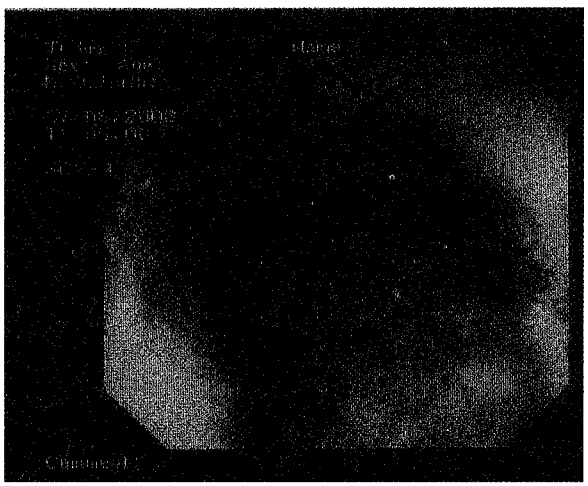

Fig. 1: Radiation procitis before formalin instillation

Fig. 2: Rectal mucosa after formalin instillation

morbidity and mortality of undergoing major surgery and the discomfort of a stoma. Surgery in a radiated bowel is technically difficult due to fibrosis and relative ischemia of these tissues and surgery is advised as a last resort[9]. Formalin therapy is a form of conservative treatment where repeated instillation is still feasible compared to surgery. Minimal contact of time of formalin with the mucosa is advised to prevent complications such as acute colitis[10]. Our patients have benefited from this procedure with good results, avoiding surgery. They have also tolerated well as a day care procedure with minimal discomfort. As a conclusion this therapy is cheap and effective and available in all general hospitals and is feasible to be done as a day care procedure. Complications are few and with proper care this can be minimized.

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