

Management of Bleeding in Post Radiation Proctitis: A Case Report

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Abstract

Radiation-induced haemorrhagic proctitis is a complication of radiotherapy for pelvic malignancies, which is caused by submucosal fibrosis and endarteritis obliterans gives a rise to telangiectatic neovasculature which is fragile and prone to bleeding. A number of treatment strategies of haemorrhagic radiation proctitis have been described. According to latest studies, from minimally invasive options formalin application and argon plasma coagulation seem to be most effective and safe. Formalin application is simple and inexpensive method of treatment. A case report of a patient, who underwent faecal diversion due to uncontrollable bleeding caused by radiation proctitis and was later successfully treated by formalin application, enabling restoration of continuity of gastrointestinal tract and remains symptom free after 2 years, is presented.

Introduction

Radiation-induced haemorrhagic proctitis is a complication of radiotherapy for pelvic malignancies, which is caused by submucosal fibrosis and endarteritis obliterans gives a rise to telangiectatic neovasculature which is fragile and prone to bleeding. First case report of such an event was published as early as in 1915,¹ and few years after it was analysed in more details and first classification was introduced.^{2,3} Radiation-induced proctitis is presenting not only by bleeding but other symptoms as well: mucus discharge, urgency, discomfort or anal pain, incontinence. In more severe cases, massive bleeding occurs, requiring hospitalization and blood transfusions.^{4,5} Conservative, topically active agents may be used: 5-aminosalicylic acid, sucralfate or short chain fatty acids. Hyperbaric oxygenation due

to its angiogenic effect may be used, but few reports with limited numbers are published so far.⁷

Next step in treating this disorder – minimally invasive approach. Yag laser coagulation, argon laser, bipolar coagulation, heat probe, argon plasma coagulation and formalin application have been reported.^{6,7} It should be noted, that only the two latter options are related with satisfactory results. If any of the mentioned options fail, surgery may be unavoidable. Colostomy alone is rarely successful and is in many instances inappropriate, abdominoperineal excision will end up in permanent stoma, anterior resection or Soave type of procedure, especially with colonic pouch construction, may allow restoration of bowel continuity with good function.^{7,8}

Argon plasma coagulation and formalin application seem to be the best options in treating haemorrhagic radiation proctitis, not responding to conservative management.

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Argon plasma coagulation has been demonstrated to be successful in many studies.⁹⁻¹⁴ However, endoscopic equipment is necessary, and it is a costly procedure.

Case Report

A 75 year old male was admitted to the department of surgery at the Oncology Institute of Vilnius University in May 2005 because of massive bleeding from the rectum. In March-April 2002 patient underwent radiation therapy (total dose 68 Gy) as a radical treatment for T3N0M0 prostate cancer. Bleeding from the rectum occurred for the first time in February 2004. A number of conservative options have been prescribed, none of them giving a noticeable effect. Bleeding persisted, causing anaemia and necessity for blood transfusions. Therefore a double loop colostomy was offered for the patient, and performed in early June 2005. But bleeding did not disappear. In January 2006 patient was reexamined, and formalin application with a 4 per cent formalin soaked tissue was applied for 4 minutes in operating room under dorsal perineal block. Bleeding stopped. In March 2006 colostomy was taken down. Patient is under observation until now: his prostate status seems to be controlled, and bleeding did not recur as stated by the last check up in March 2008 – two years after restoration of the continuity of gastrointestinal tract.

Discussion

Formalin application was a safe, simple and inexpensive method of treating haemorrhagic radiation proctitis. Results of this method are comparable to argon plasma coagulation. This method was first described by F. Seow-Choen in 1993.¹⁵ There are quite a number of studies published ever since.¹⁵⁻³¹ It should be noted, that in those studies both the way formalin is applied, as well as the concentration of the solution and the exposure times differ widely. Anaesthesia used for the procedure ranges from none to general. We chose single stage application to all diseased mucosa of 4 per cent formalin solution for 4 minutes, and this idea was generated from the previous reports in the literature. Dorsal perineal block allowed painless procedure to be performed,

good exposure to lower rectum and very well controlled and exact application.

Conclusion

4 per cent formalin application to all diseased mucosa of the rectum as a result of radiation damage was safe, simple and effective procedure to treat intractable radiation induced haemorrhagic proctitis.

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