Surgical Approach of Degenerated Giant Rectal Villous Adenoma in Elderly Patient

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1. Abstract

Villous tumors of digestive tract are rare and villous adenoma is a type of polyp that grows in the colon and other spaces in the gastrointestinal tract and sometimes in other parts of the body. These adenomas may turn into malignant. Their discovery is, usually, fortuitous during an endoscopic examination. Because of their recurrence and degenerative potential the total removal of villous tumors is highly recommended. Big villous tumors are still a limitation for endoscopic resection and need a surgical treatment. High morbidity and mortality rate and functional disorders of surgery have directed to growing attention in many other techniques which can expose to recurrence risk particularly in rectal localization. We present our experience in dealing a case of huge villous tumors of the rectum in elderly patient.

2. Keywords

Villous Tumors; Rectal Neoplasm; Recurrence Risk; Endoscopic Resection; Surgical Treatment

3. Introduction

Endoscopic approach is the best choice in treatment of villous tumor. However, the dimensions and the site can confine the use of endoscopic resection. Surgery is, at that time, indicated but the choice between major surgery and minimally invasive surgery still difficult. The incidence of colon and rectum adenomatous polyps was reported in approximately 25% of the population aged over 50 year [1]. Therefore, adenomectomy of colorectal adenomas leads to a substantial decline in the incidence of colorectal carcinomas [2]. Endoscopic resection of villous adenomas is the gold standard for removing this type of polyps. On the other hand, 3–10% of the lesions have no indication for endoscopic resection due to technical limits [3]. When the dimension or situation confines the endoscopic resection of colorectal polyps, different approach can be used. Transanal surgical technic may be used to remove adenomatous polyps in the lower rectum; however the polyps of the upper and middle rectum cannot be removed by this technique [4]. Open surgery or laparoscopically assisted colorectal resection is the technique of choice for lesions that have no indication for endoscopic resection. However, anterior resection of the rectum may, on some circumstances; increase fears as to the resection margin and are difficult to be performed in obese patients with a narrow pelvis and in large tumors of low rectum [5].

4. Clinical Case

An 89-year-old woman, presented with a history of hypertension with chronic cardiac disease associated with deep venous thrombosis under anticoagulant treatment. She was hysterectomized since 18 months. The patient was referred to our surgical department with a complaint of bloody diarrhea with abdominal pain that initiated six months before and was associated with weight loss of 4 kg in one year. On digital rectal examination, there was a rectal mass localized in the lower rectum from 6 cm of the anal verge. This lesion was soft, stagnating

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attached to posterior wall of the lower rectum. The laboratory investigations were within normal value. The pro% and INR thrombin time = 38.5 = 2.5. The tumors markers were not elevated. Total colonoscopy showed a voluminous sessile lesion involving the posterior wall of the rectum, distant 4 cm from the anal verge, and 10 cm long. Endoscopic resection of a three small polyps localized in the transverse and sigmoid colon were done and the result of biopsies was hyperplasic polyp. The biopsies were performed for the large sessile polyp and the pathologic diagnosis was villous adenoma with low grade of dysplasia.

5. Discussion

Villous tumors of digestive tract are rare and represent a pre malignant lesion. They are well-defined as huge sessile process with villous architecture [6,7]. Histologically, they are, most often, villous adenomas [6]. In the literature the most described villous tumors are localized in the rectum and the colon [8]. Their potential for malignant degeneration is estimated between 40 to 50% of cases. It depends on their dimension and the degree of dysplasia which are linked [9,10]. The risk of increasing invasive colorectal carcinoma from adenomas has been known for a long time and gives a rationale for removing such benign lesions [11]. The mainstream of colorectal polyps recognized by colonoscopy is insigniﬁcant and deals with no difficulty for endoscopic resection [12,13]. Despite that, in situations such as in our case, endoscopic resection becomes impossible. This presentation of low rectal villous adenomas may need surgical treatment. In general, the discovery of these lesions is fortuitous during an endoscopic examination. The clinical presentation is not speciﬁc as an abdominal pain, bloody diarrhea or anemia. Large tumor may cause obstructive symptoms. Secreting lesions may be discovered by a great water and electrolyte loss as a result of prostaglandin secretion. This can lead to the appearance of a Mckittrick-Wheelock syndrome with acute renal failure, metabolic and hemodynamic disorders [8,14]. Usually, hemorrhage is induced by the digital rectal examination or after rectal biopsy. The diagnosis can be recognized at the endoscopic examinations with pathologic studies of the biopsy specimen. Magnetic resonance (MR) and endorectal ultrasound (ERUS) are more perfect to evaluate parietal and sphincter inﬁltration of rectal tumor than CT scan [8,15]. Worrell et al, in their meta-analysis, recommend the use of a biopsy within an ERUS examination in order to reduce the number of misdiagnosed local degeneration [16]. Because of their potential of degeneration and recurrence, the removal of villous tumors must be complete and in one bloc with free margins. Successful endoscopic resection of pedunculated adenoma is possible. Sessile lesion necessitates endoscopic mucosal resection (EMR) which can offer a one bloc specimen [10,17,18]. Endoscopic sub mucosal dissection (ESD) is a new technique which can remove a huge tumor. This is possible when the lesion is restricted to the mucosa. ESD can be used in stomach and colon and rectum [18]. The challenge in treating a huge villous rectal adenoma is those of the circumferential type. Endoscopic resection of large villous tumor with flat surface is a very high defy and poses an amplified risk of perforation of the rectum. If the perforation arises above the peritoneal reflection, there may be serious complications (peritonitis). One more complication of endoscopic resection when the mucosa is circumferentially resected is the occurrence of stenosis [19]. Large villous tumors are still a limitation for endoscopic removal and need a surgical management. Surgical strategy depends on the size and the site of the tumor. Concerning small polyps localized in the upper or mid rectum, endoscopic polypectomy with loop is efficient. The conservative local transanal method consists on a full-thickness excision using the traction flap technique. It's typically indicated for tumor located between 5 and 8 cm from the anal verge [15,20]. Transanal endoscopic microsurgery (TEM) is, also, a good alternative compared with radical surgery in mid and upper rectal lesions. It is a minimally invasive technique and it allows the surgeon to operate on large lesions of the proximal rectum and remove the lesion en bloc, without having to make an abdominal incision [21]. But it is technically complex and requires long time training and expansive material [22]. It uses a speciﬁcally designed rectoscopy which is connected to a three-dimensioned binocular system with a continuous insuﬄation of the rectum. This gives an enlarged intra rectal space with a magniﬁcation of the view. Therefore the full-thickness and en-bloc excision is accomplished with acceptable resection margins around the lesion [23]. Sutures are required in anterior polyps which are lying above the peritoneal resection in order to avoid rectal perforation with severe complication (generalized peritonitis) [24]. TEM offers control equivalent to radical surgery. This procedure is still limited to specialized centers because of the high cost of instrumentation and the long learning curve [23]. Regarding the lesions of upper and mid parts of rectum anterior resection offers the advantage of completely resecting the lesion. Nevertheless, in tumors of distal rectum, near the anal canal, it is diﬃcult to obtain an acceptable resection by abdominal approach, since the margins are insuﬃcient. The concept of a low transanal colorectal anastomosis is not new and was described ﬁrst by Maunsell more than 100 years ago for the treatment of rectal cancer, with the advantage of sparing sphincter function [25]. The technique proved functioning and gives the impression to be a better alternative for the approach of large adenomatous
and circumferential lesions of the rectum that are difficult to be removed by other techniques. A new local transanal approach was recently proposed using a single port trocar with conventional laparoscopic material which can be inserted in the anal canal. This procedure is accessible to laparoscopic surgeons and seems to be safe and simple been complete with lower cost compared with TEM [26]. Surgical management is less controversial in other localizations as in stomach colon or appendix. Segmental resection is, usually, sufficient in large lesions since the removal has [27]. For our patient, because of her general condition, radical surgery cannot be performed, and conventional transanal resection appears to be safe and effective with a strict followup, we realised a transanal resection of the tumor with suture of posterior wall of the lower rectum (Figure 5-7).

**Figure 1**: Histopathological examination confirmed diagnosis of villous adenoma with low. Abdominal computed tomography showed budding tumor of the posterior wall of the lower rectum without extension beyond the wall with no other significant alterations of neighboring structures (Figures 2&3).

**Figure 2**: Colonoscopy showing polyps in the colon and villous tumor in the rectum.

**Figures 3&4**: Abdominal computed tomography showed budding tumor of the posterior wall of the lower rectum.

**Figure 5, 6&7**: Transanal resection of the tumor with suture of posterior wall of the lower rectum.

6. Conclusion

Villous adenomas are rare and represent a type of polyp which growth in the colon and rectum. They are characterized by their tendency to recur and their possible malignant degeneration of residual tumors. A total removal as one bloc with tumor free margins is highly required. The choice of technique should be made considering the mortality and the morbidity rates of radical surgery and the convenience of the other surgical procedures.

Even though the recently described procedures for rectal villous
tumors offer good results with low rates of mortality and morbidity, they are still not well-known in all countries and it also requires a long learning curve and increases the financial costs of the procedure.

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