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Case Report

Giant tubulovillous adenoma mimicking rectal adenocarcinoma: a diagnostic and therapeutic challenge

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ABSTRACT

Tubulovillous adenomas are benign lesions, which are difficult to interpret because of their malignant potential. They have similar clinical, radiological and pathological features to malignant lesions. Usually, they are asymptomatic but may present with symptoms similar to adenocarcinomas. We present an unusual case of giant tubulovillous adenoma mimicking rectal cancer. The patient underwent neoadjuvant chemoradiation with no change in tumor size. He then underwent laparoscopic low anterior resection and final histopathology revealed giant tubulovillous adenoma.

Keywords: Adenoma, Tubulovillous, Adenocarcinoma

INTRODUCTION

Neoplastic polyps or adenomas are benign lesions and are direct precursors of adenocarcinomas.[1-3] It is established that adenomas undergo of a spectrum of histologic changes ranging from range low-grade dysplasia to invasive carcinoma.[2,4] They can have similar clinical, radiological and pathological findings to malignant lesions, which are difficult to interpret. The World Health Organization has classified adenomas into three subtypes based on the histology criteria of the presence and volume of villous tissue and these include: tubular adenoma (70-85%), tubulovillous adenoma (10-25%) and villous adenomas (5%).[1,4,5] Giant adenomas are usually defined as more than 3 cm on endoscopy.[5,6]

It has been reported that a subset of well-differentiated colorectal adenocarcinomas resembles architecturally and cytologically adenomatous changes, and this entity has been termed as adenoma-like adenocarcinoma. Due to this resemblance, it challenging to diagnose on histology.[7] During endoscopic biopsy for a malignant-looking lesion, sampling of the precursor adenoma rather than the malignant component can occur, followed by clinical management on the presumed diagnosis of carcinoma.[7] It is also important to mention that no standard sampling method has been established for grossly large adenomas.[2]

We report a case of a 52-year-old male who presented with rectal bleeding and was found to have a large rectal tumor. Clinical, radiological and histological investigations were deceptive of a malignant lesion. Patient underwent neoadjuvant chemoradiation with no change in tumor size. He was then managed successfully by laparoscopic low anterior resection. Final histopathology revealed the diagnosis of a giant tubulovillous adenoma.

CASE REPORT

A 52-year-old gentleman presented to the outpatient clinic with complaints of painless bleeding per rectum for 3 months. There was also history of diarrhea and unintentional weight loss of 5 kilograms. There was no significant medical or surgical history. There was no family history of colorectal cancer or other malignancy.

On digital rectal examination, there was a mass lesion felt about 7 cm from the anal verge. Systemic examination was unremarkable. Laboratory investigations revealed haemoglobin of 10.9 g/dl. Carcinoembryonic antigen was within normal range. A colonoscopy was done, which showed irregular, oedematous mucosa in the rectum extending for 10 cm circumferentially with no other lesions in the entire colon. Initial biopsy revealed well-differentiated adenocarcinoma mostly arising from traditional serrated adenoma (Figure 1).

MRI of the pelvis revealed a rectal tumor involving 12 cm from the rectosigmoidal junction to the distal part of the rectum about 6.5 cm from the anal verge with four enlarged mesorectal lymph nodes (Figure 2). CT scan of the chest, abdomen and pelvis was done, which showed the mass lesion in the rectal wall (maximum thickness 2 cm) with no distant metastasis (T2N2M0). The case was discussed in a multidisciplinary tumor board and he was referred to the oncology department for neoadjuvant chemoradiotherapy.

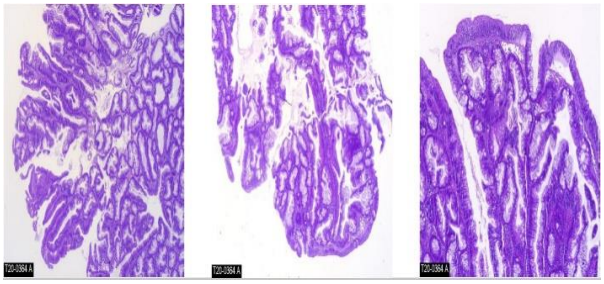

Figure 1: Initial biopsy reporting adenocarcinoma arising from atypical tubulovillous adenoma.

After completing neoadjuvant chemoradiation, MRI pelvis was repeated, which showed stable rectal tumor with no significant interval change (Figure 3). He later underwent laparoscopic low anterior resection with colonoanal anastomosis, which was protected by a proximal loop ileostomy. The patient recovered well and was discharged on the fifth post-operative day. Histopathological examination of the resected specimen revealed tubulovillous adenoma with low-grade dysplasia. Resection margins were free of tumor.14 lymph nodes were identified in the mesentery, all of which showed no evidence of tumor.

In addition, characteristic changes, such as nodal fibrosis, haemorrhage, tumor cell necrosis and calcifications, were not seen after neoadjuvant therapy, which raised the question whether nodal metastasis by medical imaging was a true finding. Several histopathologists reviewed the initial biopsy and concluded that the biopsy was quite superficial and did not include an invasive component, but rather a superficial part of a tubulovillous adenoma. However, unequivocal invasive disease was considered undeniable with such high-grade atypical tubulovillous lesion.

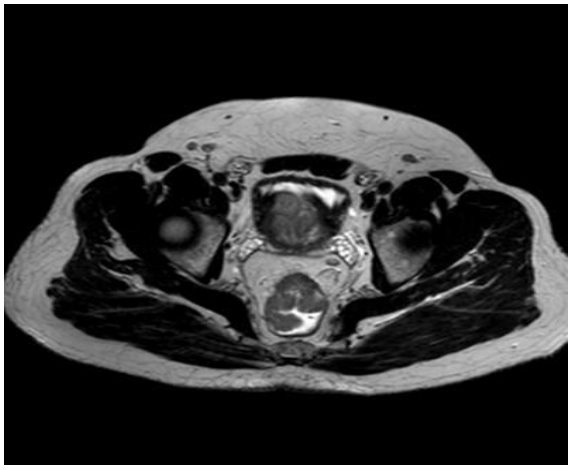

Figure 2: Initial MRI pelvis showing a rectal tumor with enlarged mesorectal lymph nodes.

Figure 3: MRI pelvis after neoadjuvant chemoradiation showing stable disease with no significant change.

DISCUSSION

Giant adenomas of the colon and rectum are often difficult to differentiate from adenocarcinomas based on clinical presentation and radiological investigations.6 Up to 15% of cases present with coexistence of adenomas and adenocarcinomas.[1] The diagnosis is established by colonoscopy and the type of the tumor is identified by pathological examination. The risk of malignant transformation depends on the size and type of the adenoma. Tubulovillous adenomas are at intermediate risk of malignancy between the tubular and villous adenoma, which can reach up to 22%.[5] Higher risks of malignant transformations are seen with villous adenomas and distal locations of colorectal adenomas.[1,2,5] It is also reported that risks of encountering invasive cancer is related to size, which increases up to 85% in polyps larger than 4 cm.[2]

Adenomas are usually asymptomatic, especially when identified on screening.[5] Distal lesions can present with rectal bleeding, mucus discharge, protrusion of mass,

tenesmus, weight loss, bowel obstruction and abdominal pain.5,6 Giant adenomas may also secrete large quantities of mucus and potassium, which can lead to fluid and electrolytes depletion.[5,8-10]

Diagnosis and management of adenomas remains challenging. Colonoscopy is the first-line investigation and most accurate means for detection of adenomas.[5,10] Villous-containing adenomas at colonoscopy are usually bulky, sessile, soft, velvety, and friable, therefore, making the pathologic diagnosis very difficult. Studies have found that up to 50% of lesions were incorrectly diagnosed by preoperative biopsy, with 13% of them upstaged to adenocarcinoma.[11] Radiological investigations often cannot accurately differentiate colonic giant adenomas from adenocarcinoma. CT scan is non-specific and cannot distinguish adenomas from carcinoma due to their conventional CT attenuation. MRI and CT colonography are considered superior to CT scan, and MRI is the imaging modality of choice for loco-regional staging and also provides possible clues to the histological nature.[6]

Giant adenomas are usually not resectable by endoscopic or transanal approach due to increased risk of perforation of the rectal wall. Complete excision of these polyps should be performed aiming to reduce the incidence of colorectal cancer, as well as to control local and systemic symptoms.[5,6,8,9,11] Therefore, the procedure of choice is either open or laparoscopic anterior resection. Only few isolated cases have been reported by laparoscopic resection.[5] In our case, the giant adenoma was successfully removed by laparoscopic low anterior resection with colo-anal anastomosis. Laparoscopic resection is safe and effective in management of these cases.[5,8,9]

CONCLUSION

Giant adenomas have similar clinical, radiological and pathological findings to malignant lesions, which creates a diagnostic and therapeutic challenge. Therefore, the management of such patients should be discussed and individualised during a multidisciplinary team tumor board in order to provide the best outcome. Giant adenomas are usually unrespectable by endoscopic or transanal approach. Laparoscopic resection is safe and effective in management in such cases.

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