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Case Report
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A Rare Case of Intramucosal Rectal Carcinoma Presented with Lymph Node Metastasis and Tumor Deposit

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Abstract

Introduction: Intramucosal Colorectal Carcinoma (intramucosal CRC) is supposed to have no risk of metastasis. However, accumulated cases have been reported early metastatic evidences in intramucosal CRC, which challenge our conventional knowledge.

Case Report: Herein we presented a case of a 68-year-old male with a large rectal neoplasm. He underwent radical surgical resection, after which the pathological result showed a rectal intramucosal carcinoma with one positive lymph node and a tumor deposit, which has never been reported before.

Conclusion: Therefore it would be inappropriate to rigidly treat intramucosal carcinoma with local options given its metastatic potential and risks of under diagnosis upon biopsied.

Keywords: Colorectal intramucosal carcinoma; Tumor deposit; Metastasis

Introduction

Intramucosal Colorectal Carcinoma (intramucosal CRC), refers to dysplastic lesion confined within lamina propria with no extension through the muscularis mucosae into the submucosa and are regarded as synonymous with high-grade dysplasia and classified as carcinoma *in situ* (Tis) according to the newest published TNM classification [1]. By convention, intramucosal colorectal carcinoma is supposed to have no risks of metastasis. However, though very limited, accumulating cases have been reported of intramucosal CRC with metastasis. Herein we present another extremely rare case of an intramucosal CRC with metastasis of lymph node and tumor deposit.

Case Presentation

A 68-year-old male with a complaint of bowl habit change and bloody stool for 3 months was admitted to our department. Colonoscopy found a 3/4 circumferential rectal neoplasm with a diameter of about 3 cm, which was located about 8 cm from the anal verge (Figure 1). Multiple biopsies revealed a villous-tubular adenoma with high grade intraepithelial neoplasia. No regional or distant metastasis was found by thoracic-abdominal-pelvic CT-Scan. MRI suspected the tumor was a cT1N0 lesion (Figure 2). After Multidisciplinary Team (MDT) discussion, a radical surgery

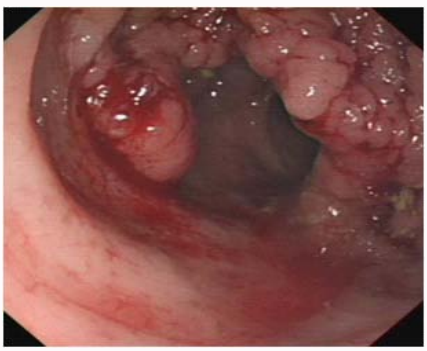

Figure 1: Colonoscopy revealed a large rectal neoplasm located 5 cm to 11 cm from the anal verge, presenting with a cluster of polypoid lesions presenting as a multilobulated mass, occupying 3/4 circumferential lumen with small ulcerations scattered in surface.

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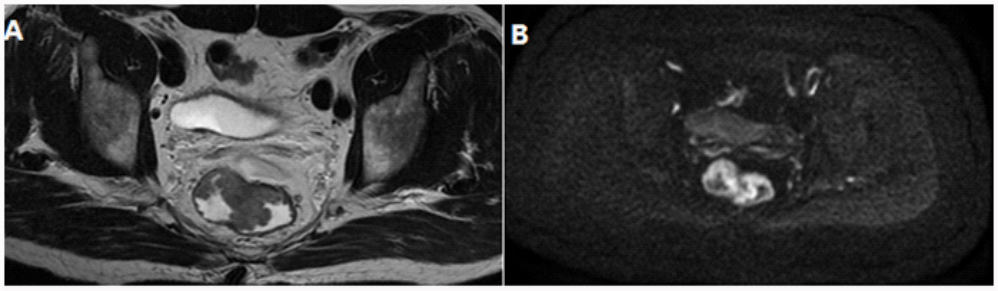

Figure 2: On Magnetic Resonance Imaging (MRI), a cauliflower-like mass which occupied 3/4 to nearly all of the rectal lumen infiltrated a small portion of muscularis propria, indicating malignancy. Mesorectal Fascia (MRF) was negative and no obvious metastatic lymph nodes were evident. High signal intensity and rapid enhancement on T2-weighted images (A) and Diffusion-Weighted Magnetic Resonance Imaging (DWI) (B).

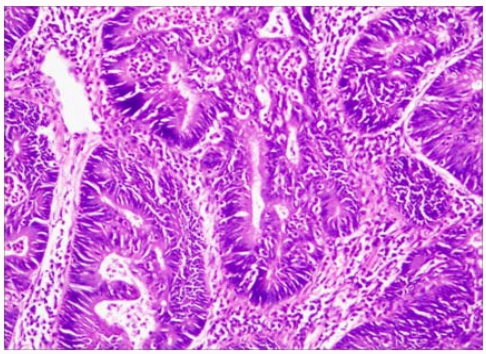

Figure 3: Pathologic finding showed an intramucosal carcinoma arising from a tubulovillous adenoma (H and E, x100).

was recommended. After an uneventful laparoscopic low anterior resection, the pathological findings of this tumor were however, unusual after careful recheck and discussion. Since no tumor cells breached the muscularis mucosae and infiltrated the submucosa, its T staging was staged as intramucosal carcinoma according to the AJCC cancer staging manual (Figure 3). However, surprisingly, one of the retrieved lymph nodes was positive with infiltrated malignant cells. Even more, a tumor deposit, which was defined as discrete foci of tumor in the pericolorectal fat without evidence of residual lymph node tissue was also shown (Figure 4).

Discussion

As far as we know, this is the first case of an intramucosal CRC with Lymph node metastasis and rumor deposit. Previously, some authors had reported similar uncommon cases, which constantly challenge our general rule that colorectal cancer confined in mucosa has no metastatic potential. In 2008, Shia et al. reported case with a poorly differentiated rectal intramucosal carcinoma, although radical resection had been performed, a recurrence involving the omentum and liver occurred 17 months later [2]. Lee et al. [3] reported an in situ sigmoid colon carcinoma with a common hepatic lymph node metastasis. Bracey et al. [4] reported a case of a rectal intramucosal adenocarcinoma with a transmural venous invasion and lymph node metastasis and the patient subsequently died of liver metastasis. Recently, Hirotsugu et al. [5] analyzed nine cases of intramucosal CRCs with lymphovascular invasion. Notably, one explanation of the none metastasis of intramucosal CRC was that colorectal mucosa is biologically unique lack of stromal lymphatics, which, had been actually proven incorrect as evidences showing the existence of lymphatic channels and blood vessels in colorectal mucosa. In fact, the real metastatic rate of intramucosal CRC may be underestimated.

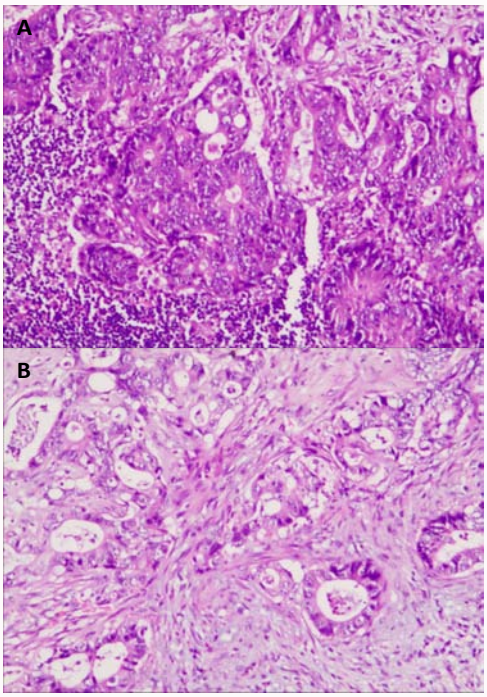

Figure 4: A. Metastatic lymph node (H and E, x100). B. Tumor deposit (H and E, x100), a discrete foci of tumor found in the pericolic or perirectal fat or in adjacent mesentery away from the leading edge of the tumor, showing no evidence of residual lymph node tissue but within the lymph drainage area of the primary carcinoma.

In 2010, Lan et al. [6] found that in the study of Gunderson et al. [7], among a total of 5,939 patients with Tis colon cancer, about 2% had lymph node metastasis (95 patients with N1 and 19 patients with N2). Since these cases were all radically resected specimen, it was unlikely that their diagnosis of Tis were incorrect. However, for biopsy-based diagnosis of intramucosal CRC, risk of being under diagnosed was high. In a study of MacDonald et al. [8], 97% (86 patients) of the previous biopsy-proven intramucosal CRC was found to be actually pathologically invasive colorectal cancer in subsequent surgical specimen. Under these circumstances, some author argued that it was logical and reasonable to categorized intramucosal CRC as T1 [9]. In summary, we reported a rare case emphasizing the metastatic potential of intramucosal CRC. Even admitting this uncommon phenomenon, given the generally accepted and widely applied concept of local treatment for early CRC [10], endoscopic procedures for intramucosal CRC, such as Endoscopic Submucosal Dissection (ESD), can still be safely recommended only if risk of metastasis be

ruled out. It would be wiser to take a more aggressive approach for an intramucosal CRC, especially for biopsied specimen and keep in mind to take into account MDT's suggestions and patients' reference if there is suspicious of lymph node metastasis.

Author Contributions

WC collected medical history, prepared figures. WC drafted the manuscript. YH performed pathological analysis and diagnosis. LK, QQ and DZ revised the manuscript carefully. All authors contributed to the care of the patient. All authors reviewed and approved the final article.

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