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Rectal neuroendocrine tumor: an unusual localization

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Abstract

The incidence of gastrointestinal neuroendocrine neoplasms has been rising in recent years. Therefore investigators paid particular attention to such neoplasms. We present here a patient with rectal neuroendocrine tumor.A 36 year old male was admitted to our clinic with 3 months history of diarrhea and rectal bleeding. Systemic physical examination revealed no abnormalities. Colonoscopy revealed a rectal polyp of 8mm at 7-8th cm in. Polypectomy performed. Pathological examination of the polypectomy material was reported as well differantiated neuroendocrine tumor. Positron emission tomography- computed tomography scan revealed hypermetabolic focus in rectum. Local mucosal excision was performed and pathological examination revealed mucosal and submucosal bleeding, neovascularisation and congestion.Treatment of the G1-differentiated neuroendocrin tumors of the rectum is either endoscopic polypectomy or endoscopic mucosal resection. We suggest that local mucosal excision of the tumor is sufficient treatment in well differentiated (G1) and small (=1cm) neuroendocrine tumors

Key Words: Colonoscopy, Neuroendocrine Tumor, Polyp

INTRODUCTION

Intestinal neuroendocrin tumors originate from enterochromaffin cells of the intestine. Neuroendocrin tumors of the colon and rectum are uncommon. It is estimated that they make up less than 1% of all colorectal tumors. The incidence of gastrointestinal neuroendocrine neoplasms has been rising in recent years . Therefore investigators paid particular attention to such neoplasms. Prevalence and incidence of gastrointestinal neuroendocrine tumors have recently been calculated to be 35/100000 and 5/100000, respectively. Similar studies have been reported from Europe. This increase can be explained by three phenomena: 1- greater awareness of the disease, 2-improved diagnostic strategies for neuroendocrin tumors, and 3-increased and widespread use of gastrointestinal endoscopy.

The survival rate of patients with colorectal neuroendocrine tumors has increased mostly due to early detection of the tumors.Neuroendocrin tumors are usually clinically asymptomatic until metastasis is present. Clinical symptoms include diarrhea, abdominal pain, rectal bleeding and cardiac abnormalities.

We present a rectal neuroendocrin tumor case in a 36 year old man who was admitted to our clinic with rectal bleeding and diarrhea. We obtained informed consent from the patient.

CASE PRESENTATION

A 36 year old male was admitted to hospital with 3 months history of diarrhea and rectal bleeding. Systemic physical examination was normal. Stool pond was detected in rectal examination in ampulla. Colonoscopy was performed and a rectal polyp was detected at 7-8th cm with a diameter of 8mm. Polypectomy was performed. Figure 1 shows the endoscopic appearance of the polyp. Pathological examination of the polypectomy material was reported as well differantiated neuroendocrine tumor. Other pathological features were as follows: diameter of the tumor was 4mm, tumor cells had shown no mitosis, atypia, necrosis, and vascular and perineural invasion. There was submucosal invasion in the specimen and solid pattern in rare areas of the biopsy specimen. KI67 index was less than 2%. Chromogranin A and synaptophysin immunohystochemical stains were positive. The lesion was adjacent to surgical margins. Figure 2 shows the pathological appearance of the biopsy specimen.

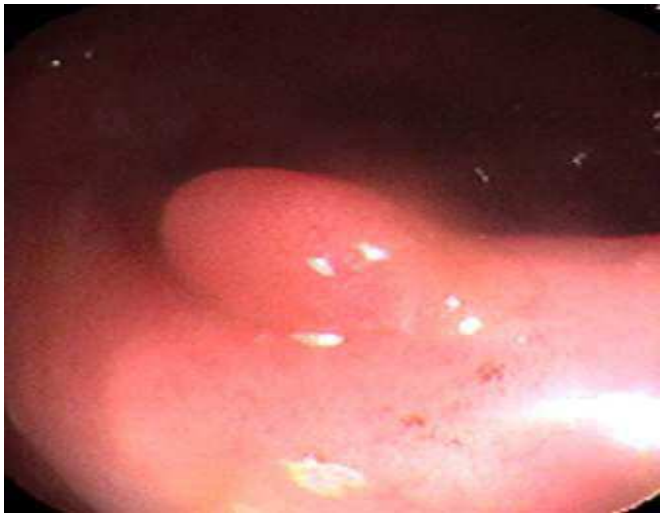

Figure 1: endoscopic appearance of the polyp

Tumor markers of the patient were in normal range. 5-hydroxy indol acetic acid (5-HIAA) was 24.6 (normal range: 10.4-131), Valin mandelic acid (VMA) was 4.9 (normal range: 1.4-6.5), Homovalinic acid (HVA) was 5.1 (normal range: 1.4-8.8), Vasoactive intestinal peptid (VIP) value was <1,5 (normal range: (<17pmol/l), acid phosphotase was 4 (normal range: 0-5.4), and chromogranin A was 179ug/L (normal range: 19-98ug/L). Abdominal MRI scan was normal but Positron emission

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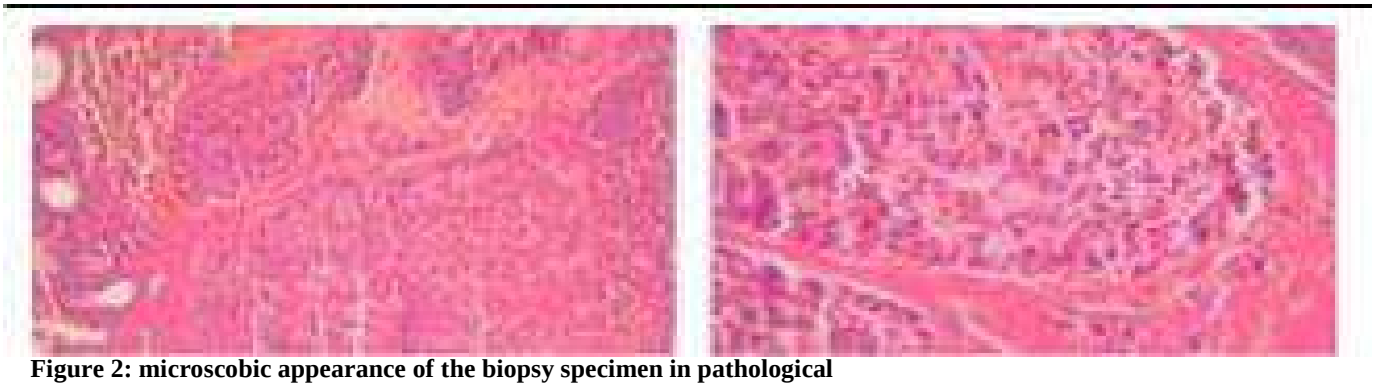

Figure 2: microscobic appearance of the biopsy specimen in pathological

tomography- computed tomography (PET CT) scan revealed hypermetabolic focus in rectum (SUV max:5.3). Local mucosal excision was performed and material was sent for pathological examination. The pathological examination revealed mucosal and submucosal bleeding, neovascularisation and congestion. There was no neoplastic lesion. The patient had no complaints during the last 3 years since mucosal excision.

DISCUSSION

Neuroendocrin tumors of the colon and rectum are uncommon. It is estimated that they make up less than 1% of colorectal tumors . Neuroendocrine tumors are determined by immunohistochemical studies of chromogranin A and synaptophysin . Similar to the data in literature, we detected elevated chromogranin A levels in present case.

Histological differentiation (well/poor differentiated), proliferative activity (G1-3), tumor size, depth of tumor infiltration and angioinvasion are associated with the risk of metastasis of gastrointestinal neuroendocrine neoplasms . In our case, the tumor was well differentiated, small (0.8cm), was not infiltrated the muscular layer and there was no angioinvasion.

The five-year survival rate of patients who have rectal neuroendocrine tumor = 1 cm in size and without angioinvasion and infiltration of the muscular layer is 98.9%-100% . The patient we present had a 0.8cm polyp in diameter and there was no vascular or muscular layer invasion in pathological examination. He has been completely healthy since polypectomy on March in 2009.

Neuroendocrine tumors less than 1cm usually do not infiltrate muscularis propria so endoscopic ultrasound is not compulsory . We have not performed endoscopic ultrasound because the tumor size in our case was 0.8cm. Treatment of the G1-differentiated neuroendocrin tumors of the rectum is either endoscopic polypectomy or endoscopic mucosal resection. Ki67 index of the tumor in our case was less than 2%, so it was a G1 tumor . We performed endoscopic polypectomy followed by local mucosal excision in treatment of the tumor.

CONCLUSION

In conclusion, we suggest that local mucosal excision of the tumor is sufficient treatment in well differentiated (G1) and = 1cm neuroendocrine tumors in diameter.

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