

Case Report

Large Small Cell Carcinoma of Anorectal Canal

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Abstract

Neurofibromatosis type-1 (NF1), also known as Von Recklinghausen disease, is an autosomal dominant disorder with incidence of one per 4000. Neurofibromas are benign, heterogeneous, peripheral nerve sheath tumors coming up from the connective tissue of peripheral nerve sheaths, particularly the endoneurium. Visceral involvement in disseminated neurofibromatosis is considered rare. Neurofibroma occurs most frequently in the stomach and jejunum, but colon and anorectal canal may also be involved. Gastrointestinal neurofibromas may lead to bleeding, obstruction, intussusception, protein-losing enteropathy and bowel perforation. We encountered a case of diffusely involving the anorectal area by huge neurofibroma, which resulted in pelvic pain with watery diarrhea and urgency.

Keywords: Diarrhea, neurofibroma, rectal cancer, small cell carcinoma

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Introduction

Anorectal malignancies are uncommon, compromising 1.5 % of all digestive malignancies and 1 % – 8 % of all anorectal malignancies.¹ Anorectal canal cancer has different prognosis depending on the histological type and tumor extension. One of this tumor is neuroendocrine neoplasm may involve the anal canal.² Small cell carcinoma of anorectal canal is very rare but important because of really aggressive clinical manner. Literatures' survey show small number of cases that presented with small cell carcinoma of anorectal canal.^{3,4} We report a case of large anorectal small cell carcinoma extending to rectosigmoid area with aggressive course.

Case Report

The patient was a 50-year-old man presented with a seven month history of bloody mucoid discharge and constant wage pelvic pain. Then progressed incomplete evacuation sensation with urgency, bloody diarrhea, anorexia, weight loss (5 kg) and crampy abdominal and pelvic pain one month pre operation. He had negative significant previous medical, family and social history. He had not any respiratory problem before. In his physical examination revealed pallor face appearance, mild abdominal distention with lower abdominal tenderness without rebound. Rectal exam showed large anorectal mass with bloody mucus secretion that was firm, fix mass without tenderness. He had not any sign of lymphadenopathy, organomegaly, ascites.

Another positive finding in his physical examination was left lower extremity pitting edema that progressed during one week.

About one month preoperation he was referred to gastroenterologist by family physician. In his colonoscopy, large mass revealed in anorectal canal that multiple biopsy was taken. Pathologic examination showed neuroendocrine tumor that Immune histochemistry proved small cell carcinoma because of PAX-5 keratin (AE1/AE3), Cytokeratin 7 were positive (Figure 1). CD3, Cytokeratin 20, CD79α, LCA, and TdT (polyclonal) reported negative. The patient evaluated with spiral abdominal pelvic CT scan with intravenous contrast demonstrated large rectal tumoral mass measuring 6 × 7 cm in size and obliteration the per rectal fat with multiple liver metastasis (Figure 2). Endo anal sonography (360°) revealed large circular mass above anal sphincter muscles with extension to proximal and pre rectal area (Figure 3). His chest radiography seem normal without any lymphadenopathy or mass lesion. Therefore after first neoadjuvant chemotherapy, developed his abdominal pain, distention vomiting and diarrhea that laparoscopy diverting sigmoid loop colostomy was done for him because of partial bowel obstruction.

In laparoscopy multiple mesenteric lymphadenopathy, multiple liver nodules, large and small bowel distention with frozen pelvic appearance. Diverting loop colostomy was created for him to manage partial obstruction. The patient was relative well until 2 days post operation that developed sudden onset respiratory distress, severe hypotension that need end tracheal intubation with ventilator support. D-dimer test, bed side echocardiography, chest radiography were been in favor of pulmonary emboli. We could not done spiral chest CT scan to evaluate pulmonary vein because his vital sign was unstable and we have not had facilities to support the patient during this investigation. The patient passed away after 8 hours.

Discussion

In this case, small cell carcinoma of anorectal canal had diagnosed with Immunohistochemistry then many works up were done for him to rule out other anorectal malignancies and primary small cell carcinoma of lung. The patient had serious aggressive

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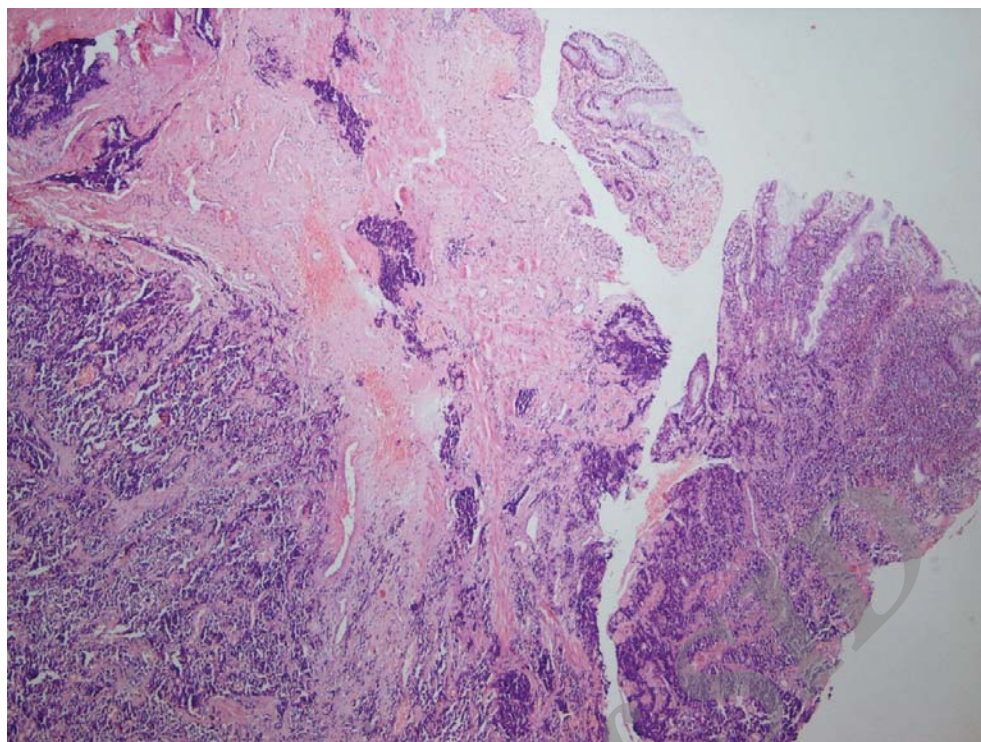


Figure 1. Neuroendocrine tumor



Figure 2. Large rectal tumoral mass



Figure 3. Endo anal sonography (3600) large circular mass

behavior obviously in the course of time.

Extrapulmonary oat-cell or small-cell cancer is a rare tumor that exact incidence is not clear.⁵ The gastrointestinal tract contains the largest amount of neuroendocrine cells. In spite of this; neuroendocrine malignancies are rare in colon and anorectal that represent less than 1 percent of all colorectal cancer.⁶ Only 94 cases have been reported in English literature.⁷ Therefore, the anal canal cancer is a uncommon disease and account for 1.2 % – 2 % of gastrointestinal tumors and small cell cancers have involved less than 0.2 % of all colorectal tumors.³

Extrapulmonary small cell carcinoma has the same microscopic, immunochemical, and ultra structural characteristics the same as lung including high potential for malignancy. In spite of this, its definite diagnosis is challenging for pathologist because of difficulty distinguishing it from lymphoma.⁸ Three histological types of small cell carcinoma of colorectal area are including: 1-differentiated

small cell carcinoma (small tumor cell and scanty cytoplasm), 2-neuroendocrine carcinoma (larger tumor cell and abundant cytoplasm), 3- stem cell carcinoma (transitional type between the previous).³ Anorectal carcinoid tumors which have tubular pattern may be confused with poorly differentiated adenocarcinoma, basaloid squamous cell carcinoma or melanoma. In this way immunohistochemical stains are helpful. Expression of neuroendocrine is common but may be focal. In small cell carcinoma of anorectal may represent immunoreactivity for thyroid transcription factor-1 (TTF-1) that may happen in variety of other extrapulmonary site and stain for squamous differentiation (3BE12 and p63/4A4) has negative result in anorectal small cell carcinoma.² On the other hand existence of increased mitotic activity and high Ki-67 labeling index shows a small cell carcinoma from squamous cell carcinoma, in spite of foci of abrupt squamous differentiation and similarity in small crushed biopsies.¹

Diagnostic workups are similar to those used for patient with small cell carcinoma of lung including clinical examination; proctosigmoidoscopy and endoscopy with biopsy of lesions, CT-scan of chest abdomen and pelvic. Fine-needle aspiration cytology and ultrasound or CT-scan guided biopsies have role in diagnosing metastatic lesions of the liver or other accessible places.⁸ The histopathology is characterized by positive immunohistochemistry of synaptophysin, chromogranin, cytokeratin and neuron specific enolase (NSE).³

Due to aggressive nature of gastrointestinal tract small cell carcinoma it presents early distant metastases and very poor prognosis and approximately 50 % of patients presents with synchronous metastatic disease with more dominancy in involving liver.^{9,10} So careful staging examination is necessary for small cell carcinoma. The role of positron emission tomography is under investigation but seems to be good for detecting of metastatic disease.¹¹

Due to rarity of this tumor, there is no standard treatment for gastro intestinal small cell cancers.¹² The main aim in anal small cell carcinoma is preservation of anal sphincter function. The combination of chemotherapy and radiotherapy is choice for anal canal cancer. It has been shown that chemotherapy has higher response rate to 5-fluorouracil in combination with cisplatin and mitomycin. For good response in conservative therapy must reach 45 Gy at anal canal and mesorectum node involvement and in primary tumor till 15 – 20 Gy. After 8 weeks need for surgery can be evaluated and is preserved for patient with poor response to therapy. Abdominoperineal resection has reserved for residual or relapse (presence of disease in less than 6 month from treatment). The surgery is also helpful in early stages with good pathology whenever sphincter is preserved with resection margin of 1cm. Although, this increases risk of recurrence.³ In addition, these tumors are highly aggressive, with lymphnode, liver and lung metastasis at presentation even if the tumor is limited to sub

mucosa or mucosa.⁴ Bernick study showed that in 69 % of patient metastatic disease was detected.¹⁰ And the 6 month survival is 58 % and 5 year is only 6 %.⁴

References

1. Salmo E, Haboubi N. An update on anal cancer diagnosis and treatment. *Polish journal of surgery*. 2011; **83**(2):108 – 116.
2. Shia J. An update on tumors of anal canal. *Arch pathol lab med*. 2010; **134**: 1601 – 1611.
3. Menendez P, Rabadan L, Villarejo P, Padilla D, Pardo R. Is central-ized treatment of small cell carcinoma of anal canal necessary? A case report. *J Cancer Sci Ther*. 2011; **3**: 158 – 160. doi: 10.4172/1948-5956.1000080.
4. Doddi S, Singhal T, De Silva C, Smedley F, Sinha P, Leslie M. Small cell carcinoma of anus: a case report. *Cases Journal*. 2009; **2**: 9396. Available from: URL: <http://www.casesjournal.com/content/2/1/9396>.
5. Lederman J. Extrapulmonary small cell carcinoma. *Postgrad Med J*. 1992; **68**: 79 – 81.
6. Corman ML. *Colon 7 Rectal surgery*. 4thed. Philadelphia: JB Lippincott, 1993: 748.
7. Eberhardt JM, Brown K, Lo S, Nagda S, Yong S. Extrapulmonary Small Cell Carcinoma of the Anal Canal: A Case Report and Review of the Literature. 2012; doi:10.1155/2012/341432.
8. Spiliopoulou P, Panwar U, Davidson B. Rectal Small Cell Carcinoma: A Case Report and Review of the Literature. *Case Rep Oncol*. 2011; **4**(3): 475 – 480.
9. Brenner B, Shah MA, Gonen M, Klimstra DS, Shia J, Kelsen DP. Small cell carcinoma of gastro intestinal tract: A retrospective study of 64 case. *Br J Cancer*. 2004; **90**: 1720 – 1726.
10. Bernick PE, Klimstra DS, Shia J, Minsky B, Saltz L, Shi W, et al. Neuroendocrine carcinomas of colon and rectum. *Dis Colon Rectum*. 2004; **47**: 163 – 169.
11. Brenner W. Nuclear medicine in oncology: conventional scintigraphy and positron emission tomography (PET). *Anticancer Research*. 2005; **25**: 4825 – 4826.
12. Meyer A, Bruns F, Richter K, Grunwald V, Karstens JH. Small cell cancer of the anal canal-case report of a rare tumor. *Anticancer Research*. 2007; **27**: 1047 – 1050.