

Squamous Cell Carcinoma of Colon: A Case Series of a Rare Histology

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Abstract: *Squamous cell carcinoma of colon is a very rare histological finding with incidence of 0.1-0.25/1000 colorectal carcinomas seen most commonly in recto - sigmoid region. Several theories have been postulated to explain the pathophysiology of the disease e. g, association with a chronic inflammatory process, origin from colo - cutaneous fistulas, parasitic infection, differentiation of multipotent stem cells to squamous cell dysplasia and subsequently carcinoma. As per limited literature available, Surgery remains mainstay of treatment with adjuvant chemotherapy based on platinum analogues and 5FU. SCC colon is considered to be more aggressive carrying worse prognosis than adenocarcinoma. We present a case series of 3 patients, out of which two presented with primary SCC of ascending colon treated with cisplatin - 5FU regimen and 1 presented with adeno - squamous carcinoma of rectum treated with CAPOX based chemotherapy.*

Keywords: Squamous cell carcinoma, colorectal carcinomas, chemotherapy, adenosquamous carcinoma

1. Introduction

Squamous cell carcinoma of gastrointestinal tract is a rare entity with the exception of esophagus and anorectum [1]. It has a low incidence of 0.1–0.25/1000 colorectal carcinomas with rectosigmoid being most frequent location [2, 3]. The pathogenesis remains unclear, though, reported theories suggest differentiation of basal cells into squamous cells from mucosal injury [4]. It occurs in around the fifth decade of life with a male pre - dominance [5]. The clinical characteristics of the patients with SCC of the colorectum are similar to those with adenocarcinoma, but, is considered to be more aggressive carrying worse prognosis as compared to adenocarcinoma. Metastasis from a distant primary should be ruled out before labelling it as a primary SCC. As per limited literature available, Surgery remains gold standard with adjuvant chemotherapy, though, standard regimen of chemotherapy remains unclear. We present a case series of 3 patients, out of which two presented with primary SCC of ascending colon and 1 presented with adenosquamous carcinoma of rectum.

2. Case Reports

Case 1

A 55 year old male patient presented with chief complaints of abdominal pain, dull aching continuous since last 3 months with weight loss. On examination he was anaemic and had a palpable mass in the left upper quadrant. An abdominal ultrasound suggested the presence of a soft tissue mass, probably originating from the transverse colon. A subsequent colonoscopy revealed a large mass in the descending colon partially obliterating the lumen. Colonoscopic biopsy was suggestive of moderately differentiated squamous cell carcinoma with no areas of adenocarcinoma with IHC positive for CK7 and p63. Further contrast enhanced computed tomography (CECT) of abdomen and pelvis showed multiple liver metastasis, peritoneal deposits and enlarged mesenteric and periportal

lymph nodes. Further investigations were done to rule out metastasis from other primary. However CECT Thorax, upper GI endoscopy were normal and serum CEA levels were mildly elevated. Keeping in view of squamous histology and borderline general condition, the patient was started on palliative chemotherapy based on cisplatin and 5FU regimen. The patient succumbed to death after 4 cycles of chemotherapy.

Case 2

A 35 year old female was evaluated for epigastric pain, hematochezia and weight loss for 3 months. Colonoscopy showed a proliferative mass in the ascending colon not amenable to endoscopic resection. Contrast enhanced computed tomography (CT) abdomen showed 11 × 10 × 8 cm eccentric mass in the right colon with possible necrosis. Positron emission tomography (PET) CT revealed a hypermetabolic right colon growth and mesenteric lymph nodes (LN). Histology unveiled moderately differentiated, keratinizing Squamous cell carcinoma. The patient underwent an exploratory laparotomy with an extended right colectomy with primary anastomosis. Operative findings were suggestive of 10 x 10 cm mass in ascending colon reaching upto the middle of the transverse colon without perforation. Histologically, there was benign squamous mucosa with patterns suggestive of invasive SCC invading muscularis propria, with negative margins and 3/13 positive lymph nodes. The tumor stained positive for keratin - 7 and p63. Adjuvant chemotherapy was started 3 weeks after surgery and 6 cycles of docetaxel, cisplatin and 5FU based chemotherapy was given. CECT abdomen and colonoscopy was repeated 2 months after completion of treatment and showed no recurrent/residual lesion. Patient has completed 10 months of follow up till date with good performance status.

Case 3

A 40 - year - old male patient presented with the chief complaints of lower abdominal pain, severe constipation, on and off blood stained rectal discharge for the past 5 months.

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On examination, the patient was found to be anemic. Digital rectal examination and proctoscopy revealed an ulcerative lesion about 5 cm from the anal verge from 4 o'clock to 10 o'clock position. A colonoscopy confirmed the rectal examination with no other synchronous lesion in colon. Biopsies taken at the time of the colonoscopy revealed adeno-squamous carcinoma in the first histopathological examination which was re-confirmed by a second independent pathologist. A Contrast-Enhanced Computed Tomography (CECT) of the chest, abdomen and pelvis was also done but no lesions were found in any other site than the rectum. The patient underwent LAR of the rectum using the standard technique of mesorectal excision. Microscopic examination of the resected lesion demonstrated a 2.5 cm × 3 cm adenosquamous carcinoma of the rectum infiltrating the serosa with closest positive margin of 3mm and 2 positive lymph nodes. The post-operative period was uneventful. Post-operatively the patient was given radiotherapy in view of close margin in the dose of 45 Gy/25# for 5 weeks followed by 8 cycles of chemotherapy with capecitabine and oxaliplatin. The patient was planned for re-investigations post treatment but unfortunately was lost to follow up.

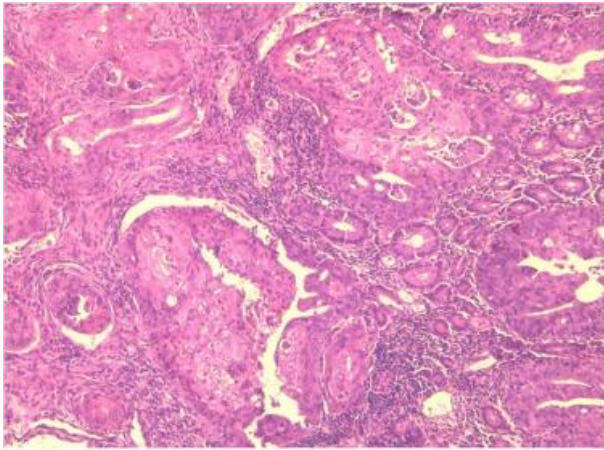


Figure 1: Adeno-squamous carcinoma of rectum

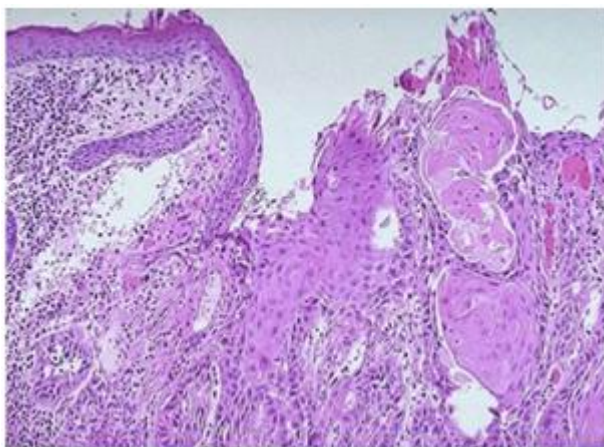


Figure 2: Squamous cell carcinoma of right colon

3. Discussion

Primary Squamous cell carcinoma of the colon is an extremely rare histological finding, accounting for 0.1–0.25% of all colorectal malignancies [6]. Majority of these arise from the rectum followed by right colon. The majority

of colonic SCC present in advanced stages. However one of our subjects presented adenosquamous carcinoma of rectum at an early stage. It is more commonly seen in fifth decade of life more commonly in males, though, two of our patients were younger than the mean age of presentation. Several hypotheses have been postulated to explain the pathophysiology of the disease e. g, association with a chronic inflammatory process like ulcerative colitis, Malignancies arising from colocutaneous fistulas, infection by *Entamoeba histolytica* or schistosomiasis, differentiation of multipotent stem cells to squamous cell dysplasia and subsequently carcinoma [7]. Another hypothesis include the possibility of squamous differentiation in pre-existing adenomas or adenocarcinomas of the colon [8]. The symptoms of patients with colonic SCC are similar to colonic adenocarcinoma including a change in bowel habit, rectal discharge or bleeding, abdominal pain and weight loss and in case of advanced disease, anaemia and palpable masses could be seen. For the diagnosis of SCC, it is essential that multiple biopsies are taken from the suspected lesion and metastasis from other primary should be ruled out. In Immunohistochemistry, markers like CAM 5.2, AE1/AE3 and 34B12 are useful stains for characterising lesions as SCC rather than another neoplasm [9]. Before the diagnosis of primary SCC of colorectum is made, certain criteria must be fulfilled as given by Williams et al. in 1979 [10]. This criteria includes: (A) absence of evidence of squamous cell carcinoma in any other part of the body, ruling out any chance of possible metastasis from any organ to the colorectal site; (B) exclusion of any proximal extension of anal squamous cell carcinoma; (C) absence of fistulous tract lined by squamous cells; and (D) confirmation of SCC by histological analysis [10]. All of these criteria were fulfilled by our cases. During colonoscopy, entire colon should be screened to exclude other synchronous lesions, which are common in this setting. The treatment depends upon the extent of disease, resectability of tumor and general condition of the patient. Non metastatic lesions are usually treated with surgery followed by adjuvant chemotherapy, whereas in metastatic disease palliative chemotherapy is given. Copur et al. showed a favourable response from a combination of palliative chemotherapy with 5-FU, cisplatin, and etoposide in advanced disease [11]. Few studies, have used gemcitabine along with other cytotoxic agents in SCC colon, however, its role needs to be verified. [12] In our study case 1 and case 2 were treated with cisplatin and 5FU whereas case 3 i. e, ca rectum was treated with CAPOX based chemotherapy. Based on literature the overall five-year survival is of the order of 35% [13]. Prognosis of colorectal SCC is also difficult to be assessed as most of the reported cases have presented in the later stages of disease.

4. Conclusion

Colorectal SCC is a rare entity with rectum being most frequently involved site. It is associated with rapid progression and carries poor prognosis as compared to adenocarcinoma. Definitive chemotherapy regimen is not known, however, cisplatin and 5FU has shown favourable response in previous studies. The disease course, pathogenesis and hence new therapeutic options needs to be explored.

References

- [1] Novak ER, Woodruff JD, Gynecologic and Obstetric Pathology, 5th ed. Philadelphia: WB Saunders; 1962.
- [2] Michelassi F, Mishlove LA, Stipa F, et al. Squamous cell carcinoma of the colon. *Dis Colon Rectum* 1988; 31 (3): 228–35.
- [3] Gelas T, Peyrat P, Francois Y et al: Primary squamous cell carcinoma of the rectum. *Dis Colon Rectum* 2002; 45: 1535–40.
- [4] Samo, S, Sherid M, Liu K, et al. Basaloid squamous cell carcinoma of the sigmoid colon. *ACG Case Rep J*. 2015; 2 (3): 161.
- [5] J. A. Lyttle, Primary squamous carcinoma of the proximal large bowel: report of a case and review of the literature, *Dis. Colon Rectum* 26 (4) (1983) 279–82.
- [6] Gelas T, Peyrat P, Francois Y et al: Primary squamous cell carcinoma of the rectum. *Dis Colon Rectum* 2002; 45: 1535–40.
- [7] Palvio DH, Sorensen FB, Mogensen KM. Stem cell carcinoma of the colon and rectum: report of two cases and review of the literature. *Dis Colon Rectum* 1985; 28: 440–45.
- [8] Dyson T, Draganov PV. Squamous cell cancer of the rectum. *World J Gastroenterol* 2009; 15: 4380–86.
- [9] Kulaylat MN, Doerr R, Butler B et al. Squamous cell carcinoma complicating idiopathic inflammatory bowel disease. *J Surg Oncol* 1995; 59: 48–55.
- [10] A. Prener, K. Nielsen, Primary squamous cell carcinoma of the rectum in Denmark, *APMIS* 96 (1988) 839–44.
- [11] Copur S, Ledakis P, Novinski D, et al. Squamous cell carcinoma of the colon with an elevated serum squamous cell carcinoma antigen responding to combination chemotherapy. *Clin Colorectal Cancer*. 2001; 1 (1): 55–58.
- [12] Nowak B, Mineishi S, Tarasoff P, Satterlee W, Raber MN, et al: A phase I clinical, plasma, and cellular pharmacology study of gemcitabine. *J Clin Oncol* 1991; 9: 491 - 98.
- [13] Petrelli NJ, Valle AA, Weber TK and Rodriguez - Bigas M: Adenosquamous carcinoma of the colon and rectum. *Dis Colon Rectum* 1996; 39: 1265 - 68.