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Sigmoid Squamous Cell Carcinoma Presenting as a Bladder Mass: A Case Report

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Primary squamous cell carcinoma (SCC) of the colon and rectum is a rare malignancy, with an incidence of less than 1 in 1,000 diagnosed colorectal cancers. This is a case of a 59-year-old male who presented with a three-month history of urinary symptoms. Work-up, however, revealed a locally-advanced, partially-obstructing primary sigmoid squamous cell carcinoma with extension to the urinary bladder. He subsequently underwent a proximal bowel diversion after extensive carcinomatosis was discovered on diagnostic laparoscopy. Colon SCC represents less than 0.5% of all colorectal tumors, and its incidence is estimated to be 0.1%. Clinically, it presents with similar signs and symptoms as colorectal adenocarcinoma. No standardized management approach has been established yet. A multidisciplinary team approach is essential in dealing with such cases. Keen attention and further investigation are warranted to clearly define the management approach to achieve better outcomes.

Key words: colorectal cancer, squamous cell cancer, urinary bladder, rectum

Colorectal cancer is the third most common cause of cancer-related deaths in the world. Over 90% of colorectal cancers are adenocarcinoma. The remaining 10% are comprised of other carcinomas, sarcomas, and lymphoid tumors. Primary squamous cell carcinoma of the colon and rectum is a rare malignancy, with an incidence of less than 1 in 1,000 diagnosed colorectal cancers.[1] This makes the proceeding case of interest.

The Case

A 59-year-old male, from a coastal province in the Philippines, presented with a three-month history of dysuria associated with occasional vague abdominal pain. He had no known co-morbidities nor previous surgeries. At that time, an ultrasound of the kidneys and urinary bladder (KUB) was done that showed a mass in the urinary bladder. The patient, however, was lost to follow-up. In the interim, the abdominal pain became localized to the hypogastric area, with accompanying weight loss, generalized weakness, and new-onset hematuria. However, only a plain abdominal computed tomography (CT) scan was ordered to further work-up the patient. A written report of the CT scan findings showed a "consideration of a primary urinary bladder mass versus a primary sigmoid colon mass," with bilateral ureteropelvocaliectasia. The images were not available for review. It was at this time that the patient was referred to the Philippine General Hospital.

During his admission, a colonoscopy with biopsy was done. A circumferential, friable, necrotic mass was seen at 20 centimeters from the anal verge. Engorged vessels above and below the dentate line were observed but no anal mass lesions were appreciated. The mass was noted to be 90% obstructing, with inability to pass the scope further to visualize the more proximal colonic segments. Biopsy revealed moderately differentiated squamous cell carcinoma. (Figure 1)

A triple contrast abdominal CT scan showed a locally-advanced sigmoid tumor extending to the bladder trigone causing bilateral ureteropelvocaliectasia. The great vessels and the bilateral iliac vessels were noted to be encased by nodes. (Figure 2) The liver showed no metastasis. Chest CT scan, likewise, did not show any metastatic lesions.

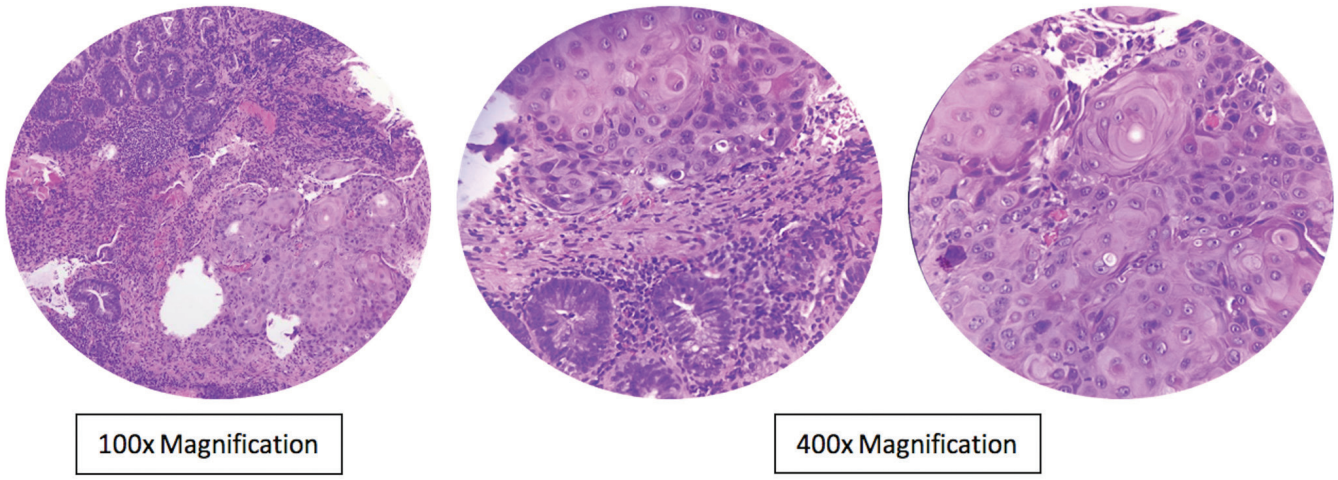

Figure 1. Histopathologic analysis of the biopsy specimen obtained from the colon revealed nests of tumor cells within the muscularis propria of the colonic wall. The tumor cells are polygonal in shape with intercellular bridges and keratinization. The tumor cells also show marked pleomorphism and hyperchromatic nuclei. There are also abundant mitotic figures seen. These findings are consistent with moderately differentiated squamous cell carcinoma. (Courtesy of Dr. Christopher Alec A. Maquiling, UP-PGH Department of Laboratories, 2017).

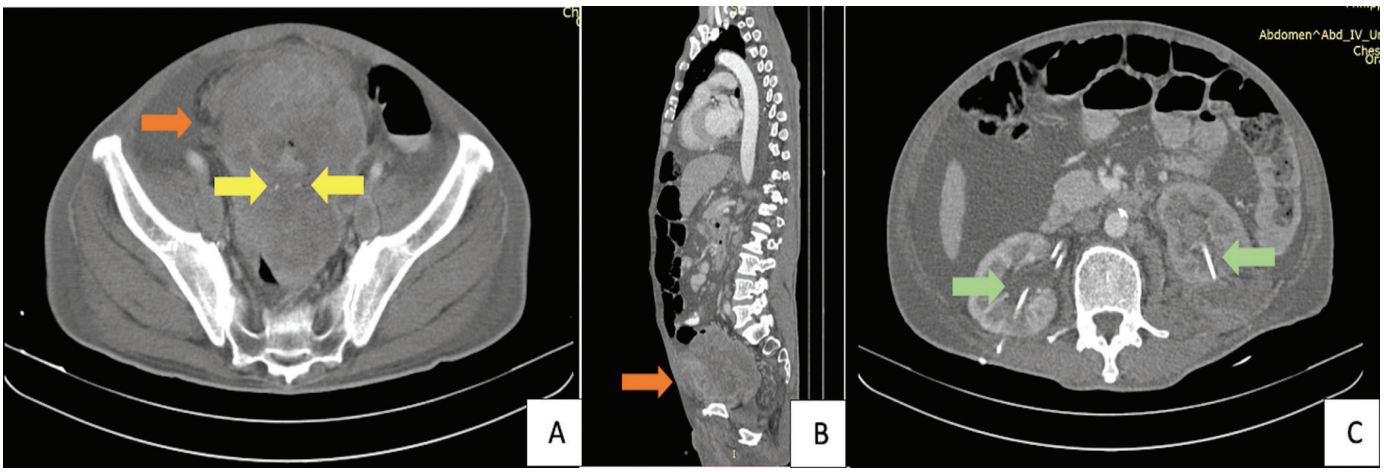

Figure 2. A) Axial view of the bulky mass with enlarged nodes (orange arrow) showing encasement of the partially visualized and displaced iliac vessels (yellow arrows). B) Sagittal view showing the extension of the sigmoid mass into the urinary bladder with no clear delineation (orange arrow). C) Axial view showing bilateral pelvocaliectasia with nephrostomy tubes in place (green arrows).

Upon discussion at a multidisciplinary team (MDT) meeting, the plan was for the patient to undergo a laparoscopic proximal bowel diversion to address the bowel obstruction, then systemic chemotherapy with mitomycin plus capecitabine or 5-fluorouracil. The response to chemotherapy was to be assessed with a repeat abdominal CT scan after the fourth cycle of chemotherapy, with a possible plan to proceed with surgery if satisfactory response was observed.

Widespread peritoneal carcinomatosis was encountered on laparoscopy. A laparoscopic transverse loop colostomy was performed, and the patient was advised palliative chemotherapy with carboplatin and paclitaxel.

Discussion

Primary squamous cell carcinoma (SCC) arising from the colon and rectum is extremely rare, as this histopathology is usually found in the esophagus or the anal canal.[1] It was first reported by Schmidtman in 1919. The incidence of rectal SCC (93.4%) is higher than colon SCC (5.9%).[2] Colon SCC represents less than 0.5% of all colorectal tumors, and its incidence is estimated to be 0.1%.[1] For this reason, most studies on colorectal SCC are based on case reports.

Colon SCC occurs around the fifth decade of life. It is more common in females, and tends to have a higher stage than adenocarcinoma upon detection.[3] They are usually seen late into the course of the disease, hence they are frequently locally-invasive and more likely to involve regional or distant metastasis upon diagnosis.[1,2]

Clinically, colorectal SCC presents with similar signs and symptoms as colorectal adenocarcinoma: rectal bleeding, change in bowel habits, abdominal pain, and weight loss.[3] However, in this case, the patient presented with urinary symptoms instead of bowel movement changes as explained by the involvement of the urinary bladder. The time from the initial symptom to diagnosis occurs between 6 weeks and 12 months.[3]

While it could be argued that this could possibly be a case of a bladder primary with sigmoid extension, histologically, 90% of bladder cancers are of urothelial origin and only 5% are of squamous cell carcinomas. It was also apparent on CT scan review that the bulk of the tumor was a circumferential mass at the sigmoid area extending to the bladder trigone.

Colorectal SCC spreads via the lymphatics, which is similar to adenocarcinoma. The most common metastatic sites include the liver, lung, and bone.[4]

Several hypotheses have been formulated regarding the etiology of colorectal SCC. Two of the most common are the presence of multipotent stem cells capable of multidirectional differentiation, and chronic irritation (i.e. radiation exposure, infection, ulcerative colitis), which eventually leads to squamous metaplasia, dysplasia, and subsequent tumor development.[1,3,5] Among the infectious etiology, human papilloma virus (HPV) has been associated with rectal SCC, and schistosomiasis has been reported with cecal SCC.[6,7]

In order to establish the diagnosis of a primary colorectal SCC, certain criteria should be met: first, metastasis from other sites to the bowel should be excluded; second, a squamous-lined fistulous tract must not involve the affected bowel; third, anal SCC with proximal extension to the rectum should be ruled out; and fourth, histopathological analysis must confirm the diagnosis.[8]

The squamous cell carcinoma antigen (SCC Ag) is the proposed tumor marker for colorectal SCC. However, this should not be the basis to establish initial diagnosis, but instead, this should be used to monitor disease response and progression.[5]

No standardized treatment approach has been established yet. In general, the approach is similar to that of colon adenocarcinoma. For non-metastatic lesions, Jahromi, et al. recommended surgical correction, followed by adjuvant chemotherapy with FOLFOX (folinic acid, fluorouracil, and oxaliplatin).[1] Copur, et al. used cisplatin, fluorouracil, and etoposide as adjuvant treatment.[9] Gemcitabine in addition to oxaliplatin and capecitabine has also shown promising results.[4] Radiotherapy, on the other hand, is recommended in cases with positive margins.[1]

For metastatic SCC, cisplatin, fluorouracil, and leucovorin as a combination therapy may be used.[10] In PGH, non-metastatic SCC is treated with surgery followed by chemotherapy using mitomycin plus capecitabine or fluorouracil; for metastatic SCC, carboplatin with paclitaxel are recommended.

The 5-year survival rate of colorectal SCC (35%) is significantly lower than colorectal adenocarcinoma (54.6%). Colon SCC has even poorer prognosis when compared to rectal SCC.[2] Poor prognosis has been associated with certain factors such as ulcerated or annular lesion, lymph nodes metastasis, and the degree of differentiation of the tumor (poorly differentiated and undifferentiated).[2] There are conflicting evidences, however, based on the location of the tumor (right- vs. left-sided lesion).

Due to its rarity, the optimal treatment to this condition remains to be an area of investigation.

Conclusion

Primary squamous cell carcinoma of the colon is exceptionally rare, hence clinical presentation, treatment, and prognosis remain poorly established. A multidisciplinary team approach is essential in dealing with such cases. Keen attention and further investigation are warranted to clearly define the management approach to achieve better outcomes.

References

1. G Jahromi N. Primary squamous cell carcinoma of the descending colon. Cureus 2020;12(6):e8588. doi:10.7759/cureus.8588.
2. Shi J, Sun Y, Gao P, et al. Basic characteristics and therapy regimens for colorectal squamous cell carcinoma. Transl Cancer Res 2018; 7: 268-2. 10.21037/tcr.2018.03.04.
3. Lannaz S, Elomrani F, Ouziane I, Mrabti H, Errihani H. Squamous cell carcinoma of the colon: A case report and literature review. Austin J Clin Med 2015; 2(1): 1023.
4. Zhao S, Guo J, Sun L, Lv J, Qiu W. Gemcitabine-based chemotherapy in colon squamous cell carcinoma: A case report and literature review. Molecular and Clin Oncol 2017 1; 6(4): 561-5.
5. Dyson T, Draganov PV. Squamous cell cancer of the rectum. World J Gastroenterol 2009; 15(35): 4380–6.
6. Tschann P, Lechner D, Feurstein B, et al. Diagnostically challenging human papillomavirus-associated primary squamous cell carcinoma of the rectum with metastasis in both ovaries: a case report. J Med Case Reports 2020; 14: 30. https://doi.org/10.1186/s13256-020-2348-5.
7. Mason JD, Teranaka W, Freebairn A, Kingston G, Middleton SB. Primary squamous cell carcinoma of the caecum: Case report and update. Gastroenterol Hepatol Open Access 2016; 5(8): 00173. DOI: 10.15406/ghoa.2016.05.00173.
8. Miyamoto H, Nishioka M, Kurita N, et al. Squamous cell carcinoma of the descending colon: report of a case and literature review. Case Rep Gastroenterol 2007 Aug 29;1(1):77-83. doi: 10.1159/000107470.
9. 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 Colorect Cancer 2001 May;1(1):55-8. doi: 10.3816/CCC.2001.n.006.
10. Juturi JV, Francis B, Koontz PW, Wilkes JD. Squamous-cell carcinoma of the colon responsive to combination chemotherapy: report of two cases and review of the literature. Dis Col Rect 1999; 42: 102–9.