

# COLON ADENOCARCINOMA WITH SQUAMOUS DIFFERENTIATION: CASE REPORT

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## Abstract

**Objective:** Adenosquamous carcinoma of the colon is a colon neoplasm composed of separate malignant squamous and glandular components. This rare subtype has an incidence of < 0.1% and features of both adenocarcinoma and squamous cell carcinoma, similar to adenosquamous carcinomas seen elsewhere in the gastrointestinal tract.

**Case report:** We report a case of a 43 year old female patient who was diagnosed with colon cancer after colonoscopic examination with biopsy. The patient underwent left colon resection (sigmoid colon) and the specimen was sent to histopathologic department. After gross dissection was revealed an obstructive polypoid and ulcerative mass with 5.6x5.2 cm, with an invasion in fat tissue and with serosal perforation. Histopathological views from tissue specimens showed an admixture of distinct components of both adenocarcinoma and squamous cell carcinoma (approximative 10 % of total tumor mass).

**Discussion:** Herxheimer reported the first instance of colorectal adenosquamous carcinoma in 1907, describing it as a tumor with elements of both adenocarcinoma and squamous cell carcinoma. Other potential causes of epidermoid carcinoma that develop in the large intestine must be ruled out in order to make the diagnosis of primary colorectal adenosquamous carcinoma.

*Keywords:* colon cancer, adenocarcinoma, squamous cell differentiation

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## 1. Introduction

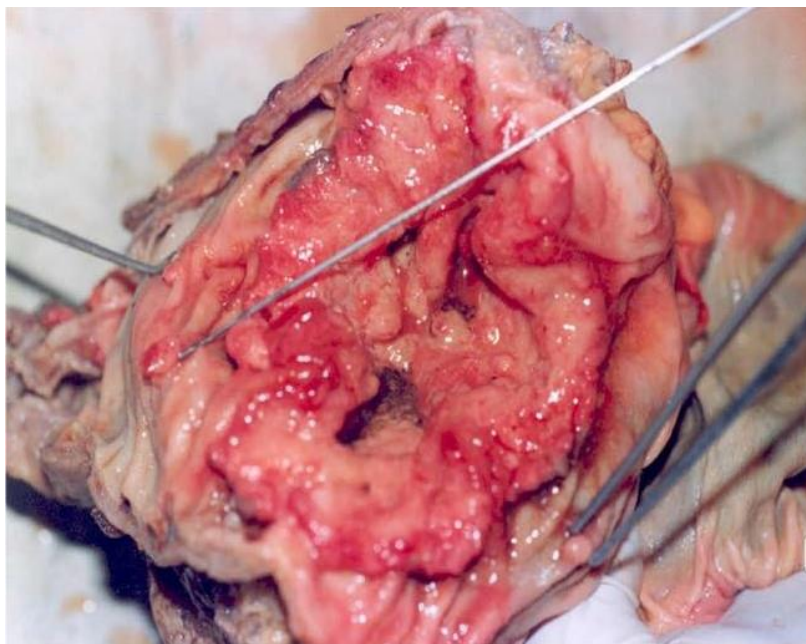
The most prevalent gastrointestinal cancer is colorectal cancer. The prevalence of colorectal cancer is increasing globally as a result of lifestyle changes. Over the past ten years, population screening has become widespread due to the existence of recognisable precursor lesions and highly improved screening tests. A malignant epithelial tumor that originates in the large bowel and exhibits glandular or mucin differentiation is called a colorectal adenocarcinoma.

Right-sided or proximal colon cancers, which include those in the caecum, ascending colon, and transverse colon, left-sided colon cancers, which can be found anywhere from the splenic flexure to the sigmoid, and rectal cancers are the three groups that colorectal cancers fall into in practice. The majority of colorectal malignancies (CRCs) are rectal or left-sided. Compared to previous years, the prevalence of left-sided. Adenosquamous carcinoma This rare subtype has an incidence of < 0.1% (2071,456) and features of both adenocarcinoma and squamous cell carcinoma, similar to adenosquamous carcinomas seen elsewhere in the gastrointestinal tract.

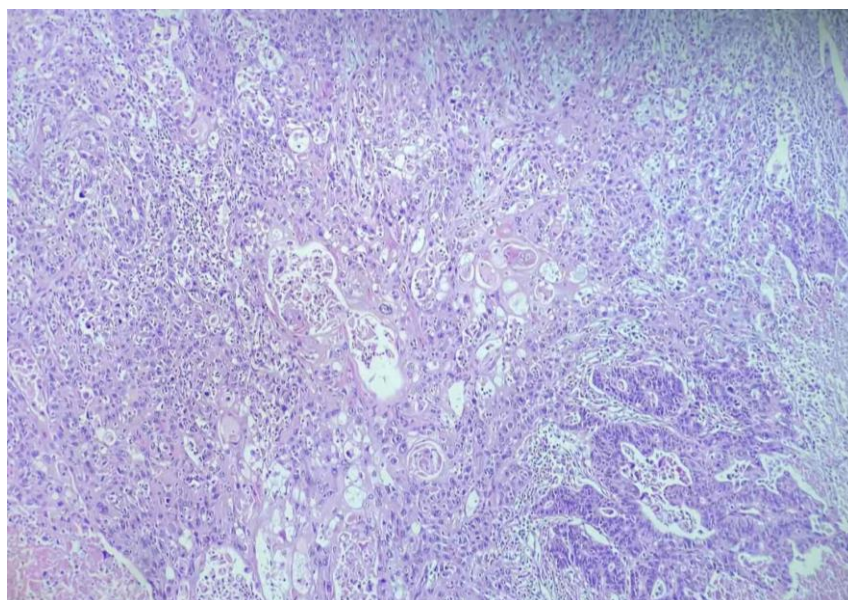
## Case report

We report a case of a 43 year old female patient who was diagnosed with colon cancer after colonoscopic examination with biopsy. The patient underwent left colon resection (sigmoid colon) and the specimen was sent to histopathologic department. After gross dissection was revealed an obstructive polypoid and ulcerative mass with 5.6x5.2 cm, with an invasion in fat tissue and with serosal perforation.

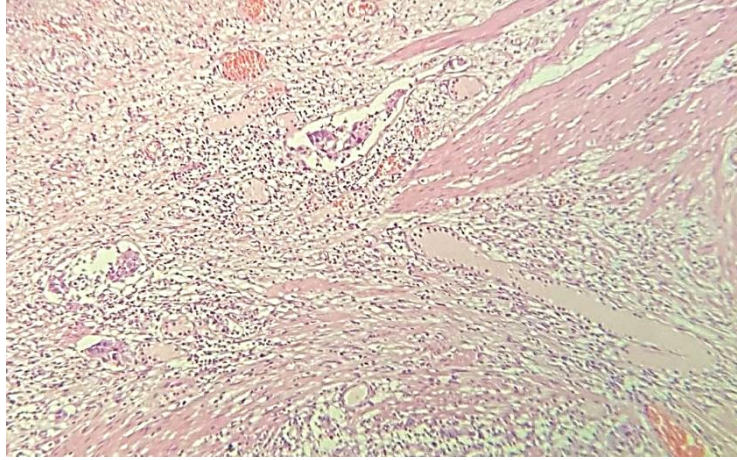
Histopathological views from tissue specimens showed an admixture of distinct components of both adenocarcinoma and squamous cell carcinoma (approximate 10 % of total tumor mass). Histopathological diagnosis was made as Dgx. Adenocarcinoma colonis with squamous differentiation According to AJCC cancer staging manual - eighth edition, pTNM = pT4a, pN1b, pMx, pL1, pV0, pPNI, pR0, G3, Stage IIIB (if M=0)



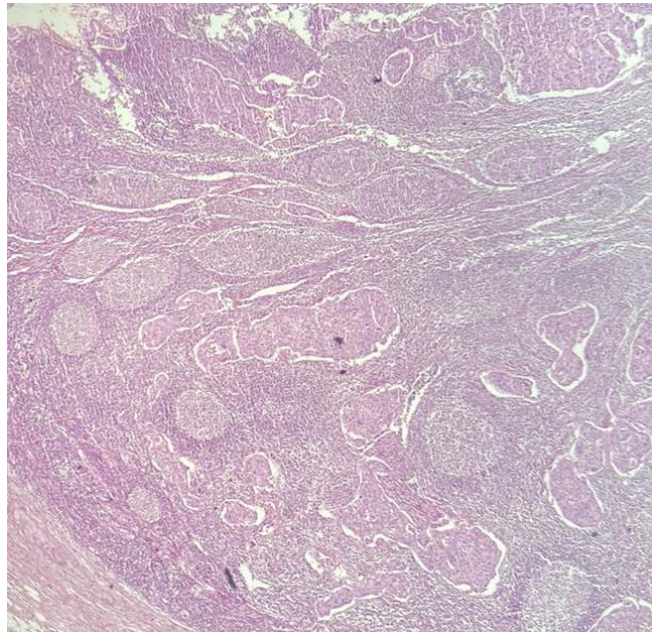
**Figure 1.** Gross examination of polypoid and ulcerative mass



**Figure 2.** Micrographs from tumor sample stained with Haematoxylin and Eosine, where is detected squamous and glandular malignant component (x100 magnification)



**Figure 3.** Micrographs from the invasive front where are detected tumor embolus in lymphatic vessels, Haemathoxyline and Eosine, (x100 magnification)



**Figure 4.** Micrographs from regional lymph node with metastatic deposition stained with Haemathoxyline and Eosine, (x100 magnification)

## Discussion

Adenosquamous carcinoma is a malignancy that has both glandular and squamous histologic components. Both parts are cancerous and have the capacity to spread. The histogenesis of adenosquamous cancer in the colon and rectum is subject to a number of hypotheses. They consist of the following: 1. The existence of pluripotent stem cells of endodermal origin capable of multidirectional development. 2. The presence of embryologic nests of ectodermal cells. 3. Squamous metaplasia of the intestinal mucosa. Despite the possibility of both squamous and glandular metastatic lesions, there is evidence that squamous metastasis is more frequent and aggressive than glandular metastasis.

Herxheimer reported the first instance of colorectal adenosquamous carcinoma in 1907, describing it as a tumor with elements of both adenocarcinoma and squamous cell carcinoma. Other potential causes of epidermoid carcinoma that develop in the large intestine must be ruled out in order to make the diagnosis of primary colorectal adenosquamous carcinoma.

Primary adenosquamous carcinoma and squamous cell carcinoma of the colon and rectum are rare neoplasms. The incidence of all colorectal cancers ranges from 0.025% to 0.85%. A recent analysis of 437 cases of squamous carcinoma, or roughly 0.3% of the 169 073 cases of colorectal malignant tumors reported by Kang et al., was conducted nationally. Additionally, the rectum is where 93.4% of squamous carcinomas are most frequently discovered.

Adenosquamous carcinoma is an uncommon type of gastric cancer that is malignant. Adenocarcinoma and squamous carcinoma must both be present in the biopsy in order to diagnose this mixed tumor, and the squamous component must account for more than 25% of the tumor. Additionally, adenocarcinomas are typically the primary tumor component. Surprisingly, in our situation, the squamous component, which made up 90% of the entire tumor, was dominating. The following five scenarios for tumor histogenesis are advised: There are five different types of squamous metaplasia: squamous metaplasia of an adenocarcinoma; cancerization of metaplastic non-neoplastic squamous cells; cancerization of the ectopic squamous epithelium; differentiation of multipotent undifferentiated cancer cells toward both squamous and glandular cells.

Ge, Yugang, et al. claim that the histogenesis of this tumor is yet unknown. Therefore, more research is needed to explain why these two mixed components are present together. Adenosquamous carcinoma typically manifests with metastases at an advanced stage. In our situation, the glandular component made up the majority of the affected lymph nodes. Consequently, this might indicate a little less aggressive behavior, which would increase the likelihood of survival. However, there is currently no clear association between the prognosis and the histology component in reality. The liver and peritoneal spreads are the two most typical metastatic sites linked to this tumor, according to Chen et al. Within two months of surgery, there were no liver metastases in our patient.

Even if discovered at an early stage, this cancer has a dismal prognosis, according to Shirahige A et al. However, we should remember that the case in that report had original adenocarcinoma before the formation of adenosquamous carcinoma. In contrast, Y. Kimura et al. reported that if the condition is caught early on, the prognosis may be favorable.

More research is required to resolve this debate because we are still unable to determine whether hypothesis is more trustworthy. Adenosquamous carcinoma does not yet have a conventional treatment due to its rarity. The most curative treatment, though, appears to be radical colectomy.

The most essential and effective treatment is a surgical resection. Adjuvant chemotherapy and radiation are advised, particularly in node-positive cases. To limit the scope of the procedure and enhance local therapy, Gelas et al. suggested preoperative radiation or (and) chemotherapy. A patient described by Pikarsky et al. endured treatment alone and lived for seven years. Further research is necessary to determine whether basic

radiotherapy or chemotherapy is a successful treatment. Given the functions that HPV plays in some situations, anti-HPV infection might be another successful adjuvant therapeutic strategy.

## Conclusions

Based on H&E staining, it is simple to diagnose colon and rectum adenosquamous carcinomas that are well or moderately differentiated. Although rectal squamous cell carcinomas are extremely rare, they are visible enough to beg the scientific community to look into them further. Squamous cell carcinoma of the gastrointestinal tract most frequently affects the esophagus or anal canal. The disease's pathophysiology is still unknown, and the link to HPV has not yet been established. To fully understand the pathophysiology of the illness and develop first-line treatment strategies, more research is necessary. Retrospective studies' treatment procedures have a lot of potential for just using chemotherapy and radiation therapy as the basis of care to improve patient outcomes.

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