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# Collision tumor of colonic adenocarcinoma and EBV-driven large B-cell lymphoma: A case report and review of literature



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#### **KEYWORDS**

Collision tumor;
Colonic
adenocarcinoma;
Large B-cell lymphoma;
Multiple primary
tumors;
FBV

#### **Abstract**

*Introduction:* Collision tumors of adenocarcinoma and lymphoma in the gastrointestinal tract are especially rare with few reported cases in literature. We report a unique case of a collision tumor and perform a literature review.

*Presentation of case*: An 86-year-old patient with a history of rheumatoid arthritis on chronic azathioprine and prednisone was found to have an invasive adenocarcinoma in the descending colon. A large atypical lymphocytic infiltrate was found at the base of this lesion, which demonstrated CD20, lambda and EBER positivity consistent with adenocarcinoma colliding with EBV-driven and lambda-restricted large B-cell lymphoma.

*Discussion*: With this report, there are now fifteen cases of this type of collision tumor although the true incidence may be higher. Our case is unique among previous reports as the collision developed within the setting of iatrogenic immunosuppression and tumor EBV positivity was demonstrated. The pathogenesis is unknown, and diagnosis requires a high-degree of suspicion.

*Conclusion:* It is important to consider immunosuppression in a patient with adenocarcinoma, as presence of atypical lymphoid cells may be indicative of lymphoma.

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#### 1. Introduction

Colorectal adenocarcinoma is one of the most common neoplasms worldwide with more than half occurring in

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developed regions [1]. In contrast, primary gastrointestinal lymphoma is much more uncommon and defined by extranodal origin, normal white blood cell count, and lack of involvement of peripheral or mediastinal lymph nodes, liver, and spleen [2]. The vast majority are found in the stomach, while prior studies in the United States showed from 8.5 to 10% arising from the large intestine [3-5]. Although rare, the occurrence of primary colorectal adenocarcinoma with primary lymphoma has been previously well-documented in literature, [6] with the probability of synchronous

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occurrence estimated to be 2% [7]. Furthermore, synchronous multiple primary tumors that are histologically distinct and occur adjacently are even more rare [8]. These are defined as collision tumors. To date, only fourteen cases of collisions of colorectal adenocarcinoma and colonic lymphoma have been previously reported. We describe the clinicopathologic features of a patient with adenocarcinoma of the colon colliding with EBV-driven large B-cell lymphoma in the setting of chronic immunosuppression. A review of literature is also performed.

#### 2. Case report

An 86 year-old female presented with bloody diarrhea, abdominal pain, and anemia. Past medical history was significant for rheumatoid arthritis treated with prednisone and azathioprine. Physical exam was unremarkable and no lymphadenopathy or organomegaly was noted. Laboratory studies revealed white blood count  $3500/\mu L$  and hemoglobin 8.6 g/dL. Colonoscopy showed mass lesions at the cecum and splenic flexure, and biopsies showed adenocarcinoma.

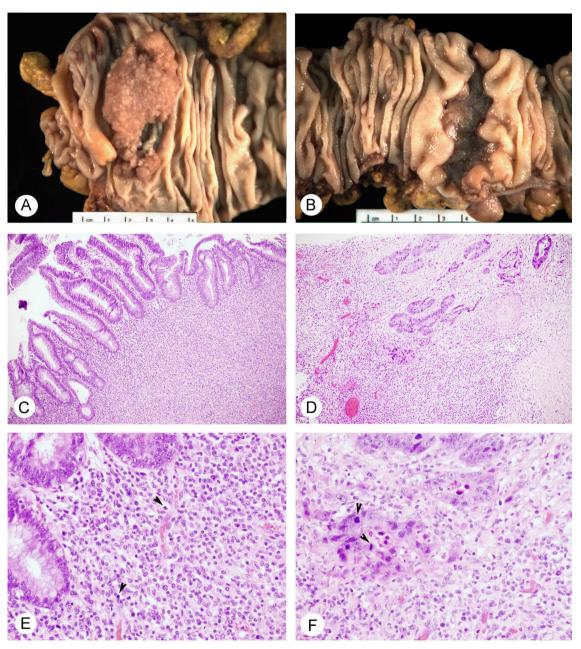


Figure 1 Gross examination: (A) a  $6.6 \times 3.2 \text{ cm}^2$  soft, tan, exophytic mass with focal mucosal ulceration at the cecum and (B) a  $6.5 \times 4.5 \text{ cm}^2$  ulcerated lesion in the descending colon with heaped-up margins and necrotic appearing central area. Histologic examination (C-F): cecal tubulovillous adenoma with atypical lymphocytic infiltrates at the base with increased mitotic activity (C,  $\times$  100; E,  $\times$  400); low grade adenocarcinoma with a focus of high grade adenocarcinoma admixed with atypical lymphocytic infiltrates in the descending colon (D,  $\times$  100; F,  $\times$  400) (arrowheads indicate mitotic figures).

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