

## Introduction

Inflammatory bowel disease (IBD), involves immune-mediated inflammation and subsequent damage to the gastrointestinal tract.

Persistent bowel inflammation places patients at risk for colorectal cancer in addition to many other disease-related complications. Treatment involves immunosuppression, increasing risk for infections and malignancies of the hematologic, integumentary, and genitourinary systems.

Elevated cervical cancer rates are seen in female patients with IBD on immunosuppressive therapy. The increased malignancy risk observed in IBD patients may be due to the inflammatory bowel disease itself, biologic therapies, concomitant immunomodulator therapy, or a combination thereof.

Current guidelines recommend annual cervical cancer screening in these patients.

We present a case of a patient with refractory Crohn's disease on biologic therapy with up-to-date cervical cancer screening found to have human papillomavirus-independent cervical adenocarcinoma.

## Case Description

A 46-year-old female with Crohn's disease diagnosed at age 18 presented with left lower quadrant pain and bloating.

Her disease was steroid-refractory and did not respond to mesalamine, azathioprine, or adalimumab. She was in remission for four years on infliximab, however, it was discontinued after a spontaneous mediastinal abscess. She was later treated with vedolizumab and eventually ustekinumab.

## Case Description

She underwent an immunodeficiency workup given a history of recurrent infections. Laboratory workup, including antibody titers, complement activity, immunoglobulin levels, and B and T lymphocyte counts, was not suggestive of a primary immunodeficiency.

CT abdomen/pelvis and Papanicolaou smear with HPV co-testing performed less than a year prior were negative for evidence of malignancy.

For evaluation of her left lower quadrant pain and bloating, computed tomography (CT) of the abdomen/pelvis was performed. CT revealed two large complex appearing pelvic masses. Surgical pathology confirmed stage IVA cervical adenocarcinoma, human papillomavirus (HPV) independent, with involvement of the bilateral ovaries and fallopian tubes.

## References

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## Discussion

Human papillomavirus (HPV) is the most common cause of cervical cancer. It has been hypothesized that HPV underlies the elevated cervical cancer risk in immunosuppressed patients. This case is notable as it involves an HPV-independent cervical cancer, found at an advanced stage, in a relatively young patient on immunosuppression.

Our patient with treatment resistant Crohn's disease had received immunosuppression with both immunomodulators and biologic agents for extended periods of time. We postulate that this chronic immunosuppressed state likely contributed to the development of her advanced malignancy as a result of decreased immune surveillance.

Liquid based cytology pap smear and high risk HPV cotesting have demonstrated high sensitivity for cervical cancer screening. HPV-negative cervical cancers comprise only a small proportion of cervical neoplasms and are almost entirely adenocarcinomas. These cancers are often diagnosed at an advanced stage.

ACG guidelines currently recommend annual screening for patients on immunosuppressive therapy. As in the case we have described, immunosuppressed patients can still develop advanced cancers between screening intervals.

When caring for immunosuppressed IBD patients, there should be a low threshold for additional evaluation if patients develop signs or symptoms concerning for underlying malignancy.

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