

Colorectal adenocarcinoma presenting as a bowel obstruction in the second trimester of pregnancy

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Abstract

PURPOSE: (1) To report a case of colorectal adenocarcinoma presenting as an unexpected bowel obstruction during pregnancy. (2) To identify associated symptoms commonly seen in pregnancy that may suggest a misleading diagnosis. (3) To review increasing frequency of adenocarcinoma of the colon and promising new screening techniques for diagnosing colorectal malignancy.

METHODS: Case Report: While colon cancer diagnosed in pregnancy is a rarely encountered complication, it appears likely that there will be an increase occurrence of cases in the coming years. While the etiology of colon cancer is multifactorial two key trends should be considered. First is that the mean age of mothers at the time of first childbirth has been increasing. This age was documented to be 24.9 years in 2000, increased to 26.3 years in 2014 and presumably has still been increasing during the past seven years. Second, this rise accompanies a concomitant national upsurge in the overall incidence of colon cancer in 20-34-year-old age women in recent years. This portends a huge obstetric and gynecologic concern going forward.

Presented here is a case of a 28-year-old primigravid woman diagnosed with colorectal adenocarcinoma at 22 weeks of gestation. She initially presented to the hospital with complaints of abdominal bloating, pain, nausea and vomiting. Her pregnancy had been unremarkable to this point. She had been unable to tolerate food for the few days prior to admission and was vomiting frequently. She did not recall passing flatus or having a bowel movement within those same preceding days. Subsequent evaluation included an abdominal x-ray that showed evidence of colonic obstruction in the descending colon. She was taken to surgery which consisted of a midline vertical incision laparotomy and a left colectomy with end colostomy. Findings included a near complete obstructing 5 cm circumferential tumor near the junction of the descending and sigmoid colon. No evidence of intra-abdominal metastasis apparent at exploration.

Pathology was consistent with a moderately differentiated adenocarcinoma which had invaded through the muscularis propria into the mesentery and sub-serosal soft tissue. Proximal, distal and mesenteric margins were uninvolved. Twenty-one lymph nodes were negative. Mismatch repair proteins gave normal results (mismatch pair proficient). The final pathology was consistent with Stage II pT3N0 adenocarcinoma of the colon. CEA levels were normal at the time of surgery and remain so a year later.

Postoperatively the patient spent 4 days in the hospital and had an unremarkable recovery with very quick return of bowel function. She adapted to the colostomy and finished the remainder of the pregnancy uneventfully. She was induced at 39

weeks gestation but due to fetal intolerance of labor she underwent a primary C-section resulting in a healthy baby as well as a normal postpartum course. Three months post C-section the colostomy was taken down and she has returned to a normal lifestyle.

DISCUSSION: Diagnosing colorectal cancer presenting during pregnancy poses a difficult diagnostic challenge since common clinical manifestations of colorectal cancer during pregnancy include nausea, vomiting, abdominal pain, and constipation which are all symptoms commonly present in a normal pregnancy. Because of mimicry colorectal cancer may not be diagnosed until it reaches an advanced stage. Consequently, prognosis for a mother diagnosed with colorectal cancer in pregnancy tends to be significantly poorer than predicted. Fortunately, a promising solution to this diagnostic challenge is on the near horizon. Recent studies have evaluated the possible use of utilizing autoantibodies in the diagnosis, prognosis, and prediction of colorectal carcinoma look promising. A systematic literature review identified several of these promising autoantibodies, several of which include antibodies against CCD83, CEA, PIM1, and MAPKAPK3. Recently the utility of circulating tumor DNA (ctDNA) monitoring in cancer patients who are pregnant or planning to become pregnant has been reported. A routine screening protocol could easily be implemented wherein ideally one or more of these tests could be included with the first blood draw for any pregnant patient presenting with a family history of colon cancer or abdominal/ gastrointestinal symptoms which could be seen concomitantly with colorectal carcinoma. While Cologuard and stool hemoccult testing have been used for colon cancer screening in the general population they have met with limited acceptance as a diagnostic tool during pregnancy.