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# Distinguishing rectal cancer from other rectal pathology during pregnancy: a deadly difference

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**Summary**

Colorectal cancer during pregnancy is very uncommon. The overlapping signs and symptoms between the cancer and pregnancy leads almost always to a late diagnosis and subsequently poor survival. When the diagnosis is made, the doctors are left with many challenges and questions concerning the mother and her unborn child. The present article describes a 32-year-old pregnant woman who was diagnosed with an advanced anal tumor at a term pregnancy. Despite all efforts the patient succumbed. Colorectal problems during pregnancy are often related to the pregnancy, but are sometimes are due to something else. As a clinician one should always think out of the box and consider rare events, even if they seem not obvious.

*Key words:* Rectal cancer; Pregnancy; Rectal problems; Delivery; Female.

## Introduction

Incidence of colorectal cancer during gestation is 0.002 per cent [1]. The clinical manifestations of rectal cancer during pregnancy is similar to that of non-pregnant women, which includes abdominal pain, abdominal distention, altered bowel habits, nausea, rectal bleeding, and weight loss [1]. Colorectal cancer during pregnancy usually presents in an advanced stage. The delay in diagnosis is attributed to the overlapping gastrointestinal symptoms associated with pregnancy [1-4]. The diagnosis during pregnancy confronts the family and the doctors with the choice: "what is number one". Should this be the mother, the unborn child or both. The optimal therapy during pregnancy is unknown [1-4]. Current report describes an advanced anal tumor in a term pregnancy.

## Case Report

A 32-year-old woman, Gravid 2 Para 1, presented with persisting complains of constipation and hemorrhoids since her first pregnancy, already three years ago. She had no significant medical or surgical history and the course of the current pregnancy was uneventful. Clinical examination at 37 weeks of pregnancy was, besides the enlarged liver, normal. Laboratory tests showed an abnormal were hemoglobin of 10.6 g/dL, white blood cell count (WBC) of 25.3 X $10^3$/μL, CRP of 11 mg/dL, and elevated liver function tests (AST 48I U/ml, gamma GT 783 U/L, LDH 481 IU/ml, and unconjugated bilirubin 0.54 g/mol). Colonoscopy revealed a polyploidy mass in the rectum and a biopsy was taken. Histopathological examination showed a tubulovilleus adenoma with high-grade dysplasia and fragments of malignancy. The clinical evaluation suggested that the rectal tumor had a low risk of obstructing the birth canal. The patient was discussed in a multidisciplinary team and a planned vaginal delivery through induction with vaginal prostaglandin E2 was advised. The vaginal delivery was without complications, however the patient suffered from a rectal prolapse afterwards (Figure 1). Postpartum colonoscopy showed a polyploidy tumor in the distal rectum, which occupied 50% of the rectal circumference. Histopathological examination revealed that it was an adenocarcinoma of the rectum with KRAS mutation in codon 12. Abdominal and pelvic CT revealed a massive rectal tumor with lymphadenopathy and multiple lesions in the liver. MRI showed a circumferential mass in the rectum, 9 cm in craniocaudal diameter, with distinct local tumor ingrowth (Figure 2). The tumor was classified as Stage IV rectal adenocarcinoma (cT4N3M1). Multidisciplinary advice was to give a palliative colostomy and chemotherapy (folfiri and avastin). After the third chemotherapy session, the patient developed a superior vena cava syndrome. CT scan of the thorax was compatible with partial thrombosis of the left brachiocephalic vein, superior vena cava, and azygos vein. Additionally, the CT scan showed disease progression with increased size and number of lung and liver lesions. The rectal mass also increased in size, as were the lymph node metastases. A stent was installed in the vena cava to relieve the symptoms. The patient succumbed six months after her delivery.

## Discussion

Constipation and hemorrhoids are common disorders during pregnancy. The main manifestations of internal hemorrhoids are anal discomfort and bleeding, whereas external hemorrhoids primarily cause external anal pain and

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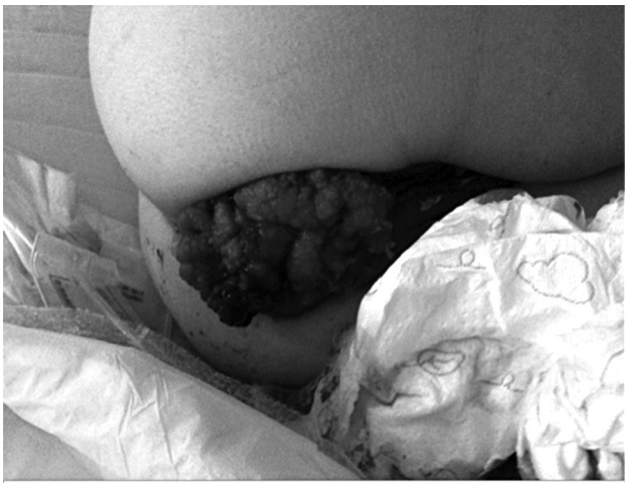

Figure 1. — Postpartum rectal prolapse.

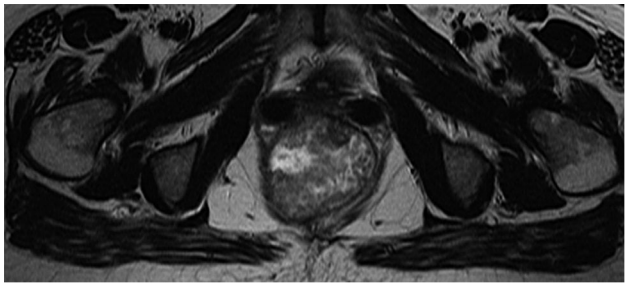

Figure 2. — MRI of the lower abdomen showing the rectal carcinoma with invasion of the cervix and uterus.

pruritus. Symptoms suggestive of difficult defecation (painful defecation, feeling of incomplete evacuation) are equally common at 12 and 36 weeks. Approximately 40% of pregnant women suffer from constipation [1, 2]. The clinical manifestations of rectal cancer during pregnancy are similar to that in non-pregnant women, which include abdominal pain, abdominal distention, altered bowel habits, nausea, rectal bleeding, and weight loss [1]. Anal bleeding and rectal prolapse during pregnancy may be misdiagnosed as a sequence of congested hemorrhoids or anal fissure that develop during pregnancy [1, 2]. The prognosis of rectal cancer in pregnant women and non-pregnant women is almost the same. The overlap of symptoms during pregnancy leads to a delay in diagnosis and subsequently poor prognosis [1-4]. The treatment of rectal cancer during pregnancy represents a great challenge.

The diagnosis of rectal cancer in non-pregnant patient includes blood tests, determination of CEA, abdominal imaging, and endoscopy with targeted biopsy. Determination of CEA level during pregnancy is not a recommended method of screening because of its low sensitivity and specificity. Rectoscopy and colonoscopy should also be considered for pregnant women. A CT is relatively contraindicated during pregnancy especially in the first trimester due to increased teratogenicity risk [1-3]. An MRI and abdominal ultrasound are not contraindicated and useful diagnostic tools [1-3].

There is no evidence that pregnancy increases the incidence of cancer or that it has an adverse effect on the biology of cancer [1-4]. The optimal therapeutic modality for rectal cancer during pregnancy is a challenging matter. The pregnant women should be treated in accordance with the guidelines for non-pregnant patients; however, therapeutic decisions should be individualized taking in account the gestational age, stage, ethical issues, and religious beliefs [2]. The treatment of pregnant women who have advanced rectal cancer require an experienced multidisciplinary team (gastrointestinal surgeon, obstetrician, oncologist, maternal-fetal medicine specialist, general practitioner, and social worker) [3].

The primary therapy for rectal cancer is surgery [4]. The timing and type of surgery depends on the gestational age, the extent of disease, and the patient's wishes [1-4]. Generally, for patients diagnosed with rectal cancer in the first trimester, the options include termination of pregnancy and further treatment as in non-pregnant patients, or surgical removal of the tumor without interrupting the pregnancy if imaging suggests that the tumor may be resected with clear margins. In the second trimester, delaying the treatment until after delivery may endanger the patient with significant risk of disease progression. In this case neoadjuvant chemotherapy is the standard treatment, but rectal surgery may be safely undertaken in this period. In the third trimester, induction of labour should be planned for pregnancies beyond 32 weeks and followed by treatment as in non-pregnant patient [4]. Vaginal delivery is preferred if the tumor does not obstruct the birth canal. If delivery is vaginally, resection of the tumor can be performed one to two weeks after delivery until the involution of the uterus; however, if cesarian section is carried out, tumor resection may take place during the same operative procedure [4]. Radiotherapy is contraindicated during pregnancy. The use of chemotherapy during pregnancy is still controversial. Case reports and clinical studies showed that chemotherapy during the second and third trimesters is relatively safe, however, exposure during the first trimester can cause abortion or congenital defects [1-4].

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