

Mini Review

Atypical Presentations of Colorectal Cancer

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Colorectal cancer is a common and lethal disease. It is estimated that approximately 147,950 new cases of colorectal cancer are diagnosed annually in the United States. Patients usually present in three different scenarios. Suspicious signs and symptoms including iron deficiency anemia, change in bowel habits, hematochezia, melena, and nonspecific abdominal pain. They may present as asymptomatic individuals diagnosed with colorectal cancer after routine screening. And finally patients may present through an emergency admission for large bowel obstruction, perforation and peritonitis and rarely with massive gastrointestinal bleed. However, some atypical presentations may be encountered during our practice. These presentations include pylephlebitis, subcutaneous nodules, abdominal wall abscess, thigh abscess, anterior mediastinal mass, and discitis. Herein, we review the literature for atypical presentations of colorectal cancer.

Keywords: Unusual Presentation of colon cancer; Colon cancer; Anemia**Introduction**

Colorectal cancer is a common and lethal disease. Presenting usually in three different scenarios. Symptomatic patients, asymptomatic individuals diagnosed with colorectal cancer after routine screening, and emergency presentations. However, some atypical presentations may be encountered during our practice. These presentations include pylephlebitis, subcutaneous nodules, abdominal wall abscess, thigh abscess, anterior mediastinal mass, and discitis. Herein, we review the literature for atypical presentations of colorectal cancer.

Pylephlebitis

Also known as infective suppurative thrombosis of the portal vein which may complicate intrabdominal sepsis of any etiology. Usually begins with thrombophlebitis of small veins draining an area of infection. Extension of the thrombophlebitis into larger veins leads to septic thrombophlebitis of the portal vein, which can extend further to involve the mesenteric veins [1,2]. Common etiologies include appendicitis, diverticulitis and pancreatitis. However, pylephlebitis as a primary presentation of colon cancer is extremely rare and one reported case has been identified in the English literature reported by Kamraan Madhani and Ali Aamar.

Subcutaneous nodules

Subcutaneous metastasis from visceral malignancy is rare with an incidence of 5.3 percent [3]. Even rarer, is skin involvement as the presenting symptom of silent internal malignancy occurring in 0.8 percent of the cases [4]. The identification of cutaneous metastasis from a visceral malignancy is an ominous finding which usually signifies widespread disease and portends a poor prognosis [5,6]. An average survival of 18 months was noted in patients with skin metastasis from colorectal carcinoma [5]. Schoenlaub et al. [6] retrospectively reviewed 200 cases of patients with evidence of cutaneous metastasis from a visceral primary and found the median

survival to be 6.5 months. Patients with an underlying colorectal primary fared even worse with a median survival of 4.4 months [6]. Although the mechanism of cutaneous metastasis is poorly understood, it is hypothesized that “tumor embolization” is now thought to be mediated by lymphangiogenic and angiogenic growth factors which help to increase the total vessel surface area available for invasion, increase the pumping action of draining afferent lymphatic vessels and induce lymphangiogenesis and angiogenesis in preparation for metastasis [7,8]. Following intravasation, cells which survive the mechanical stress of circulation and the innate immune system eventually colonize the subcutaneous tissues and lay dormant until they acquire the necessary angiogenic properties, mutations of metastasis virulence genes, or micro environmental changes which prompt their emergence from dormancy [9,10]. Cutaneous metastasis from colorectal cancer is still in its infancy, understanding the true mechanism can open the door into a novel targeted therapy.

Mediastinal mass

Most commonly, colorectal cancer spreads to the regional lymph nodes (52%), liver (78%), lung (20%), and peritoneum (29%) [11]. However, solitary metastases without evidence of a primary lesion are extremely rare, and the mediastinum as initial site of presentation has only been rarely described in the medical literature. After ruling out the more common etiologies of mediastinal mass such as lymphoma, teratoma, thymoma, metastasis from lung cancer, and germ cell type tumor, immunohistochemistry for colonic tumor may be done and if positive for CK20, CDX2, CK8/18, and CAM 5.2 favors primary colorectal tumor. Most mediastinal metastases occur after completing treatment for a colorectal primary lesion or re-metastasis from previous sites [12,13]. Moreover, other cases have been described that show synchronous mediastinal metastases with a primary colonic lesion [14,15]. The presentation of distant metastasis, like the mediastinum, favoring primary colorectal carcinoma without evidence of a primary colonic lesion is not well known entity, and hence, one cannot predict the prognosis in such cases. Several therapeutic approaches for metastatic colorectal carcinoma to the mediastinum have been reported in the literature. There are cases where solitary lesions have been surgically removed [16-19] and others have been treated with chemotherapy only [15,20].

Discitis

It is known that bowel obstruction promotes bacterial translocation [21], but the pathophysiological significance of this process remains

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controversial in colorectal cancer. In colorectal cancer patients the intestinal epithelium can be penetrated by the extracellular route [22], in addition to the intracellular route. The translocating bacteria can then spread to other sites in the body via the lymphatic and/or vascular route and cause infection at the distant sites. *Streptococcus bovis* discitis and *E. Coli* discitis has been reported [23,24], both being associated with colon cancer. Diagnosis of discitis can be made by MRI, blood cultures may show *Streptococcus bovis* or *E. Coli*. Discitis to be treated by antibiotics, while colonic cancer is treated according to its stage.

Pulmonary tumor embolism syndrome

Is a rare, end-stage, manifestations of malignancy that have a very poor prognosis. Once identified, it should be followed by discussions with patient if awake and family members about treatment options and goals of care. The clinical manifestations of pulmonary tumor embolism syndrome are nonspecific with the majority of patients presenting with sub-acute, progressive, unexplained dyspnea [25]. Most imaging studies are insensitive for the diagnosis of pulmonary tumor embolism hence, in most cases the diagnosis is usually made at the time of autopsy. However, definitive diagnosis can be made premortem. Roberts and associates [26] described obtaining an aspirate from the distal port of a right-sided heart catheter that had been placed in the wedge position. This sample was stained with the Papanicolaou method, and metastatic carcinoma cells were identified. To our knowledge one case report has been described whereby a pulmonary tumor embolism syndrome was the primary presentation for colon cancer [27].

Abdominal wall and thigh abscess

Perforation of colorectal cancer is rare as its incidence is 2.6% to 7.8% [28]. Perforation can be free into the peritoneal cavity leading to peritonitis, can be localized leading to abscess formation and possible fistula formation. However, colorectal cancer can rarely present as abdominal wall abscess, subcutaneous thigh abscess, or subcutaneous emphysema. The need of early detection and the ability to attribute such findings to colorectal carcinoma is of paramount importance as this will lead to decrease in mortality and morbidity related to possible sepsis and dissemination of cancer if diagnosed at a later stage. Invasion towards adjacent organs being it stomach, duodenum, spleen, or the bladder is often encountered in locally advanced colorectal cancer, but concomitant invasion to the abdominal wall with abscess formation is a rare entity. On the other hand, even a rarer presentation of undiagnosed colon cancer is a thigh abscess. Routes of extension to the thigh appears to be through the femoral canal. However, the routes by which abdominal infection spread into the thigh has been identified by two groups. The first one is direct soft tissue extension of infection from the extra peritoneal portion of the rectum. The second one is through extension via naturally occurring defects in the abdominal wall, through the psoas muscle, femoral canal, obturator foramen and through the sacroscliotic notch into the buttock and thigh posteriorly. Drainage of such abscess may lead to regional spreading of cancer cells. En bloc excision of the cancer, fistulous tract, and abscess wall is preferable however it is not always feasible in some cases due to the invasiveness of the procedure.

Conclusion

Rare and atypical presentation of common and lethal diseases such as colorectal cancer should be kept in mind and thought of, as delays in the diagnosis or even missing the primary diagnosis can lead to devastating results.

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