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CASE REPORT

Foot Drop as an Atypical Presentation of Rectal Cancer: The Importance of Digital Rectal Examination in Early Diagnosis

ABSTRACT

Rectal cancer is a major health concern with an increasing incidence in the younger population. It is typically diagnosed through screening or through common symptoms, such as rectal bleeding and changes in bowel habits. Rarely, rectal cancer may present with atypical symptoms such as neurological deficits. We report the case of a 77-year-old female with a history of abdominal pain and constipation, who presented with foot drop, a rare neurological manifestation. Clinical examination and imaging revealed an irregular mass in the rectum and metastatic lymphadenopathy. Digital rectal examination (DRE) plays a crucial role in identifying primary malignancies despite the absence of typical symptoms. The patient was diagnosed with moderately differentiated adenocarcinoma of the rectum, which was confirmed by colonoscopy and biopsy. Further staging with PET-CT revealed metastatic lymph nodes. Owing to obstructive symptoms, she underwent palliative loop sigmoid colostomy and started chemotherapy. This case highlights the importance of considering rare neurological presentations such as foot drop in the diagnosis of rectal cancer. Early recognition through DRE and imaging can lead to timely diagnosis and intervention, and improve patient outcomes.

Keywords: Foot drop, digital rectal examination, neurological symptoms, lumbosacral plexopathy, colorectal adenocarcinoma, metastatic lymphadenopathy.

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Introduction

Rectal cancer is a significant public health concern, ranking as the third most common cancer in men and the second most common in women globally [1]. Despite advancements in screening and early detection, colorectal cancer, including rectal cancer, remains a major cause of morbidity and mortality worldwide. The incidence of rectal cancer increases with age, with individuals over 50 years of age being at a higher risk, although there is an alarming rise in cases among those aged less than 50 [2].

The clinical presentation of rectal cancer is typically characterized by symptoms, such as rectal bleeding, changes in bowel habits, abdominal discomfort, weight loss, and anemia [3]. Early diagnosis through routine screening, such as colonoscopy, remains the cornerstone of effective treatment strategies. In patients with more advanced disease, symptoms may include obstructive gastrointestinal signs and neurological manifestations in rare instances. These presentations are less commonly associated with colorectal cancers but should not be overlooked, as they may delay diagnosis and treatment.

Foot drop, a form of peripheral neuropathy characterized by difficulty in dorsiflexion of the foot, is a rare but documented complication of lumbosacral plexopathy (LSP) that can occur in the setting of malignancies. LSP can result from direct tumor infiltration or metastatic spread, typically from cancers located near the plexus, such as colorectal

cancer [4]. Although neurological complications are uncommon in rectal cancer, there have been case reports linking foot drop and other motor deficits to advanced colorectal malignancies [5]. Lumbosacral plexopathy, when associated with metastatic colorectal cancer, is often caused by the compression of pelvic structures by enlarged lymph nodes, as observed in advanced stages of the disease [6].

In this report, we present the case of a 77-year-old female who exhibited foot drop as an initial and atypical presenting symptom of rectal cancer. Despite the absence of more typical gastrointestinal symptoms, the patient's diagnosis was expedited through thorough clinical examination, including digital rectal examination (DRE), which revealed a mass suggestive of rectal malignancy. The aim of this report was to emphasize the importance of considering rare neurological presentations in the diagnosis of rectal cancer and to highlight the continuing relevance of DRE as an essential diagnostic tool, even in the presence of non-specific symptoms.

Case Report

A 77-year-old female patient with a history of hypertension, type 2 diabetes mellitus, and hyperlipidemia presented to the Surgical Oncology outpatient clinic with complaints of persistent abdominal pain and constipation that had persisted for the past two years. The patient had multiple visits to the emergency department for these symptoms, but no long-term follow-up was initiated, and no screening for colorectal cancer had been performed. Her medical history included coronary artery bypass surgery three years prior and right hip replacement surgery 20 years prior. The patient had a family history of colon cancer. She had no history of smoking or alcohol consumption.

Upon initial presentation to the clinic, the patient was found to have notable weakness and numbness in her right leg, characterized by foot drop. Neurological examination revealed strength loss of 2/5 in the right leg and paresthesia. This unusual symptom prompted further investigations. In addition to her abdominal complaints, the patient's blood tests indicated a leukocyte count of 11,000/μL, hemoglobin of 7.4 g/dL, platelet count of 140,000/μL, creatinine of 0.91 mg/dL, and an elevated C-reactive protein (CRP) of 78 mg/L. The patient's clinical status was related to anemia and signs of infection.

Physical examination revealed tenderness and minimal distension on abdominal examination, but no guarding or rebound tenderness. The patient underwent digital rectal examination (DRE), which revealed an irregular mass 5 cm from the anal verge, which significantly narrowed the rectal lumen. Given the presence of the mass and the patient's symptoms, an abdominal CT scan was performed for further investigation.

The CT tomography revealed significant wall thickening of the rectum and multiple metastatic lymph nodes in the mesorectum. A mass, approximately 5 cm in size, was identified in the right iliac region, extending into the obturator fossa, consistent with a metastatic lymph node (Figure 1). This finding was concerning for an advanced malignancy, prompting further diagnostic workups.

Subsequently, colonoscopy was performed. The procedure revealed a mass that significantly narrowed the rectal lumen and obstructed endoscope passage (Figure 2).

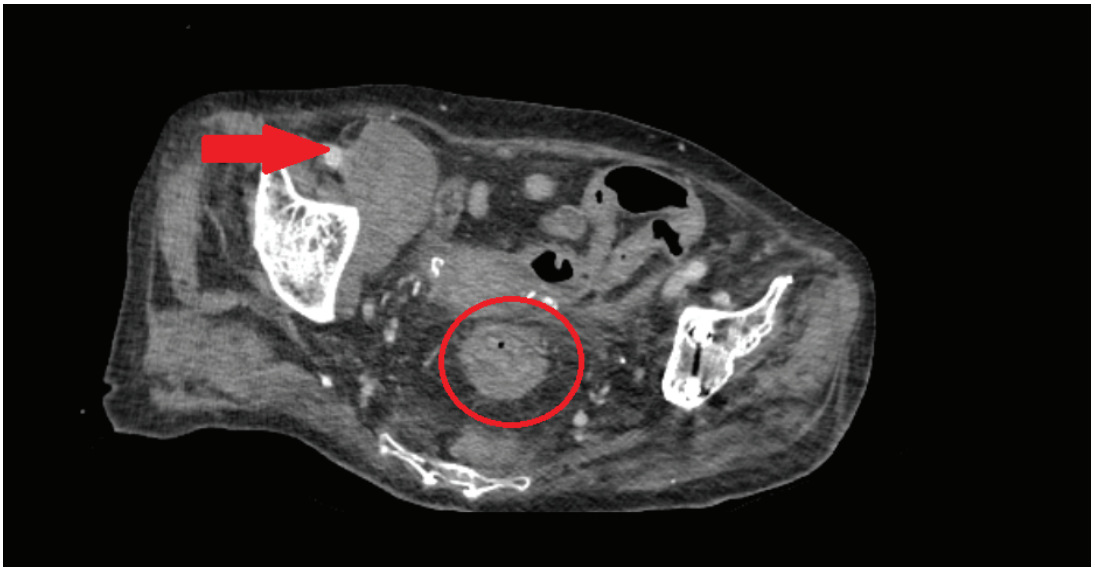

Figure 1: CT image: A mass extending from the right iliac region to the obturator fossa (indicated with an arrow) and thickened rectal wall (circled)

Biopsy specimens were obtained from the mass, and pathological evaluation identified the lesion as a moderately differentiated adenocarcinoma of the rectum. Because colonoscopy could not assess the entire colon due to mass obstruction, a PET-CT scan was conducted for staging purposes (Figure 3).

PET-CT confirmed that the rectal mass was the primary malignancy, with perirectal lymphadenopathy and a right inguinal lymph node suggestive of metastatic spread. On the basis of these findings, the patient was diagnosed with advanced-stage rectal cancer with metastasis. Given the severity of the luminal narrowing and obstructive symptoms caused by the mass, the patient underwent palliative loop sigmoid colostomy to relieve the obstruction. The patient was then referred to the Medical Oncology unit for chemotherapy initiation. The decision for palliative care was made because of the advanced nature of the disease, with the goal of improving the patient's quality of life.

Discussion

Colorectal cancer, particularly rectal cancer, remains a significant public health concern worldwide despite advances in early detection and treatment strategies. It is the third most common cancer in men and the second most common cancer in women worldwide [1]. The clinical presentation of rectal cancer typically includes symptoms, such as rectal bleeding, changes in bowel habits, abdominal pain, weight loss, and anemia. However, in some cases, patients may present with atypical or vague symptoms that complicate the early diagnosis. This case highlights a rare and unexpected presentation of rectal cancer with neurological symptoms, specifically foot drop, which is an uncommon manifestation of colorectal malignancy.

Foot drop resulting from lumbosacral plexopathy (LSP) is a rare neurological complication that occurs in various clinical settings. It is often associated with malignancies involving the pelvic region, including colorectal cancer. The mechanism underlying LSP in the context of rectal cancer is thought to be metastatic

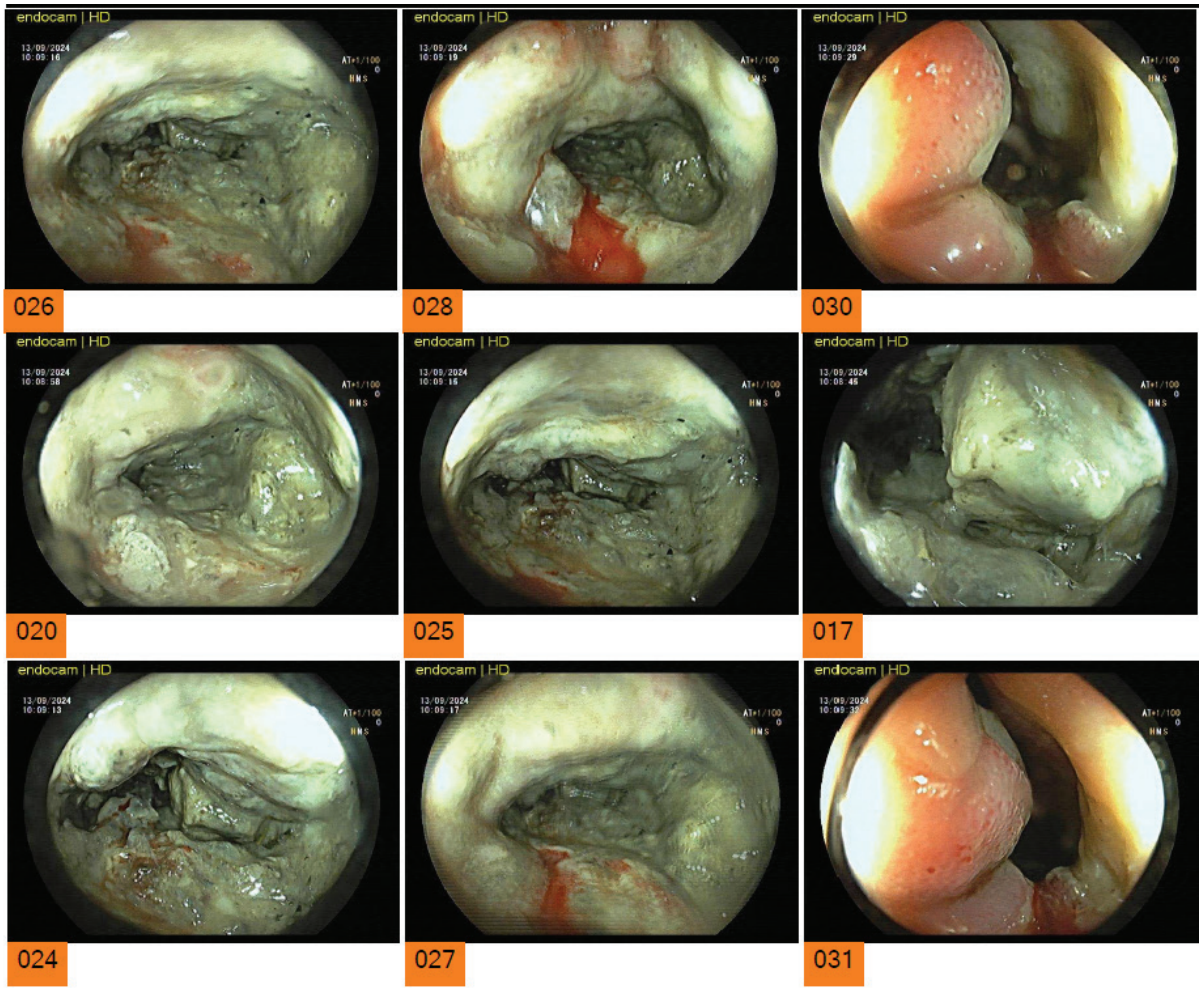

Figure 2: Colonoscopy image

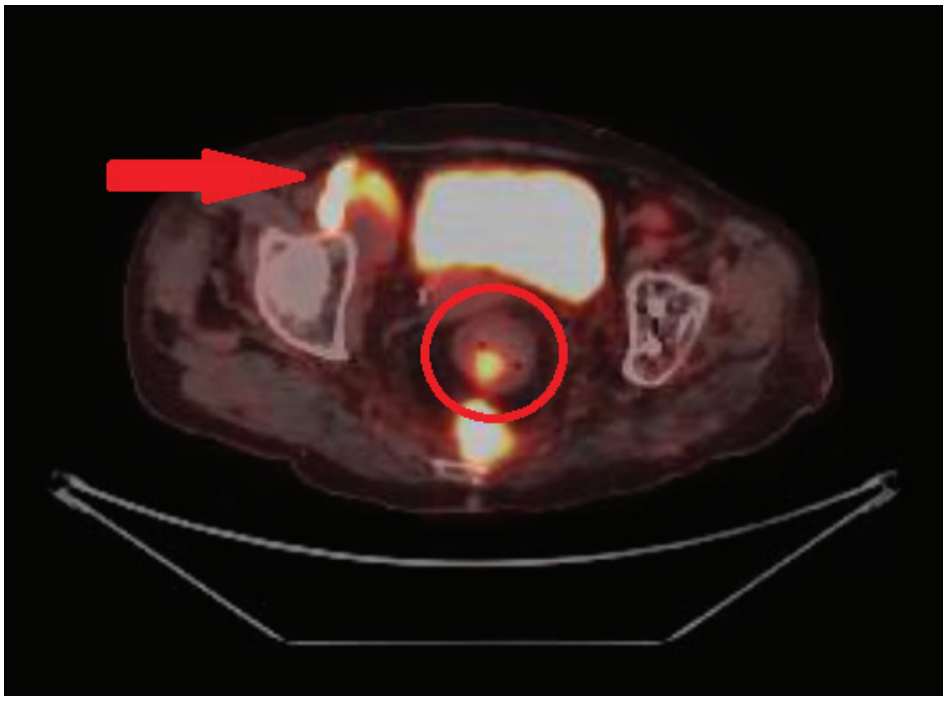

Figure 3: PET-CT image: A mass extending from the right iliac region to the obturator fossa (indicated with an arrow) and thickened rectal wall (circled)

lymphadenopathy or direct tumor infiltration compressing the lumbosacral plexus. While LSP is typically seen in metastatic disease, it has been reported in a variety of cancers, including colorectal cancer, where it can manifest as asymmetric muscle weakness, numbness, and sensory changes in the lower limbs [5,6].

In the present case, foot drop was the initial symptom that led to the discovery of advanced rectal cancer. This rare presentation underscores the importance of considering the full spectrum of potential symptoms when evaluating patients with rectal cancers. Neurological symptoms, although infrequent, should not be dismissed, particularly in patients with other risk factors or vague abdominal complaints. Our patient, who had a family history of colon cancer and other risk factors such as advanced age and diabetes, was ultimately diagnosed with rectal cancer after thorough evaluation, including digital rectal examination (DRE), CT imaging, colonoscopy, and biopsy.

Although DRE remains one of the most important physical examination techniques for detecting rectal cancer, it is often underutilized, particularly in patients presenting with atypical or vague symptoms. Studies have shown that DRE can detect 70-80% of tumors located in the distal rectum, making it a critical tool for the early detection of rectal malignancy, especially in older patients who may not exhibit typical symptoms [7,8]. In this case, DRE was crucial in identifying an irregular mass in the rectum, which led to further diagnostic imaging and ultimately confirmed the diagnosis.

This case highlights the importance of a multidisciplinary approach for managing colorectal cancer, particularly in the advanced stages. In this patient, a combination of surgery, palliative care, and chemotherapy was implemented to address disease progression and to manage the patient's symptoms. Palliative colostomy was performed to relieve the obstruction caused by the mass, and chemotherapy was initiated to treat metastatic disease.

In rare cases, such as this, the diagnosis of rectal cancer may be delayed due to atypical symptoms such as neurological deficits. Therefore, healthcare providers should remain vigilant and consider the possibility of cancer in patients with unexplained neurological signs, particularly those with known risk factors for colorectal malignancy.

Conclusion:

This case report emphasizes a rare but critical presentation of foot drop as a neurological symptom in a patient with rectal cancer. The prompt recognition of foot drops as an early warning sign led to the timely diagnosis of rectal cancer, despite the absence of common symptoms, such as rectal bleeding or changes in bowel habits. This underscores the importance of performing thorough physical examinations, including digital rectal examinations, even in patients presenting with vague or non-specific symptoms. Early detection, aided by appropriate diagnostic tools and a multidisciplinary approach, remains key to improving outcomes in CRC patients with colorectal cancer.

Healthcare providers should be aware of the possibility of rare neurological symptoms in colorectal cancer, as they may provide crucial clues for diagnosis, especially in patients with risk factors or unexplained symptoms. This case serves as a reminder of the need for comprehensive clinical evaluation in patients with atypical presentations, which can lead to earlier detection and improved management of colorectal malignancies.

Author contributions

We declare that all authors have accepted the submission and that the manuscript has not been published in whole or in part or submitted elsewher

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