

COLORECTAL CANCER IN A 14-YEAR-OLD BOY WITH NO APPARENT RISK FACTORS: A CASE REPORT

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ABSTRACT

A case of a 14-year-old boy from a rural background, with no family history and no clinically appreciable genetic predisposition, unresolving constipation, abdominal cramps and per rectal bleeding diagnosed with Stage T2b cancer of rectosigmoid junction on biopsy obtained from endoscopy and staged with Magnetic resonance imaging (MRI). Early diagnosis was made, and patient was treated with chemotherapy as it has good prognosis, stressing upon the advantage of endoscopy in early diagnosis.

Key Words: Colorectal cancer, colonoscopy, adenocarcinoma, rectosigmoid junction, chronic constipation, early onset colorectal carcinoma, chemotherapy.

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Colorectal carcinoma (CRC) is associated with numerous causative factors. The etiology ranges from genetic to teratogenic factors. The most common presenting age group with symptoms associated with colorectal carcinoma is age above 50 years and occurs more commonly in males than females.¹ Diagnosis in patients under the age of 50 years is classified as early onset CRC. Young onset CRC incidence has been seen to be on the rising trend globally.² Early diagnosis and treatment have better prognosis. For Carcinoma of rectum, diagnostic investigations include colonoscopy (gold standard),³ biopsy and endoluminal ultrasound for T staging, computed tomography of chest, abdomen and pelvis (CT CAP) with contrast enhancement for diagnosing distant metastasis, MRI for involvement of meso-rectal fat and positron emission tomography (PET) scan.⁴ Histologically CA rectum usually presents in the form of mucinous, signet ring cell, medullary, micropapillary, serrated, cribriform comedo-type,

adenosquamous, spindle cell and undifferentiated.⁵ The prognosis of adenocarcinoma is better than most other types, especially mucinous adenocarcinoma and signet ring cell carcinoma.⁶ Localized disease is usually resectable and is managed with high/low or ultra-low anterior resection, and in cases of involvement of anal canal abdominoperineal resection is conducted. Treatment modalities consist of chemotherapy or chemoradiotherapy before and after the surgical resection.⁷

CASE PRESENTATION

A 14-year-old boy from a rural background, presented with a history of constipation with Per rectum (PR) bleeding for the past 2 months. The bleeding was around 1-2 spoonful and associated with non-specific generalized abdominal pain waxing and waning in nature, non-radiating, not associated with defecation, relieved by oral medication. The patient had undocumented history of weight loss and on presentation his weight was 28kg, with a BMI of 19.4 kg/m². There was no family history of any genetic etiology, and no systemic comorbidities. He underwent a colonoscopy on which circumferential fungating growth was found at the rectosigmoid junction totally occluding the lumen. Multiple biopsies were taken and sent for

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histopathological analysis. One fragment showed features of adenocarcinoma composed of cords and glandular structures lined by pleomorphic malignant cells with hyperchromatic nuclei and prominent nucleoli with eosinophilic cytoplasm.

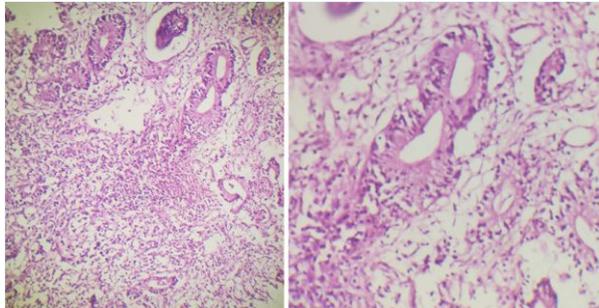


Figure-A: *Histopathological picture of rectosigmoid biopsy.*

The microscopic view showed multiple normal glands with a singular gland with neoplastic changes having penetration past the glandular basement membrane into the surrounding tissue.

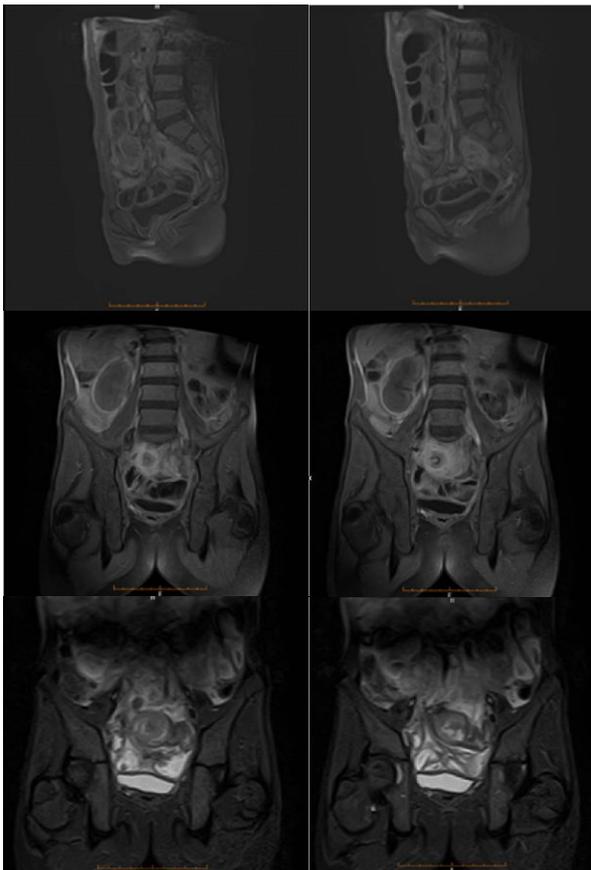


Figure-B: *MRI abdomen and pelvis.*

A diagnosis of well differentiated adenocarcinoma was made. He underwent diversion colostomy for symptomatic relief. Staging investigations carried out and asymmetrical circumferential thickening of proximal rectum and distal sigmoid colon was noted for a length of 4cm with a maximum thickness of 9mm showing avid heterogenous post contrast enhancement. Fat planes between rectum, urinary bladder and seminal vesicles were preserved. No distant metastatic foci reported in contrast enhanced computed tomography (CECT). Staging was finalized as T2b N0 M0. The patient is still in follow up and is currently undergoing neoadjuvant chemoradi-otherapy with FOLFOX.

DISCUSSION

The incidence and prevalence of CRC among both sexes till age 24, over 1 year according to 2020 stats of Pakistan as 10757 and 7401 respectively.⁸

Colorectal cancer (CA rectum and CA rectosigmoid junction) is typically associated with patients above 30 years of age, manifesting in symptoms of large bowel obstruction, constipation, and rectal bleeding.¹ However, in teenagers without genetic predisposition, this form of cancer is exceedingly rare, even in the absence of non-genetic risk factors.

In cases where teenagers experience chronic, inexplicable constipation, early visualization through endoscopy and subsequent histopathological diagnosis can prove instrumental in achieving an early diagnosis.³ This, in turn, enhances the prospects for effective management and, ultimately, a favorable prognosis for disease remission.

The occurrence of colorectal cancer in teenagers without known predisposing factors raises questions about its development and emphasizes the importance of not hesitating to perform colonoscopy in cases of unexplained constipation with rectal bleeding.² Early detection can make a substantial difference in the outcome and treatment options for these patients.

CONCLUSION

CRC having an increasing incidence among the younger population of men worldwide, raises a serious concern for early detection and management since CRC has a good prognosis if treated in the early stages. Colonoscopy remains the gold standard investigation coupled with histopathological analysis of any suspicious lesions and patients' need to be encouraged to undergo this investigation. Local and national guidelines for screening CRC is a dire need for minimizing the morbidity and mortality associated with the CRC.

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Author's Contribution

Conceptualization study design	MSA, AA, UAB
Data Acquisition	MSA, AA, UAB
Data Analysis/ interpretation	MSA, AA, ZSB
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Manuscript review	MSA, AA, FAR

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