International Surgery Journal
Micallef J et al. Int Surg J. 2023 Jan;10(1):127-129
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: https://dx.doi.org/10.18203/2349-2902.isj20223603

Case Report

Colorectal cancer in a young adult: a case report of a rare phenomenon allowing early diagnosis and treatment

Jess Micallef[1]*, Mark Muhlmann[2]

[1]Department of General Surgery, [2]Department of Colorectal Surgery, Prince of Wales Hospital, Randwick, NSW, Australia

Received: 05 December 2022
Accepted: 19 December 2022

***Correspondence:**
Dr. Jess Micallef,
E-mail: jmp.micallef@gmail.com

ABSTRACT

Despite the incidence and mortality of colorectal cancer in patients over the age of 50 years decreasing, in patients under the age of 50 it is increasing. Here we report a rare case of colocolic intussusception in a young adult male that allowed early diagnosis and treatment of colorectal adenocarcinoma.

Keywords: Colorectal cancer, Intussusception, Adenocarcinoma

INTRODUCTION

In 2021, colorectal cancer was the 2nd leading cause of all cancer death in Australia.[1] Screening of colorectal cancer with the use of colonoscopy has led to improved outcomes in older adults. As a result, in patients over the age of 50 years of age both the incidence and mortality rate have fallen. However, sadly the opposite is true for younger adults. This increase in young adults with colorectal cancer is particularly alarming. Early onset colorectal cancers generally have more aggressive characteristics with lymphovascular invasion, T3/T4 tumours, poor cell differentiation and metastatic disease.[3] In addition, young adults with colorectal cancer are often asymptomatic and therefore diagnosis is often delayed.[3] This delay in diagnosis lends itself to an advanced stage of disease at time of diagnosis and therefore a worse prognosis. We present the case of a young adult male who presented after having three weeks of lower abdominal pain and found to have colocolic intussusception on computed tomography leading to an early diagnosis and treatment of colorectal cancer. This case report provides an example that may challenge the age limitations set on the current national bowel cancer screening test. It also challenges health practitioners to consider sinister pathology for vague and non-specific symptoms and to have a low threshold for advanced or invasive diagnostic investigations.

CASE REPORT

A 36-year-old male patient with nil prior medical problems presented to a rural emergency department after experiencing approximately three weeks of crampy lower abdominal pain. The patient denied any symptoms of vomiting, changes to his bowel habits and no rectal bleeding. Over the preceding three weeks he had a normal appetite and no history of recent weight loss. Additionally, the patient had no family history of malignancy. The patient underwent a computed tomography (CT) of the abdomen and pelvis which demonstrated an area of intussusception of the large bowel involving the splenic flexure, no lead point was identified and there was no associated bowel obstruction (Figure 1). The patient was then transferred to a tertiary referral centre for ongoing investigation and management. On arrival the patient was well, with no abdominal pain and not clinically obstructed. A CT chest was performed which did not reveal any masses or abnormalities and routine bloods were all unremarkable with a haemoglobin of 127 g/l and mean cell volume of 92 fL. A colonoscopy was later performed which found a non-obstructing mass at the splenic flexure

(Figure 2). Consequently, during the same admission, the patient underwent a laparoscopic extended right hemicolectomy with ileocolic anastomosis. Following surgery, the patient had an unremarkable postoperative recovery before successfully being discharged home. Histopathology returned an adenocarcinoma with moderate cell differentiation and invasion into the muscularis propria, therefore a T2 tumour. There was no involvement in the lymph nodes out of the forty-four present in the specimen. Immunohistochemistry testing was performed which demonstrated a loss of nuclear staining in MSH6 only with preserved staining seen in MLH1, PMS2 and MSH2. This loss of staining with MSH6 is associated with microsatellite instability and therefore may reflect the presence of a possible germline mutation. In summary this is a T2NO tumour with no distant metastasis and therefore this patient was diagnosed with stage 1 disease.

Figure 1: Axial slices of computed tomography (CT) of the abdomen and pelvis on day of presentation to the rural emergency department. Note the area of intussusception at the splenic flexure (black arrow). There is no associated bowel obstruction or obvious lead point.

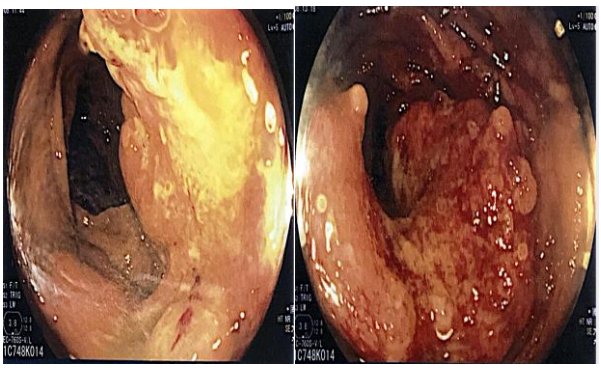

Figure 2: Colonoscopy findings demonstrating a non-obstructing splenic flexure mass.

DISCUSSION

Early onset colorectal cancer is rare, however is becomingly increasingly more common with an 186% increase in the incidence in young adults over the past three decades.[4] Likewise, intussusception is rare in adults accounting for only 5% of all intussusception cases.[5] Of these, colocolic intussusception makes up only 1/6th of all adult cases.[5] In adults, symptoms of intussusception is often vague such as chronic and intermittent abdominal pain and patients will rarely present with an acute abdomen. Azar and Berger performed a retrospective study of all adult intussusception over a 30-year period at the Massachusetts General Hospital.[6] A total of 58 patients were confirmed over this period and authors found only 14 cases being colocolic in nature.[6] In adults, colocolic intussusception makes you suspicious of malignancy however other causes include benign lesions such as lipomas, inflammatory disease, adhesions, or motility issues.[7] El Sergany et al reports 65% of all adult intussusception is due to a malignant or benign lesion where they noted malignant lesions accounted for approximately 50%.[7]

Diagnosis of colorectal cancer in young adults is often delayed which is thought to be one of the reasons why younger adults are presenting with more advanced and higher stage disease at time of diagnosis. This delay in diagnosis is often a result of both patient and physician factors. Patients are generally asymptomatic, however, when young adults do present with abdominal pain or rectal bleeding they are attributed to other pathologies and therefore many do not pursue more aggressive investigations such as colonoscopy. In a study of 6775 patients with colorectal cancer, patients aged 40 years or younger had higher rates of lymphovascular invasion, T3/4 tumours and stage three or more disease at time of diagnosis.[8] Similarly, a study of 396,796 patients with colorectal cancer diagnosed over an 11-year period, those aged 20-49 years of age had greater rates of metastatic disease at time of diagnosis.[3] In Australia, the current National Bowel Cancer Screening Program is available to patients from the age of 50-74 years of age. However, patients should be screened earlier if they are stratified as a higher risk individual based on family history.[9] Physicians should remain vigilant and have a low threshold to refer patients for diagnostic testing with CT and/or colonoscopy who present with recurrent or vague abdominal symptoms. Prompt diagnosis and management is essential in patients with colorectal cancer as a delay lends itself to an advanced stage at time of presentation and thus worse prognosis.

CONCLUSION

This report demonstrates a case of a rare phenomenon of colocolic intussusception allowing the early diagnosis and treatment of colorectal cancer in a young adult. It highlights the case of a patient that is stratified as a low-risk individual for colorectal cancer that would ordinarily

be eligible for screening at the age of 50 years of age. This serves as an example that screening guidelines may need to be reconsidered in Australia. Additionally, it provides evidence for physicians to have a low threshold of suspicion in young adults with vague or chronic symptoms for a more sinister underlying pathology and should therefore be investigated appropriately.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Cancer Australia. Bowel cancer (Colorectal cancer) in Australia statistics (internet). Strawberry Hills, NSW: Cancer Australia. 2022. Available at: https://www.canceraustralia.gov.au/cancer-types/bowel-cancer/statistics. Accessed on 03 November 2022.
2. Siegel R, Miller K, Fedewa S, Ahnen D, Meester R, Barzi A, et al. Colorectal cancer statistics, 2017. CA Cancer J Clin. 2017;67(3):177-93.
3. Rodriguez L, Brennan K, Karim S, Nanji S, Patel S, Booth C. Disease Characteristics, Clinical Management, and Outcomes of Young Patients With Colon Cancer: A Population-based Study. Clin Colorectal Cancer. 2018;17(4):e651-61.
4. Bowel Cancer Australia. Young – Onset Bowel Cancer (internet). North Sydney, NSW: Bowel Cancer Australia. 2020. Available at: https://www.bowelcanceraustralia.org/young-onset. Accessed on 03 November 2022.
5. Honjo H, Mike M, Kusanagi H, Kano N. Adult Intussusception: A Retrospective Review. World J Surg. 2014;39(1):134-8.
6. Azar T, Berger D. Adult Intussusception. Ann Surg. 1997;226(2):134-8.
7. El-Sergany A, Darwish A, Mehta P, Mahmoud A. Community teaching hospital surgical experience with adult intussusception: Study of nine cases and literature review. Int J Surg Case Rep. 2015;12:26-30.
8. Yeo H, Betel D, Abelson J, Zheng X, Yantiss R, Shah M. Early-onset Colorectal Cancer is Distinct From Traditional Colorectal Cancer. Clin Colorectal Cancer. 2017;16(4):293-9.
9. Parkin C, Bell S, Mirbagheri N. Colorectal cancer screening in Australia: An update. Aust J Gen Pract. 2018;47(12):859-63.

Cite this article as: Micallef J, Muhlmann M. Colorectal cancer in a young adult: a case report of a rare phenomenon allowing early diagnosis and treatment. Int Surg J 2023;10:127-9.