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Colorectal intussusception secondary to primary rectal melanoma: A novel case report

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ABSTRACT

INTRODUCTION: Intussusception in adults is a rare condition, accounting for just 5% of all cases. Approximately 50% of cases of large intestine intussusception occur due to a malignant neoplasm. We present here a novel case report of colo-rectal intussusception arising secondary to a primary rectal melanoma.
PRESENTATION OF CASE: We present the case of an 85 year-old patient, who underwent a colonoscopy for investigation of weight loss and altered bowel habit. At colonoscopy, a pigmented polypoid mass was visualised in the upper third of the rectum. The lesion was causing colo-rectal intussusception. Initial biopsies of the specimen stained positive for S-100. The patient had an MRI (magnetic resonance imaging) pelvis, which demonstrated a mass at the rectosigmoid junction, which was diffusely high signal on the fat sat T1 weighted sequence. The patient proceeded to a laparoscopic anterior resection and had an uncomplicated post-operative course. The resected specimen was sent for pathological analysis. The morphological and immunohistochemical profile was consistent with malignant melanoma. There was no evidence of cutaneous melanoma following a full skin examination.
DISCUSSION: Rectal melanoma is a rare condition. We present a novel case report of colo-rectal intussusception arising secondary to rectal melanoma.
CONCLUSION: This is a rare entity. This patient's pre-operative MRI and biopsy samples suggested this lesion was a rectal melanoma, which was subsequently confirmed on analysis of the resected specimen. Surgical resection of such neoplasms should be attempted where possible.

1. Introduction

Intussusception describes the condition whereby a segment of bowel invaginates into an adjacent segment. The underlying aetiology, clinical presentation and management differ greatly in the adult population when compared to children. Well recognised in paediatrics, intussusception in adults accounts for just 5% of all cases [1–3]. An underlying pathology can be demonstrated in 70–90% of adult cases of intussusception [3–6]. Adults with intussusception can present acutely, subacutely or with a chronic history, most often with obstructive type symptoms [7]. Surgical intervention is often required in this population. In line with the SCARE criteria [8], we present here a novel case report of colorectal intussusception secondary to a primary rectal melanoma. The patient was diagnosed and managed at our institution; a tertiary referral university teaching hospital.

2. Presentation of case

We present the case of an 85 year-old retired male who underwent a colonoscopy for the investigation of an 8-week history of altered bowel habit and a 3 month history of weight loss. His primary care physician had referred the patient. His past medical history was of note for hypertension and dyslipidemia. The patient had spent some years working in equatorial territories but had no known previous history of melanoma. The patient was a non-smoker and had no family history of colorectal cancer. Physical examination was largely unremarkable. There was no mass or organomegaly appreciated on examination of the abdomen. No mass was felt on digital rectal examination. At colonoscopy, a partially obstructing polypoid pigmented lesion was visualised on the anterior wall at the rectosigmoid junction. The patient was admitted to the hospital from the endoscopy suite.

The patient underwent a staging CT (Computed Tomography) scan of his thorax, abdomen & pelvis (TAP), as well as an MRI (Magnetic Resonance Imaging) pelvis. CT imaging demonstrated an exophytic soft tissue mass on the anterior wall of the rectum

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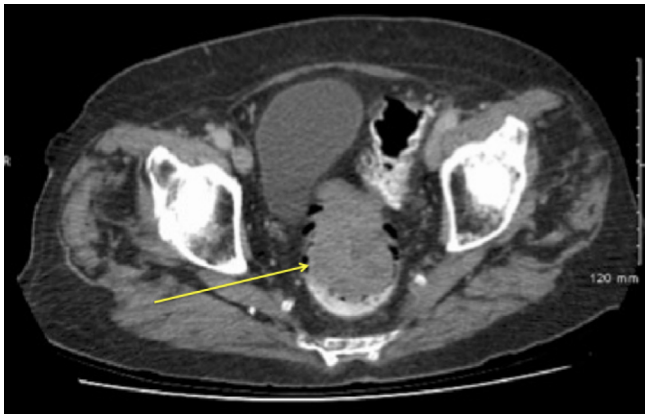

Fig. 1. Axial CT pelvis post administration of IV and oral contrast, demonstrating an exophytic mass (Yellow arrow) involving the anterior aspect of the mid and upper rectum.

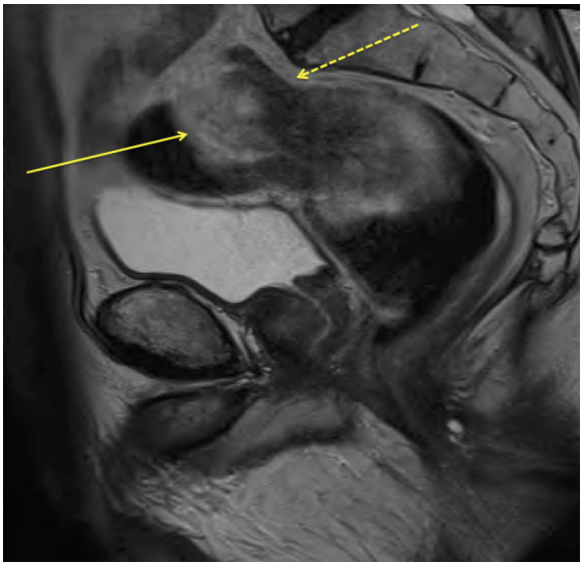

Fig. 2. Sagittal T2 weighted MRI pelvis, demonstrating an intussusception of the rectosigmoid colon (Broken yellow arrow) secondary to an endoluminal soft tissue mass, which has a mixed heterogenous signal (Solid yellow arrow).

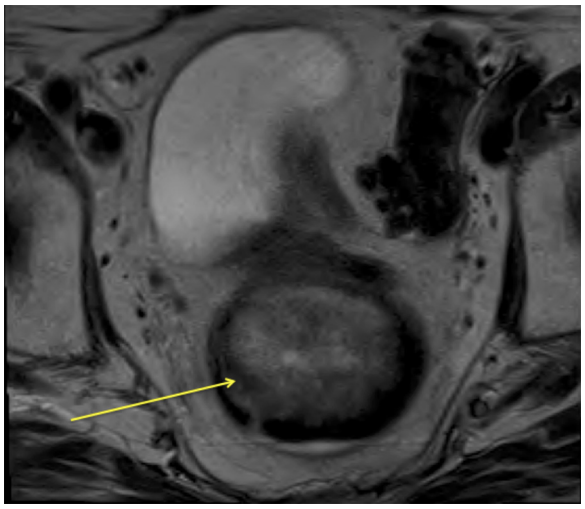

Fig. 3. Axial T2 weighted MRI pelvis at the level of the rectum, demonstrating an endoluminal soft tissue rectal mass (Yellow arrow), which has a mixed heterogenous signal.

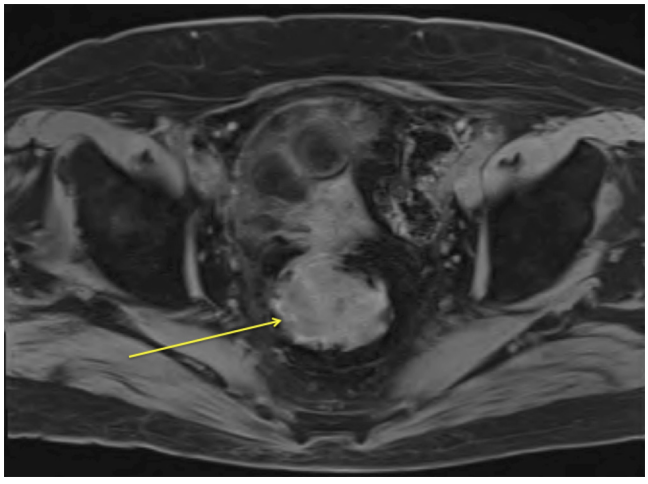

Fig. 4. Axial fat-saturated T1 weighted MRI at the level of the rectum. There is an endoluminal soft tissue mass (Yellow arrow) which is diffusely high signal, due to the melanin content of the tumour.

(Fig. 1). There was no radiological evidence of metastatic disease. MRI of the pelvis demonstrated an 8.2 cm × 4.9 cm × 5.4 cm intraluminal mass causing a partial intussusception of the rectosigmoid colon (Fig. 2). The mass was diffusely high signal on the fat sat T1 weighted sequence (Fig. 3), due to the melanin content of the tumour (Fig. 4). There was extension of the mass outside the bowel wall at the rectosigmoid junction, in keeping with T3 disease. This patients radiological staging was T3N0M0, given that there was no suspicious lymphadenopathy or metastatic deposits.

The case was discussed at the gastro-intestinal multidisciplinary team meeting at our institution. The patient underwent an anaesthetic pre-operative assessment and subsequently proceeded to a laparoscopic anterior resection, with primary end-to-end anastomosis and a de-functioning loop ileostomy. A defunctioning loop ileostomy was performed as it was felt to be in this patient's best medical interest. The procedure was performed in the standard lithotomy position. A consultant colorectal surgeon, assisted by two surgical trainees, performed the procedure. The patient's post-operative course was uncomplicated and he was discharged home well on post-operative day 6.

The resected specimen was sent for histopathological analysis (Fig. 5). The morphological and immunohistochemical profile was consistent with malignant melanoma (Figs. 6–8).

There was no evidence of cutaneous melanoma identified following a full skin examination.

The patient remained well at outpatient follow-up after surgery. He will undergo surveillance endoscopy as an outpatient to monitor for any evidence of recurrence.

3. Discussion

Intussusception can occur with intraluminal lesions when peristalsis causes the lesion to advance forward, pulling with it its attached bowel. Clinical diagnosis of intestinal intussusception in the adult is difficult, owing to the relative rarity of the condition as well as the somewhat variable clinical presentation. Data suggest that intussusception in adults represents as little as 0.02% of all hospital admissions [4]. It may present with an acute, subacute or chronic history. Obstructive features predominate in presentation [7]. The classic triad of currant-jelly stool, abdominal pain and a palpable abdominal mass is rarely seen.

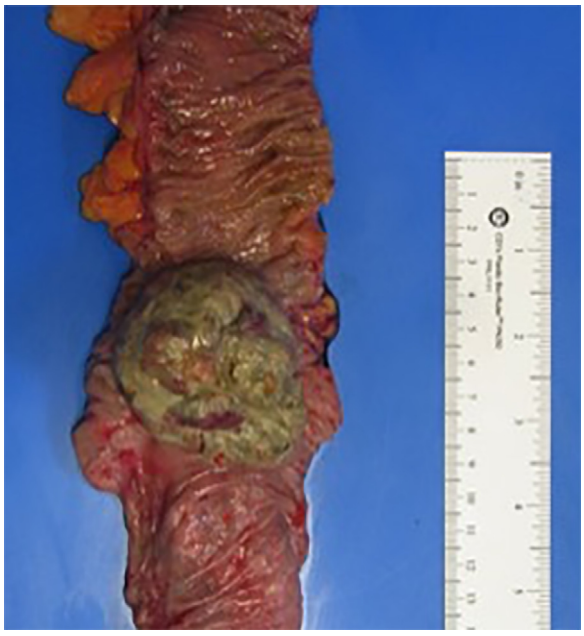

Fig. 5. Resected specimen, with polypoid mass in the rectum.

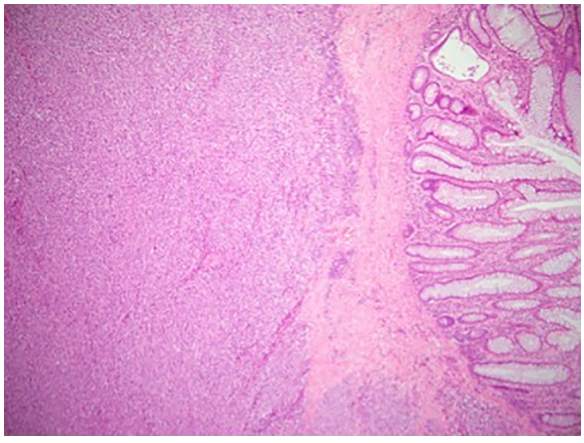

Fig. 6. Normal rectal mucosa, with underlying tumour in the submucosa and muscularis propria.

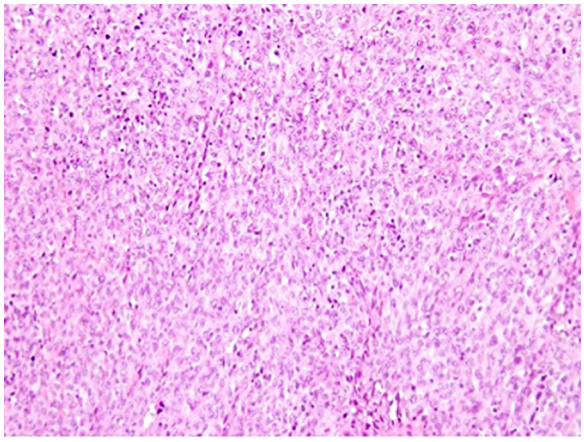

Fig. 7. The tumour is composed of epithelioid and spindled cells arranged in sheets.

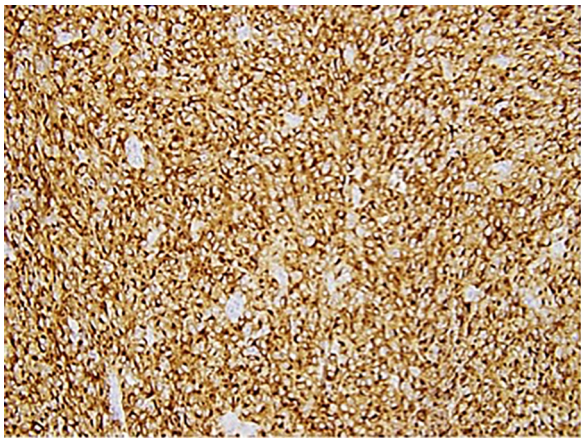

Fig. 8. Melan A immunohistochemistry, showing positive staining in the tumour cells.

Historically, accurate pre-operative diagnosis of intussusception was difficult. However, with enhanced access to abdominal imaging with CT, this has improved. The sensitivity of CT in diagnosing intussusception is approximately 85% [9].

70% of cases of colonic intussusception occur in the setting of a neoplasm acting as a lead point, with approximately 70% of these lesions being malignant [10]. 30% of cases of small bowel intussusception are attributable to malignancy [11]. Given the high rate of underlying malignant lesions in colonic intussusception, CT findings such as lymphadenopathy or features suggestive of metastatic deposits may also heighten pre-operative suspicion [12]. This, in turn, may assist with operative planning.

Although there is a reported rising incidence of rectal melanoma, overall it remains a rare condition. Mucosal melanomas comprise less than 1% of all cases of melanoma; anorectal melanoma accounts for almost one-quarter of this number [13]. Patients may present with local symptoms, including rectal bleeding or pain, often before metastases occur [14]. The 5-year survival rate for patients with anorectal melanoma is poor, at 10–20% [14]. The relative rarity of rectal melanoma limits adequately powered studies to inform best treatment. Furthermore, much of the work conducted to date groups cases of anal and rectal melanoma together without a clear distinction between the two. Experience tells us that the management of anal and rectal malignancy differs, and as such, discrete data for both subsets may be more informative. A traditional viewpoint was that anorectal melanoma should undergo radical resection in the form of an abdomino-perineal resection. Data exist to challenge this teaching, however, advocating for wide local excision of the tumour where this is technically possible, as there is no survival benefit from radical resection [15]. A recent study failed to demonstrate any survival benefit following adjuvant radiotherapy treatment for cases of rectal melanoma [14].

The approach to the management of intussusception will largely be guided by whether it involves small bowel or large bowel, as well as patient age. It is generally accepted that hydrostatic reduction techniques should not be employed in adults given the number of cases in which there will be an underlying structural cause as well as the incidence of an underlying malignancy. Whilst an attempted reduction pre-operatively may minimise the segment of bowel to be resected, there is a theoretical risk of giving rise to local or distant tumour spread. Primary resection without pre-operative reduction is an acceptable management approach for intussusception in adults.

To date, albeit rare, there have been documented cases of gastrointestinal intussusception arising from either primary or metastatic melanoma. A case report recently described an ileo-caecal intussus-

ception secondary to a primary melanoma of the ascending colon [16]. Similar to the current case described above, their patient had no documented pre-existing or co-existing cutaneous, ocular or anal melanoma. A further case outlined a patient presenting with small bowel obstruction, due to an ileocolic intussusception arising due to a metastatic deposit from a facial melanoma, which had been excised seven years previously [17]. To the authors' best knowledge, however, we describe here the first case of colo-rectal intussusception arising from a primary rectal melanoma.

This patient's surgical intervention gave him both a curative treatment for his condition as well as providing symptomatic improvement.

4. Conclusion

We present here a novel case report of colorectal intussusception arising from a primary rectal melanoma. Both of these entities in isolation are rare conditions and it would remain a rare differential diagnosis in a patient presenting with such a clinical picture. However, initial biopsy results and an MRI pelvis pointed to melanoma as the likely diagnosis, which was confirmed following surgical resection. MDT discussion of such cases is key and surgical resection should be attempted where feasible.

Conflict of interest

Nil to disclose.

Funding source

Nil to disclose.

Ethical approval

This case report was exempt from ethical approval as there are no identifying patient data included. Informed consent was obtained from the patient.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Authors contribution

Colin McQuade, Peadar S Waters & Dara O Kavanagh conceived the idea for the case report and drafted the manuscript.

Ciara O'Brien & William Torreggiani provided specialist radiology input and comments.

Stephen Crowther provided specialist histopathology input and comments.

All authors read and approved the final manuscript.

Guarantor

Dr. Colin McQuade (Corresponding author).

References

[1] D.F. Briggs, J. Carpathios, R.W. Zollinger, Intussusception in adults, Am. J. Surg. 101 (1961) 109–113.
[2] K.Y. Tan, S.M. Tan, A.G. Tan, C.Y. Chen, H.C. Chng, M.N. Hoe, Adult intussusception: experience in Singapore, ANZ J. Surg. 73 (2003) 1044–1047.
[3] F.P. Agha, Intussusception in adults, Am. J. Roentgenol. 146 (1986) 527–531.
[4] M.J. Coleman, T.B. Hugh, R.E. May, M.J. Jensen, Intussusception in the adult, ANZ J. Surg. 51 (1981) 179–180.
[5] A. Zubaidi, F. Al-Saif, R. Silverman, Adult intussusception: a retrospective review, Dis. Colon Rectum 49 (2006) 1546–1551.
[6] D.M. Nagorney, M.G. Sarr, D.C. McIlrath, Surgical management of intussusception in the adult, Ann. Surg. 193 (1981) 230–236.
[7] T. Azar, D.L. Berger, Adult intussusception, Ann. Surg. 226 (1997) 134–138.
[8] R.A. Agha, A.J. Fowler, A. Saetta, I. Barai, S. Rajmohan, D.P. Orgill, the SCARE Group, The SCARE Statement: consensus-based surgical case report guidelines, Int. J. Surg. 34 (2016) 180–186.
[9] M.A. Amr, S.F. Polites, M. Alzghari, E.O. Onkendi, T.E. Grotz, M.D. Zielinski, Intussusception in adults and the role of evolving computed tomography technology, Am. J. Surg. 209 (2015) 580–583.
[10] E.L. Felix, M.H. Cohen, A.D. Bernstein, J.H. Schwartz, Adult intussusception; case report of recurrent intussusception and review of the literature, Am. J. Surg. 131 (1976) 758–761.
[11] D.G. Begos, A. Sandor, I.M. Modlin, The diagnosis and management of adult intussusception, Am. J. Surg. 173 (1997) 88–94.
[12] B.Y. Huang, D.M. Warshauer, Adult intussusception, Radiol. Clin. N. Am. 41 (2003) 1137–1151.
[13] A.E. Chang, L.F. Karnell, H.R. Menck, The National Cancer Data Base report on cutaneous and noncutaneous melanoma: a summary of 84,836 cases from the past decade. The American College of Surgeons Commission on Cancer and the American Cancer Society, Cancer 83 (1998) 1664–1678.
[14] L. Tchelebi, A. Guirguis, H. Ashamalla, Rectal melanoma: epidemiology, prognosis, and role of adjuvant radiation therapy, J. Cancer Res. Clin. Oncol. 142 (2016) 2569–2575.
[15] K.M. Bullard, T.M. Tuttle, D.A. Rothenberger, R.D. Madoff, N.N. Baxter, C.O. Finne, et al., Surgical therapy for anorectal melanoma, J. Am. Coll. Surg. 196 (2003) 206–211.
[16] W.X. Li, Y. Wei, Y. Jiang, Y.L. Liu, L. Ren, Y.S. Zhong, et al., Primary colonic melanoma presenting as ileocecal intussusception: case report and literature review, World J. Gastroenterol. 20 (2014) 9626–9630.
[17] F.A. Alvarez, M. Nicolas, J. Goransky, C.A. Vaccaro, A. Beskow, D. Cavadas, Ileocolic intussusception due to intestinal metastatic melanoma: case report and review of the literature, Int. J. Surg. Case Rep. 2 (2011) 118–121.