ORIGINAL RESEARCH PAPER

General Surgery

A RARE CASE OF PRIMARY ANORECTAL MELANOMA

KEY WORDS: primary anorectal malignant melanoma, abdominoperineal resection , metastasize , haemorrhoids

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ABSTRACT

Primary malignant melanoma of the anus and rectum is a rare and aggressive neoplasm that tends to invade locally and metastasize early in the course of the disease [1,2]. It is often misdiagnosed as hemorrhoids or as one of the other benign anorectal conditions and is thus linked to an overall poor prognosis and a 5-year survival rate of less than 20%.Treatment methods include surgery, chemotherapy and radiotherapy.

INTRODUCTION:

Anorectal melanomas comprise approximately 1% of all melanomas and about 0.5–2% of all anorectal malignancies . Common presentations for anorectal melanoma include rectal bleeding, anorectal pain, change in bowel habits or a rectal mass . Therefore, given the lack of pathognomonic clinical complaints, early diagnosis is difficult to make . This represents a significant clinical challenge since early diagnosis and treatment are crucial.

Conventionally, therapy for anorectal melanoma consists of a complete surgical resection of the tumor for local control of the disease. This can be done by means of sphincter- sparing wide local excision (WLE) or abdominoperineal resection (APR) in cases of large tumors or when WLE is not feasible . Radiotherapy may be used to enhance regional control but has no impact on overall survival . The majority of patients progress to metastatic disease, and the use of chemotherapy has been advocated in such cases to improve the overall survival .

Case Presentation:

A 68 year old male presented to our outpatient department wiith the chief complaints of swelling in the peri anal region for a duration of one year and occasional bleeding from the swelling for one year . The patient also had an unintentional weight loss of about 15 kgs over a 1-year period. On examination: the man was 5 7.5 (1.715 m) tall, weight was 78 kg, with a BMI of 26.54, and his vital signs were normal. Patient had associated hypertension , type 2 DM and hypothyroidism on regular medication . Digital examination of the rectum revealed an exophytic growth of size 5cm 5 cm present in the anal orifice extending from 3 o clock to 9 o clock position .The mass was clinically irregular in surface and firm to hard in consistency. On palpation of inguinal region , bilateral inguinal lymphnodes palpable with a size of about 3 * 4 cm on both sides. The patient underwent a colonoscopy which revealed a nonobstructing, proliferative anal mass, approximately 2 cm from the anal verge. A biopsy of the mass was taken. FNAC of the lymphnode was performed . A CECT of abdomen and pelvis along with the rectal contrast was taken. It revealed an ill defined enhancing anal growth (5cm * 4 cm * 6 cm) extending for about 3 cm from the anal verge . Along with the growth , multiple perirectal , pre sacral and bilateral lymphnodes seen . Multiple hypodense lesions seen in both lobes of liver. CT chest was taken which revealed pleural effusion in right lung .

Biopsy and FNAC report came out to be features of malignant melanoma. IHC markers showed positive for HMB 45 and S 100 and were negative for cytokeratin and SMA . PET CT was taken which showed features of primary in the anal region and secondaries in bilateral inguinal lymphnodes of size about 5cm * 4 cm each , right upper thoracic vertebra , right lung pleura and multiple enhancing lesions in both lobes of liver . It was a stage 4 disease . TNM staging was T4 N 3 M 1 . Patient was presented in tumor board and policy was to proceed with diversion colostomy followed by palliative chemotherapy.

The patient tolerated the surgical procedure without any complications.

Post op patient was handed over to medical oncology starting chemotherapy with mitomycin and 5-fluorouracil . Immuno histochemical analysis results were positive for the expression of the S-100 protein, HMB-45 and vimentin, whereas negative for the expression of cytokeratin and SMA

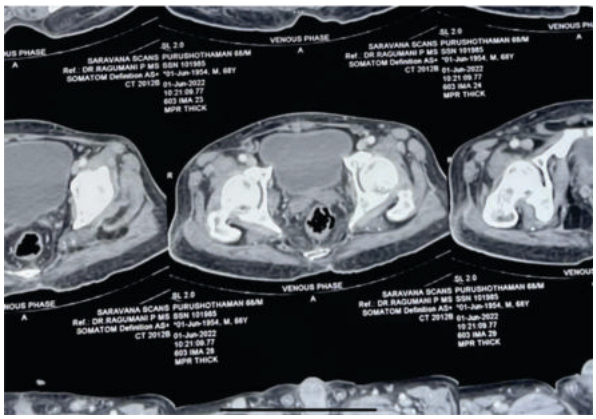
DISCUSSION:

Primary malignant melanoma of the anus and rectum is a rare and highly lethal malignancy of the elderly, which often manifests at an advanced stage .Mucosal melanomas represent approximately 1.2% of all melanomas and anorectal melanomas account for less than 25% of all mucosal melanomas . It is the third most common location after cutaneous and ocular melanomas . In addition, it is the most common primary melanoma of the gastrointestinal tract and accounts for approximately 0.5% of all colorectal and anal cancers .The tumor commonly affects females in their fifth or sixth decade with a 1.7-fold higher prevalence in Caucasians than in African Americans . The incidence rate is reported as 0.4% per million with a 1.8-fold increase in incidence in the last 2 decades, suggesting either a true increase in incidence or an improvement in diagnosis .

A melanoma of the anus and rectum was first reported by Moore in 1857. Lesions can affect the anal canal, the rectum or both, with the majority occurring within 6 cm of the anal rim . Common presenting symptoms include rectal bleeding, anorectal pain or discomfort, change in bowel habits, prolapsed tumor mass and hemorrhoids. This represents a significant clinical challenge since early diagnosis and treatment are crucial. Our patient had a similar presentation. Primary anorectal malignant melanomas are in almost 80% of the times mostly misdiagnosed as hemorrhoids, polyp, adenocarcinoma or rectal ulcer . Grossly, the majority of lesions appears polypoid, with or without pigmentation, and can be ulcerated as well . The tumor is amelanotic in about 30% of the cases , and with considerable morphologic variability, misdiagnosis as lymphoma, carcinoma or sarcoma

is common . The use of immunohistochemistry panels, including S-100 proteins, MelanA, HMB-45 and tyrosinase, can help in the diagnosis . In our case, immunohistochemistry analysis was positive for the S-100 protein. Chute et al. reported 4 histologic cell types: epithelioid, spindle cell, lymphoma-like and pleomorphic. The mitotic rate averaged 2.8 mitotic figures per high-power field in 17 cases of a primary anorectal malignant melanoma.

Figure showing perianal melanoma



Cect films of perianal melanoma

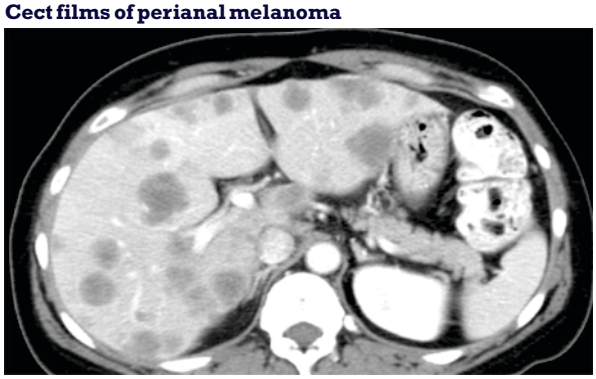


Figure showing muliple hypodense lesions probably metastasis

It is presumed that primary anorectal malignant melanoma arises from normal melanocytes in the intestinal epithelium distal to the dentate line and extending proximally into the rectum . KIT expression can be present in anorectal malignant melanomas and, when present in spindle cell subtypes, can lead to confusion with gastrointestinal stromal tumors . As in cutaneous melanomas, loss of c-kit expression is associated with aggressive clinical behavior, it was postulated that a loss of KIT might play a role in the pathogenesis , therefore suggesting a role of kinase inhibitors such as imatinib . The 5-year survival rate has been reported to be less than 20% for anorectal melanomas, with a median survival of 24 months . Prognostic factors include the stage of the disease at the time of diagnosis and the tumor thickness . Common sites of distant metastasis are the liver and lung .

As this is a relatively rare entity, we lack randomized control trials regarding appropriate management, and current evidence is mostly based on retrospective studies, reported as a limited number of cases or data collected over prolonged time periods, including patients with an age of up to 64 years . Optimal treatment is still controversial. Surgical approaches include WLE , APR and in advanced stages palliative diversion procedures . Our patient underwent palliative diversion procedure.Studies reported that local disease seems to be more effectively controlled with APR .

Local recurrences are common with WLE and with no documented effect on survival . Radiation therapy has reported to provide a better local control after WLE and also seems beneficial for sphincter preservation . Most patients die regardless of the chosen therapeutic strategy due to the aggressive nature and the rapid progression of the tumor. Kim et al. conducted a retrospective review on 18 patients with metastatic anorectal melanoma treated with cisplatin-based chemotherapy in combination with interferon alpha-2b or interleukin-2. They reported that combination chemotherapy was effective against metastatic anorectal melanoma. The response was similar to that of cutaneous melanoma.

CONCLUSION :

Patients are often misdiagnosed because of the nonspecific symptoms of anorectal melanoma often at a late stage of tumor. Thus, patients may miss the best treatment period due to a misdiagnosis. Clinicians should take anorectal melanoma into consideration when patients suffer from anal pain and bleeding. Early diagnosis and radical surgery are the most important treatments for anorectal melanoma .

REFERENCES:

1. Longo WE, Vernava AM, 3rd, Wade TP, Coplin MA, Virgo KS, Johnson FE. Rare anal canal cancers in the U.S. veteran: patterns of disease and results of treatment. Am Surg. 1995;61:495–500. [PubMed] [Google Scholar]
2. Hillenbrand A, Barth TF, Henne-Bruns D, Formentini A. Anorectal amelanotic melanoma. Colorectal Dis. 2008;10:612–15. https://doi.org/10.1111/j.1463-1318.2007.01400.x. [PubMed] [Google Scholar]
3. Weyandt GH, Eggert AO, Houf M, Raulf F, Bröcker EB, Becker JC. Anorectal melanoma: surgical management guidelines according to tumour thickness. Br J Cancer. 2003;89:2019–22. https://doi.org/10.1038/sj.bjc.6601409. [PMC free article] [PubMed] [Google Scholar]
4. Malaguarnera M, Giordano M, Rando A, Puzzo L, Trainiti M, Consoli AS, Catania VE. Intestinal lymphoma: a case report. Eur Rev Med Pharmacol Sci. 2011;15:1347–51. [PubMed] [Google Scholar]
5. Nakhleh RE, Wick MR, Rocamora A, Swanson PE, Dehner LP. Morphologic diversity in malignant melanomas. Am J Clin Pathol. 1990;93:731–40. https://doi.org/10.1093/ajcp/93.6.731. [PubMed] [Google Scholar]
6. Fenger C, Frisch M, Jass JJ, Williams GT, Hilden J. Anal cancer subtype reproducibility study. Virchows Arch. 2000;436:229–33. https://doi.org/10.1007 s004280050035. [PubMed] [Google Scholar]
7. Balachandra B, Marcus V, Jass JR. Poorly differentiated tumours of the anal canal: a diagnostic strategy for the surgical pathologist. Histopathology. 2007;50:163–74. https://doi.org/10.1111/j.1365-2559.2006.02550.x. [PubMed] [Google Scholar]
8. Coté TR, Sobin LH. Primary melanomas of the esophagus and anorectum: epidemiologic comparison with melanoma of the skin. Melanoma Res. 2009;19:58–60. https://doi.org/10.1097/CMR.0b013e32831ef262. [PubMed] [Google Scholar]
9. Jemal A, Siegel R, Ward E, Hao Y, Xu J, Murray T, Thun MJ. Cancer statistics, 2008. CA Cancer J Clin. 2008;58:71–96. https://doi.org/10.3322/CA.2007.0010. [PubMed] [Google Scholar]
10. Weinstock MA. Epidemiology and prognosis of anorectal melanoma. Gastroenterology. 1993;104:174–78. https://doi.org/10.1016/0016-5085(93)90849-8. [PubMed] [Google Scholar]
11. Zhang S, Gao F, Wan D. Effect of misdiagnosis on the prognosis of anorectal malignant melanoma. J Cancer Res Clin Oncol. 2010;136:1401–05. https://doi.org/10.1007/s00432-010-0793-z. [PubMed] [Google Scholar]
12. Felz MW, Winburn GB, Kallab AM, Lee JR. Anal melanoma: an aggressive malignancy masquerading as hemorrhoids. South Med J. 2001;94:880–85. https://doi.org/10.1097/00007611-200194090-00009. [PubMed] [Google Scholar]
13. Belli F, Gallino GF, Lo Vullo S, Mariani L, Poiasina E, Leo E. Melanoma of the anorectal region: the experience of the National Cancer Institute of Milano. Eur J Surg Oncol. 2009;35:757–62. https://doi.org/10.1016/j.ejso.2008.05.001. [PubMed] [Google Scholar]
14. Iddings DM, Fleisig AJ, Chen SL, Faries MB, Morton DL. Practice patterns and outcomes for anorectal melanoma in the USA, reviewing three decades of treatment: is more extensive surgical resection beneficial in all patients? Ann Surg Oncol. 2010;17:40–44. https://doi.org/10.1245/s10434-009-0705-0. [PMC free article] [PubMed] [Google Scholar]

15. Adler MJ, White CR., Jr. Amelanotic malignant melanoma. Semin Cutan Med Surg. 1997;16:122–30. https://doi.org/10.1016/S1085-5629(97)80006-5. [PubMed] [Google Scholar]
16. Gray-Schopfer V, Wellbrock C, Marais R. Melanoma biology and new targeted therapy. Nature. 2007;445:851–57. https://doi.org/10.1038/nature05661. [PubMed] [Google Scholar]
17. Pizzichetta MA, Talamini R, Stanganelli I, Puddu P, Bono R, Argenziano G, Veronesi A, Trevisan G, Rabinovitz H, Soyer HP. Amelanotic/hypomelanotic melanoma: clinical and dermoscopic features. Br J Dermatol. 2004;150:1117–24. https://doi.org/10.1111/j.1365-2133.2004.05928.x. [PubMed] [Google Scholar]
18. Pessaux P, Pocard M, Elias D, Duvillard P, Avril MF, Zimmerman P, Lasser P. Surgical management of primary anorectal melanoma. Br J Surg. 2004;91:1183–87. https://doi.org/10.1002/bjs.4592. [PubMed] [Google Scholar]
19. Trzcinski R, Kujawski R, Mik M, Sygut A, Dziki L, Dziki A. Malignant melanoma of the anorectum—a rare entity. Langenbecks Arch Surg. 2010;395:757–60. https://doi.org/10.1007/s00423-009-0586-5. [PubMed] [Google Scholar]
20. Di Rosa M, Malaguarnera G, De Gregorio C, Drago F, Malaguarnera L. Evaluation of CHI3L-1 and CHIT-1 expression in differentiated and polarized macrophages. Inflammation. 2013;36:482–92. https://doi.org/10.1007/s10753-012-9569-8. [PubMed] [Google Scholar]