CASE REPORT

UNVEILING THE REALITIES OF ANAL MELANOMA CARE IN A RESOURCE-CONSTRAINED SETTING

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A 50-year-old lady presented with complaints of a progressively increasing anal mass and occasional bleeding per rectum for the past 4 months. Examination revealed an ulcero-proliferative growth in the anal canal, whose biopsy was suggestive of malignant melanoma. Inguinal lymph nodes, though enlarged, did not show evidence of malignant deposits on FNAC. Radiological investigations revealed a T3 lesion with no evidence of nodal metastasis. She underwent local excision of the mass with uneventful intraoperative and postoperative periods. The purpose of this report is to highlight the formidable challenges encountered in diagnosing this rare tumour, with potential implications for misdiagnosis, particularly within a resource-poor setting. This case highlights the importance of resource-appropriate approaches and surgical options available in a tertiary care hospital in North India.

Keywords: Malignant melanoma; Anorectal malignancy; HMB-45; Resource-poor setting

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INTRODUCTION

Melanoma, a malignant neoplasm arising from melanocytes, has the potential to manifest in various regions of the body such as the skin, mucosa, retina, leptomeninges, and the anal canal. In the case of the anal canal, it emerges from the transitional zone housing the melanocytes. This anatomical site of cancer, however, is exceptionally rare, with a yearly incidence rate of 0.343 per one million population, although the incidence rate slightly differs among males and females, with 0.259 and 0.407 respectively, and it is more common among the elderly population above the age of 85.[1] Anal canal melanoma constitutes less than 1% of all ano-rectal malignancies.[2] Classically, it is characterised by the emergence of a blue-black mass protruding from the anal canal and may present with rectal bleeding or pain, which often leads to a misdiagnosis of thrombosed external haemorrhoids, and subsequently a delay in diagnosis and proper medical intervention.[3] Consequently, it is typically discovered in later stages, with evidence of metastasis in lymph nodes or other body parts[4], and despite various treatment options, the prognosis for these patients is generally unfavourable.[1]

CASE REPORT

A 50-year-old postmenopausal lady presented to the surgery outpatient department with complaints of bleeding per rectum and a mass coming out of the anus, which was progressively increasing in size over the past four months. It was associated with significant loss of weight and appetite.

On examination, the patient was conscious with stable vitals and marked pallor. Her body mass index was 17.4 kg/m^2, suggestive of being underweight.

Examination of the perianal region revealed a 5×6 cm ulcero-proliferative growth present over the anal canal from eight O'clock to ten O'clock position with overlying black-coloured areas (Figure-1). The mass was foul-smelling, hard, and non-bleeding to the touch. A digital rectal examination revealed a patent anal canal with normal faecal staining. Bilateral superficial inguinal lymph nodes were palpable, firm, non-tender, non-matted, and mobile.

Figure-1: Anal mass as seen on clinical examination with patient lying in Sims' position

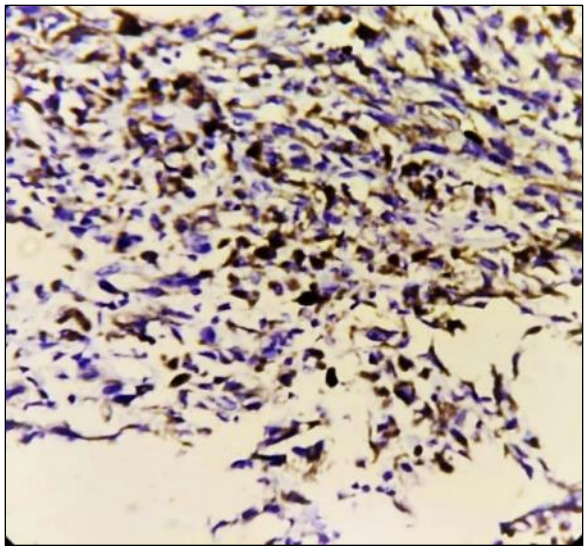

Figure-2: Histopathological appearance showing diffuse HMB-45 positivity (100X)

Figure-3: Sagittal MRI film showing anal mass

Figure-4: Post-operative image of the perianal region

Histopathological examination of a punch biopsy taken from the edge of the anal mass revealed features suggestive of malignant melanoma with diffuse HMB-45 positivity of the tumour cells (Figure-2). FNAC of inguinal lymph nodes suggested reactive hyperplasia with no evidence of malignancy. A contrast-enhanced CT of the chest, abdomen, and pelvis revealed a neoplastic anal growth (T3 N0 Mx) and an MRI scan of the pelvis revealed a large, neoplastic, irregular polypoidal solid soft tissue mass in the anal canal with no significant inguinal or pelvic lymph nodes (Figure-3).

A diagnosis of anal canal malignant melanoma was made and after optimization of her haemoglobin levels, she underwent a sphincter-sparing wide local excision of the anal mass (Figure-4). Since the tumour was mainly involving the anal mucosa at the ano-cutaneous junction, a 2 cm margin of anal mucosa was taken and an R0 resection was achieved. During the procedure, the anal sphincters were identified and preserved. Selective fibres of the internal anal sphincter were cut to mitigate the postoperative increase in anal tone due to fibrosis and healing. The surgery was executed without any intraoperative or postoperative complications.

DISCUSSION

Anorectal melanoma is an exceptionally rare entity, with a yearly incidence rate of 0.343 per one million population[1]. This, coupled with its presentation often mimicking common benign anorectal pathologies like external haemorrhoids, causes a delay in its diagnosis, typically being discovered at later stages with underlying metastasis and a resultant delay in proper medical intervention.[2,3] A confirmatory diagnosis in such cases can be made by histopathological examination and immunochemistry, with melanoma staining positively with proteins like S-100, HMB-45, and Melanin A.[5]

Anorectal melanoma has a notably grim prognosis, with the 5-year survival rate seldom exceeding 20% regardless of the surgical method employed[6] and patients with recurrent or metastatic disease typically have a survival duration of under 10 months[7]. Upon initial presentation, anorectal melanomas have a 61% incidence rate for locoregional lymph node metastases.[8]

The highly aggressive nature and poor prognosis of the condition warrant immediate management. Additionally, the anatomic location of the tumour presents a significant social obstacle for patients, severely affecting their day-to-day activities and quality of life. The resulting discomfort and functional limitations underscore the urgent need for prompt intervention. Addressing

the patient's immediate concerns and restoring functional abilities should be a primary focus in the management strategy.

Addressing anal melanoma in Lower Middle-Income Countries (LMICs) demands a nuanced understanding as these countries face a unique constellation of challenges. These are shaped not only by financial constraints but also by significant gaps in infrastructure, expertise, and access to cutting-edge medical technologies. Diagnostic delays, often seen in LMICs due to factors like lack of comprehensive melanoma registries, limited awareness among community practitioners and patients, and logistical challenges, can contribute significantly to an increased incidence of patients presenting with metastasis.[9]

Given the resource limitations commonly encountered in LMICs, surgical modalities, such as local excision or abdominoperineal resection (APR), often represent the primary treatment option for anal melanoma. Though widely being used in the present day, the availability and feasibility of newer treatment methods, such as targeted therapies against BRAF, MAPK and C-KIT[5,6], may be constrained in LMICs due to the associated costs and infrastructure requirements. These therapies, although promising, can impose substantial financial burdens on patients and healthcare systems alike. Consequently, alternative approaches must be considered to optimise management outcomes in such challenging environments.

Further, while controversy exists, several texts suggest that both local resection and abdominoperineal resection (APR) yield comparable prognostic outcomes.[10] This further narrows down the optimal treatment option for anal melanoma in resource-poor settings. Considering the ease and feasibility of local excision of the tumour mass, along with the potential to have fewer complications and hospital length of stay when compared to APR, it seems to be the most desirable treatment modality in LMICs.

Sentinel lymph node biopsy (SLNB) for anal melanoma has been demonstrated to be technically feasible, especially in staging superficial inguinal lymph nodes[11], but its long-term impact on survival and treatment remains unclear, necessitating further in-depth studies[12]. However, in the context of LMICs, the feasibility of SLNB for anal melanoma becomes challenging, making its widespread adoption difficult. Additionally, lymph node resection does not seem to improve prognostic values.[13] Thus, prophylactic lymph node dissection is not required in patients in whom lymph nodes do not show evidence of metastasis.

CONCLUSION

Managing anal melanoma in a resource-poor setting presents significant challenges, including limited access to expensive targeted therapies and the economic impracticality of its use. With the prognosis of the disease worsening as the stage of the tumour advances, and the tumour's debilitating impact on patients' daily activities, immediate management becomes paramount. Choosing the appropriate surgical approach is crucial, and in such settings, opting for a local excision may be preferable due to its comparable prognostic outcomes coupled with fewer complications and faster recovery when compared to an abdominoperineal resection.

This further helps to reduce the burden on the healthcare system and improve the stage-dependent prognosis. Our case report highlights the need for tailored management strategies that prioritise patient well-being, financial feasibility, and available resources in resource-constrained settings.

Conflict of interest statement:

The authors affirm that there are no conflicts of interest, and no relation to third parties to disclose about this article.

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