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A Rare Case of Granular Cell Tumor of the Anus

C. H. Mehta[1,2] | E. J. Kantzler[1,2,3] | M. Suzuki[1,2] | M. D. Honaker[3]

[1]Department of Surgery, Eastern Carolina University Health Medical Center, Greenville, North Carolina, USA | [2]Brody School of Medicine at East Carolina University, Greenville, North Carolina, USA | [3]Division of Surgical Oncology, Department of Surgery, Eastern Carolina Brody School of Medicine, Greenville, North Carolina, USA

Correspondence: M. D. Honaker (honakerm21@ecu.edu)

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ABSTRACT

Granular cell tumors (GCTs) are uncommon soft tissue neoplasms derived from Schwann cells that can arise from various regions of the body. The majority originate from the head and neck. They are rarely encountered in the gastrointestinal tract and even more rarely in the anorectal region. There is a paucity of literature with only a few case reports of GCT of the anus. We describe a 36-year-old African American male with a long-standing history of human immunodeficiency virus (HIV) infection, multiple perianal abscess and associated fistulas, and an ulcerated perianal lesion that revealed an anal GCT who was treated with excision and surveillance. Given that GCTs in the perianal region are extremely rare, a high index of suspicion of GCT of the anus is critical when patients present with anal masses, ulcers, or abscesses given the extremely poor prognosis of malignant GCTs.

Taxonomy Classification: Oncology, Surgery

1 | Introduction

Granular cell tumors (GCT) are rare soft tissue neoplasms derived from Schwann cells [1]. They are more commonly seen in females between the age of 40 and 60 years and individuals of African descent [2, 3]. They are skin or submucosal neoplasms that can arise from various regions of the body with the majority, approximately 45%–65%, originating in the head and neck region. A high incidence is also observed in the proximal limbs and trunk, breast, and respiratory tract. They are infrequently encountered in the gastrointestinal tract and even more rarely in the anal and rectal regions, with limited cases reported in literature [1–6].

Most GCTs are benign tumors, however, there is approximately a 2%–3% malignancy rate [2, 5–8]. Whether benign or malignant, the management of GCT involves complete excision with negative margins followed by close clinical monitoring. Benign GCTs have been shown to have excellent outcomes after surgical resection whereas malignant GCTs are associated with a high rate of metastasis and local recurrence, with a poorer prognosis [8–11]. There is no current standardized treatment for malignant GCTs. Because of this, it is crucial for clinicians to maintain a high index of suspicion for early accurate diagnosis and local control before clinical evidence of dissemination becomes apparent. Here, we illustrate a rare clinical presentation of anal GCT in a patient with complicated anorectal fistulous disease and ulceration.

2 | Case History/Examination

A 36-year-old-African American male with a history of human immunodeficiency virus (HIV), secondary syphilis, and perirectal fistula presented to our emergency department (ED) with multiple complex anorectal abscesses. He had a prolonged history of

Summary

- Perianal granular cell tumors are rare, presenting a diagnostic challenge that necessitates the suspicion in patients presenting with rectal or anal masses or ulcers.
- Early surgical excision with negative margins and immunohistochemical analysis is crucial for optimal patient outcomes.
- Malignant transformation risk mandates careful clinical follow-up.

multiple anal fistulas dating back several years. He was not on highly active antiretroviral therapy (HAART) for his HIV because of lack of health insurance. His social history was notable for a 20-pack-year smoking history and identification as MSM (men who have sex with men). He was treated with incision and drainage of his abscesses, which resulted in abscess resolution.

The patient presented again to the ED 10 months after initial presentation with a recurrent anorectal abscess. He had established health insurance but had not initiated HAART therapy. At the time, his HIV viral load was 602,000 copies/mL, and CD4 count was 71 cell/mm^3 [500–1500 cell/mm^3]. Given his immunosuppression and small size of his abscess, he was treated conservatively with antibiotics and subsequently referred to an infectious disease specialist to initiate HAART. One year later, he presented with complaints of ongoing drainage and pain in the perianal region. Anorectal exam showed induration of the left gluteal fold and a large perianal ulcer located at the right lateral aspect of the anus starting at the anal margin and extending laterally. On computer tomography (CT) imaging, a <2 cm intrasphincteric abscess was seen on the left lateral aspect of his anus, opposite the perianal ulcer. He was diagnosed with multiple anal fistulas as well as a perianal ulcer.

3 | Methods (Differential Diagnosis, Investigations, and Treatment)

The patient's HIV viral load was <20 copies/mL, and his CD4 count had improved to 344 cell/mm^3. With this improvement in HIV control with HAART, he underwent surgical intervention. Intraoperatively, multiple fistula tracts were identified using a fistula probe, and three fistulotomies were successfully performed. The perianal ulcer was located at the anal margin and was noted to have increased in size. Given it did not communicate with the anal canal or other fistulas and did not involve the sphincter musculature, the area was locally excised for pathologic examination.

Pathology of the perianal ulcer excision revealed a 9 mm GCT, with <0.1 mm margins. There was no dysplasia, marked atypia, or areas of necrosis. Immunohistochemical stains tested positive for S100 and CD68 (Figure 1), consistent with a diagnosis of perianal GCT. He underwent CT imaging of his chest, abdomen, and pelvis to evaluate for distant disease, and none was found.

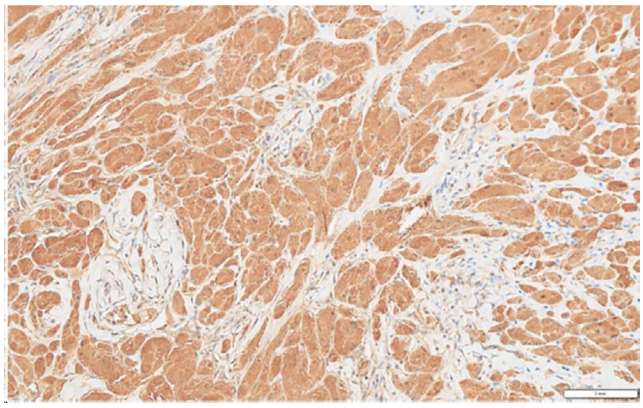

FIGURE 1 | Low power magnification of rectal ulcer excision histology showing strong positive staining for S100.

4 | Outcome and Follow-Up

The patient returned to clinic almost a year later because of purulent anal drainage and concern for recurrent fistula-in-ano. Later that same month, he underwent repeat fistulotomy as well as biopsy of the prior site of the GCT. Pathology revealed no residual GCT or malignancy. The case was presented at the institutional multidisciplinary tumor board, and a recommendation for close surveillance with every 6 months anoscopies was recommended. After approximately 2 years of follow-up, there has been no evidence of recurrence.

5 | Discussion

The case of the 36-year-old patient with HIV and syphilis who presented with recurrent abscesses, perirectal fistulas, and a perianal ulcer, later confirmed as a GCT, underscores the diagnostic challenges to masses of the anal area. There are very few cases of perianal GCTs reported in literature, making preoperative diagnosis challenging [1, 10–13].

GCTs typically present as a solid, painless nodule with a skin-colored or brown-red appearance [1–3]. Benign GCTs are typically slow growing whereas their malignant counterparts often manifest as rapidly expanding subcutaneous masses [9, 10]. The unusual manifestation as a perianal ulcer rather than the typical nodule in our reported case adds to the limited data on GCTs. Patients are commonly asymptomatic, with some cases reporting other symptoms such as perianal discomfort or bleeding, such as in our reported case. Given that GCTs are rarely observed in the perianal region, its clinical diagnosis can be easily mistaken for other common perianal pathologies such as hemorrhoids, skin tags, polyps, and abscesses. Diagnosis can be further confounded with concurrent pathologies, as seen in our patient's presentation with fistulas and abscesses. Tissue biopsy is required for accurate diagnosis and appropriate management [10–13].

The histopathological manifestations characteristic of GCT are large, nonencapsulated polyhedral cells with an eosinophilic granular cytoplasm that is periodic acid-Schiff positive. Immunohistochemical exam often shows positivity for S100, a protein expressed in tumors of neural origin, and CD68, a lysosomal marker of macrophages [14]. The positivity of S100,

as in our case, supports GCT's proposed Schwann cell origin. Differentiating between benign and malignant GCTs can be difficult, as both share similar histologic features. Malignant lesions can be defined using the Fanburg-Smith criteria which is three or more of the following: necrosis, spindling, vesicular nuclei with large nucleoli, increased mitotic activity (> 2 mitoses/10 high-power fields at 200× magnification), high nuclear to cytoplasmic (N:C) ratio, and pleomorphism [8–10, 14].

The mainstay of treatment for GCTs is complete surgical excision, with negative margins. Surgical excision often results in curative outcome, with reported recurrence rates of 2%–8%. Malignant tumors have been shown to have a 41% recurrence rate after excision, over 50% metastasis rate, with a 3-year mortality of about 30%–50% [11–13]. Prognostic factors include local recurrence, metastasis, larger tumor size, older patient age, and histological classification as malignant including features such as presence of necrosis, increased mitotic activity, spindling of tumor cells, vesicular nuclei with large nucleoli, and Ki-67 values < 10% [9–11]. GCTs tend to be resistant to radiation, and chemotherapy efficacy remains limited, which is why early local excision is paramount. The possibility of malignant transformation necessitates careful consideration during therapeutic interventions and subsequent follow-up. Annual follow-up with endoscopy or colonoscopy can help to detect recurrence in the submucosa of the lumen, whereas computed tomography and magnetic resonance imaging are helpful for identifying occult recurrences [11].

The case outlined within our study describes an unusual presentation of a GCT as a perianal ulcer in which the patient underwent local excision. Pathology identified a benign GCT, and subsequent follow-up has shown no recurrence to date. Although GCTs typically follow a benign course and have excellent outcomes after local excision, malignant GCTs have a notably poor prognosis. Therefore, clinicians should maintain a high degree of suspicion and consider local excision and biopsy in patients with clinically benign appearing lesions.

6 | Conclusion

Perianal GCTs are rare and difficult to diagnosis clinically. Even though lesions in the perianal region might appear clinically benign, the diagnosis of a GCT should be considered in patients presenting with rectal or anal masses or ulcers. Early surgical excision with immunohistochemical analysis is imperative to ensure timely intervention and optimize patient outcomes.

Author Contributions

C. H. Mehta: data curation, writing – original draft, writing – review and editing. **E. J. Kantzler:** writing – original draft, writing – review and editing. **M. Suzuki:** writing – original draft, writing – review and editing. **M. D. Honaker:** conceptualization, supervision, writing – original draft, writing – review and editing.

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Ethics Statement

The authors have nothing to report.

Consent

Written consent has been obtained from the patient for publication of this report in accordance with the journal's patient consent policy.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

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