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Exceptional Discovery of Anal Canal Cancer in a Patient Who Suffered Pelvic Trauma During the Al Haouz Earthquake (Sept 2023)

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Abstract | **Case Report**

Introduction: Anal canal squamous cell carcinoma is a relatively rare malignancy, accounting for approximately 1.5% of digestive cancers. Its clinical presentation is often nonspecific, with symptoms such as rectal bleeding, anal pain, pruritus, or perianal abscess, potentially leading to delayed diagnosis. We report an unusual case of anal canal carcinoma incidentally discovered during the emergency management of pelvic trauma sustained during the September 2023 Al Haouz earthquake in Morocco. ***Case Presentation:*** A 65-year-old woman was admitted to the Avicenne Military Hospital in Marrakech on September 16, 2023, following pelvic trauma sustained during the earthquake. She reported a seven-day history of rectal bleeding. Clinical examination revealed marked pallor and a painful, erythematous, pulsatile right perianal swelling. Digital rectal examination confirmed the presence of fresh blood. Laboratory investigations demonstrated severe hypochromic microcytic anemia (hemoglobin: 3.6 g/dL), requiring transfusion of four units of packed red blood cells. Abdominopelvic CT revealed irregular thickening of the lower rectal and anal walls, extending into the perineum, associated with a right ischioanal collection and a suspected coccygeal bone fragment. Emergency surgical exploration identified a rectoanal fistulous tract communicating with the perineal collection, caused by a coccygeal bone fragment responsible for low rectal perforation. Surgical management consisted of drainage, removal of the bone fragment, biopsy of a perianal granulomatous lesion, and diverting colostomy. Histopathological examination unexpectedly revealed moderately differentiated, non-keratinizing invasive squamous cell carcinoma of the anal canal. Subsequent staging investigations showed no distant metastases. Following multidisciplinary discussion, definitive radiotherapy was indicated. ***Discussion:*** This case illustrates an exceptional incidental diagnosis of anal canal carcinoma during emergency surgery for earthquake-related pelvic trauma. The nonspecific clinical presentation of anal cancer frequently results in delayed diagnosis, particularly among patients with limited access to healthcare. In this case, the traumatic event and subsequent surgical exploration provided an opportunity for histopathological diagnosis of an otherwise unsuspected malignancy. It also highlights the importance of systematic histopathological examination of suspicious perianal lesions, even when encountered in an apparently traumatic or infectious context. ***Conclusion:*** The Al Haouz earthquake, despite its devastating consequences, indirectly enabled the diagnosis of an otherwise unsuspected anal canal carcinoma in a vulnerable patient. This case underlines the importance of maintaining diagnostic vigilance and considering underlying malignancy in patients presenting with atypical perianal lesions, abscesses, or unexplained rectal bleeding.

Keywords: Anal canal carcinoma, Squamous cell carcinoma, Pelvic trauma, Al Haouz earthquake, Incidental diagnosis, Perianal abscess.

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INTRODUCTION

Anal canal cancers represent 1.5% of digestive cancers [1]. They are predominant in women (sex ratio of 4 in France) and two-thirds of patients are over 65 years old. The incidence is increasing and the age at the time of diagnosis is decreasing. More than 90% of patients present with locoregional disease at the initial diagnosis stage. Epidermoid carcinomas account for 90% of histological forms. The discovery is most often made following non-specific symptoms, rectal bleeding, itching or anal pain, an abscess.

We report the case of an exceptional discovery of anal canal cancer in a patient who suffered pelvic trauma following the Al Haouz earthquake in September 2023.

OBSERVATION

65-year-old patient with a history of cholecystectomy, who presented to the emergency department of Avicenne Military Hospital in Marrakech on 09/16/2023 in the context of the Al Haouz earthquake, for pelvic trauma associated with rectal bleeding that had been ongoing for 7 days.

The clinical examination finds a conscious patient, well-oriented in time and space, hemodynamically and respiratory stable, however, there is a noticeable pallor of the skin and mucous membranes. The examination of the perineal region reveals a red, pulsatile, and painful swelling lateralized to the right.



The rectal examination brought back bright red blood. The biological assessment revealed hyperleukocytosis as well as hypochromic microcytic anemia at 3.6 g/dl, which required a blood transfusion of 4 units of packed red blood cells.

An abdomino-pelvic CT scan without and after contrast injection revealed an irregular parietal thickening of the lower rectum extending toward the anal and perineal region with infiltration of the surrounding fat measuring 17mm in thickness extending over 50mm, heterogeneously enhanced after contrast injection. It is associated with a fistula in the right ischio-anal space with a collection containing matter, and doubt about the presence of a coccygeal bone fragment.

The diagnosis of a perianal abscess most likely due to a post-traumatic perforation of the lower rectum was made, hence the indication for emergency surgical management. At surgical exploration, a recto-anal fistulous tract feeding the perineal collection was found, with the presence of a coccygeal bone fragment responsible for the low rectal perforation.

The procedure performed was the drainage of the collection and the resection of the coccygeal bone fragment, as well as the performance of a biopsy on a perianal granuloma, followed by the creation of a cleansing colostomy. The postoperative course was uneventful.

The anatomopathological examination of the biopsy performed was in favor of an infiltrating, moderately differentiated, non-keratinizing squamous cell carcinoma of the anal canal. The clinical and radiological extension assessment (TAP CT scan) does not find any secondary locations.

It is therefore a localized squamous cell carcinoma of the anal canal. After consultation in a multidisciplinary meeting, the decision was to provide additional therapy with radiotherapy.

DISCUSSION

The etiology of anal canal cancer has long been linked to chronic perianal inflammation. Epidermoid carcinoma of the anal canal is now considered a virus-induced cancer because the signs of viral infection are almost constant on the biopsies. [2].

Patients diagnosed with anal canal cancer often present with anorectal pain or bleeding, but these symptoms occur in only approximately one-half of patients. Other clinical manifestations of anal canal cancer include anorectal fullness, pruritus, and change in bowel habits. [3,4] More advanced tumors can cause fecal incontinence or weight loss. Many patients with anal cancer come to the attention of physicians with complaints of hemorrhoidal-type bleeding or pain, and about one-half are not diagnosed until more than 24 months after symptom onset.6 Because the symptoms of anal cancer can mimic those of more common, benign conditions, the diagnosis of anal cancer is often delayed. In some cases, patients are entirely asymptomatic from their anal cancer.

The initial clinical assessment includes an interview to gather personal history (particularly HIV infection) and a clinical examination with a rectal exam (with anoscopy if needed, sometimes under general

anesthesia if the exam is painful). A precise evaluation of the height, circumference, distance from the anal margin and the levator ani muscles, infiltration of the sphincter planes, and the infiltrating, budding, or ulcerative nature must be performed. The palpation of the lymph node areas, particularly the inguinal and supraclavicular ones, is also performed.

In women, a gynecological examination with a vaginal touch is conducted to assess the invasion or non-invasion of the vaginal wall, and a smear is performed to look for an infection with papillomavirus.

The locoregional paraclinical assessment is completed by an endo-cavity anal and rectal ultrasound and/or a pelvic MRI, which specify the maximum thickness of the tumor, the invasion of the sphincters, and the search for perirectal adenopathies ; an inguinal ultrasound with cytopuncture of a possible adenopathy possible lymphadenopathy may be proposed.

The extension assessment includes a thoracoabdominopelvic CT scan including all inguinal areas ; the PET scan is now recommended [5] : it presents better sensitivity than the CT scan for the primary tumor (91% vs 59%), identifies lymphadenopathy not suspected by classical imaging or clinical examination in 20% of cases [6], and can be used as a predictive element for survival in the response to radiochemotherapy as well as in follow-up [7]. This latter examination has become a standard in some teams from the initial diagnosis.

The management of patients with non-metastatic squamous cell carcinoma of the anal canal has evolved from a surgical approach [8] with abdominoperineal resection (APR) to a conservative strategy with radiotherapy (RT) since the 1980s [9,10], yielding equivalent overall survival rates (50% at 5 years for tumors larger than 5 cm or N+ and 70% for less advanced tumors), and better results for colostomy-free survival, around 75% [11].

In the case of our patient, who is from a very low socioeconomic background and lives in a remote area of the Atlas Mountains, far from hospital facilities, the diagnosis of anal canal cancer was never suspected or diagnosed and the progression would have been toward local, locoregional, or even general extension. The discovery of this cancer in this patient was fortuitous, and was only possible after her transfer to our facility for the management of a pelvic trauma following this natural disaster of the Al Haouz earthquake, which makes it an exceptional mode of discovery.

CONCLUSION

Anal canal cancer is a rare cancer, accounting for 1.5% of digestive cancers, predominantly affecting women. Epidermoid carcinoma of the anal canal is now considered a virus-induced cancer. The discovery is most often made following nonspecific symptoms, rectal bleeding, anal itching or pain, an abscess, the patient's perception of an anal mass, tenesmus, or a change in bowel habits, which are often related to benign pathologies. Some tumors are discovered at an advanced stage of local extension, on the occasion of symptoms of anal incontinence, rectovaginal fistula, or occlusive syndrome.

For our patient, living in a rural area, in a remote region of the Atlas Mountains, it is a natural disaster: Al Haouz earthquake in 2023, during which the patient suffered a pelvic trauma, and her aerial transfer to our facility allowed for the diagnosis of anal canal cancer and its early management.

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