

A RARE CASE REPORT: PENILE METASTASIS OF RECTUM CANCER

NADİR BİR OLGU SUNUMU: REKTUM KANSERİNİN PENİSE METASTAZI

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Öz

Rektum kanserinin penise metastazı oldukça az görülen bir olgudur. Biz bu olgu sunumunda çok nadir görülen ve literatürde sınırlı sayıda bildirilmiş olan rektum kanserinin penise metastazı vakamızı sunmayı hedefledik. 70 yaşında erkek hasta tarafımıza akut üriner retansiyon ve penis üzerinde ağrılı ülser lezyonlar ile başvurdu. Hastanın 3 sene önce rektum kanseri nedeniyle neoadjuvan kemoterapi ve ardından aşağı anterior rezeksiyon ameliyatı geçirdiği öğrenildi. Çekilen PET BT' de pelvik bölgede nüks ve penis üzerinde metastatik nodüller görüldü. Penis gövdesindeki lezyonlardan alınan eksizyonel biyopsi materyallerinin histopatolojik inceleme sonucu rektum kanserinin penis metastazı olarak değerlendirildi. Zengin kanlanmasına ve pelvik organlara yakınlığına rağmen, penis metastazı çok nadir görülür. Penise metastatik yayılımın mekanizması tam anlaşılamıştır. Penis metastazları oldukça kötü prognozudur ve literatürde tedavisi için yeterli veri bulunmamaktadır. Tedavisinde sağ kalım faydaları gözetilmeksizin palyatif tedaviler düşünülmelidir.

Anahtar Kelimeler: Penis kanseri, metastaz, rektum kanseri

Abstract

Penile metastasis of rectum cancer is very rare. In this case report, we aimed to present a case of penile metastasis of rectum cancer which is very rare in the literature. Our case is a 70 years old patient who presented with urinary retention and painful ulcerated nodules on the penis. He had undergone low anterior resection for rectum cancer after neoadjuvant chemotherapy 3 years previously. We performed an 18F-labeled fluoro-2-deoxyglucose Positron Emission Tomography (18F-FDG PET/CT). It revealed that there was recurrence at pelvic area and metastasis on the penis. Biopsy of the nodules showed penile metastasis of rectum cancer. Despite its rich blood supply and closeness to the pelvic organs, penile metastasis is very rare. Metastatic spreading mechanism is not well established. Penile metastasis has a very poor prognosis and there is insufficient data for the treatment of penile metastasis in the literature. Palliative treatments should be considered with or without survival benefits.

Keywords: Penile, metastasis, rectum, cancer

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Introduction

The first case report about penile metastasis of a cancer was published in 1870 by Eberth (1). There are approximately 470 additional cases that have been reported in the literature. But in only 40 of them, the primary site was the rectum. Rectum cancer commonly metastasizes to regional lymph nodes, the liver, the lungs and the bone but rarely to the penis. The most common primary sites for penile metastasis are the cancers of bladder (33%), prostate (30%), colon (17%) and kidneys (7%) (2). Patients can present with penile nodules, masses, ulceration, priapism, lower urinary tract symptoms and hematuria (3). Here we report, a case with penile metastasis of rectum cancer in a 70 years old patient.

Case Presentation

A 70 years old patient with urinary retention was referred to the urology clinic. Clinical examination revealed 4 painful ulcerated nodules on the glans and shaft of the penis (Figure 1). Urethral catheter trials failed and retention was relieved with suprapubic cystostomy. Patients records were retrospectively scanned. He was diagnosed with rectum cancer on colonoscopy without distant metastasis (cT3N1) in 2015. Biopsy revealed adenocarcinoma with high Ki-67 proliferation. He underwent neoadjuvant chemoradiotherapy with a total

dose of 5040 cGy radiotherapy and 4-week chemotherapy (2000 mg 5-fluorouracil for a week). After neo-adjuvant chemoradiotherapy, a low anterior resection was performed. In the operative findings the tumor had invaded the prostate and surgeons sharply dissected the tumor from prostate. The final pathology report resulted in a pT3N1 adenocarcinoma and 1 of 13 lymph nodes was positive. The surgical margins were negative. After surgery adjuvant chemotherapy initiated with oxaliplatin, 5-fluorouracil and calcium folinate for 12 weekly. No sign of recurrence was observed for 2 years. He was out of follow up last year. We performed an FDG PET/CT. It revealed that there was recurrence at pelvic area. Relapsing mass has invaded the bladder and extended to anal canal and external genital organs (Figure 2). There were multiple metastases at the pelvic bones and left femur. A biopsy of ulcerated penile nodules revealed metastases of the adenocarcinoma. The tumor cells were immunohistochemically Cytokeratin 7 negative, but Cytokeratin 20, CDX2 and CEA positive supporting the diagnosis of metastatic rectal adenocarcinoma (Figure 3). A palliative penectomy was planned but the patient refused surgery. In multidisciplinary meeting it was concluded that his health status was not suitable for chemotherapy or radiotherapy. He was consulted to algology for his pain and was discharged with narcotic painkillers. He survived only 2 months.

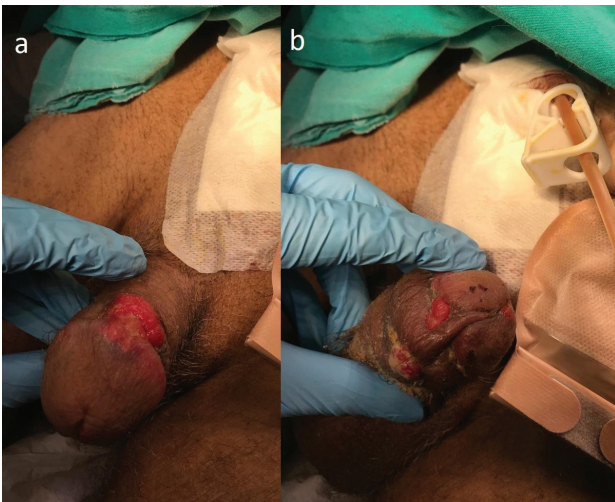


Figure 1: a. Ulcerated nodule on the dorsal side of the penis b. Ulcerated nodules on the ventral side of the penis

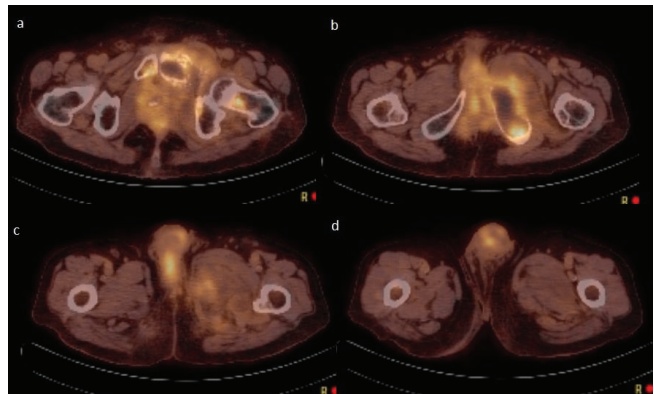


Figure 2: FDG PET CT indicates that the rectum carcinoma metastasizes to the bones and soft tissues. a. Recurrence at pelvic area and destruction at pelvic bones. b. The relapsing mass extended to the anal canal. c. Metastasis at the root of the penis. d. Metastasis at the shaft of the penis.

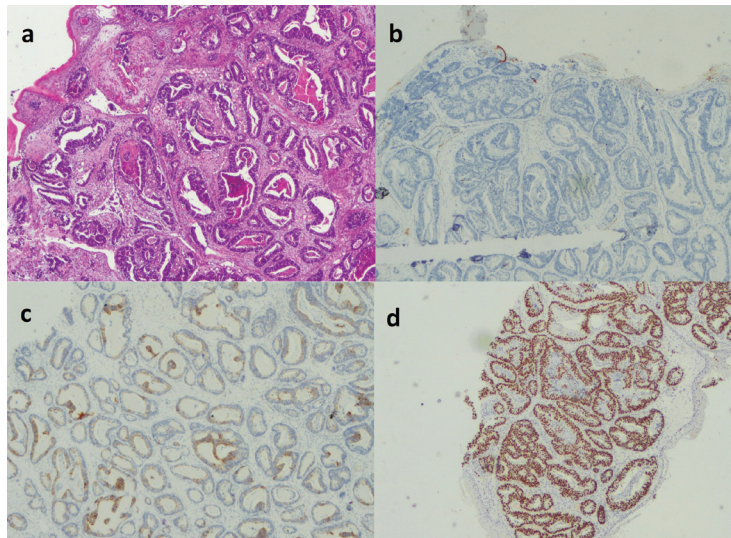


Figure 3: a. Biopsy from a nodule of glans penis showing tumoral glands invading squamous epithelium. ($\times 40$) b. Immunohistochemically the malignant cells were negative for cytokeratin 7. ($\times 40$) c. Immunohistochemically the malignant cells were positive for cytokeratin 20. ($\times 40$) d. Immunohistochemically the malignant cells were positive for CDX2. ($\times 40$)

Discussion

Secondary penile neoplasms are uncommon. Most of the reported cases had presented with metachronous metastasis and had a history of primary tumors (4, 5). The most common clinical presentations are palpable nodule, ulceration, priapism, haematuria and lower urinary tract symptoms (6). In our case, the patient presented with urinary retention and painful ulcerated nodules. In a review, Kuliavas et al found an average of 37 months interval between primary rectum cancer and secondary penile tumor (6). Similarly, it was 36 months in our case either.

Metastatic spreading mechanism to the penis is not well established. Despite its rich blood supply and closeness to the pelvic organs, penile metastasis is very rare. Possible metastasis pathways are retrograde venous transportation, retrograde lymphatic transportation, direct metastatic infiltration, arterial transportation, and instrumentation. Most investigators suggest that retrograde venous spread is the main pathway for penile metastasis (4). There is a connection between the dorsal venous system of the penis and the venous plexus system of the pelvis. This connection may allow the tumor to spread. When we performed an FDG PET/CT there was recurrence at pelvic area, destruction at pelvic bones, invasion at the bladder and there were multiple metastases at the penis from root to glans. Due to the aggressiveness of

the primary tumor also direct spreading may be the main reason in our case. Direct or indirect obstruction of the urethra is conceivable to explain the possible pathways of the urinary retention. Direct obstruction with corpus spongiosum invasion may have occurred. Corpus cavernosum invasion may have obstructed urethra indirectly with external compression.

In the differential diagnosis primary benign tumors, squamous cell carcinoma, melanoma, sarcoma, syphilitic chancre, tuberculosis, candidiasis, cavernositis, sclerosing lipogranuloma, and Peyronie's disease should be considered (7,8). Magnetic resonance imaging, computed tomography scan, ultrasonography and cavernosonography are useful methods for evaluation of lesions (4,5). Penile metastasis usually related to widely disseminated disease (6). Therefore we performed an FDG PET/CT for whole body scan for our case and it revealed all of the metastatic areas. Biopsy confirms the accurate diagnosis of secondary penile neoplasms, thus facilitates the direction of treatment.

Penile metastases have a very poor prognosis. In a review, it was found that overall cancer-specific survival for penile metastases was 14.5 months (3). In another review, it was 7 months for rectum cancer metastases to the penis (6). In our case, the patient survived 2 months after the diagnosis of penile metastasis.

Treatment options for penile metastasis include total penectomy, chemotherapy, radiotherapy or symptomatic management. There is insufficient data on which treatment is superior in the literature. Only a few cases are available for comparison. A case who underwent adjuvant chemotherapy with total penectomy for localized penile metastasis was still alive for 2 years and there was no evidence of disease (9). It has been suggested that radiotherapy may increase survival in an average of 8 months for penile metastasis (10). Having limited treatment options in the literature may remind the fact that penis metastasis is generally related to widely disseminated diseases. Only a small group of patients may have localized penile metastasis and the patients who benefit from treatment might be this small group. Palliative treatments should be considered with or without survival benefits. Local excision of the metastatic mass, total penectomy or radiotherapy to reduce the size of the lesion might be useful for pain control. A penile dorsal nerve block and narcotic painkillers may be of some benefit to symptomatic treatment.

In conclusion, penile metastasis of rectum cancer is extremely rare and only 40 cases have been reported. It usually related to widely disseminated disease. There is limited data in the literature for treatment algorithms of penile metastasis. The overall result is poor in most patients. Treatment options generally include palliative or supportive treatment.

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