Oncology

Metachronous penile metastasis from carcinoma rectum: A case report

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ARTICLE INFO

Keywords:
Penile secondary cancer
Metastatic rectal carcinoma
Penile biopsy

ABSTRACT

Penile secondary malignancies are rare. Clinical suspicious along with imaging gave fair indication of the metastatic rectal cancer in a 58 year male in our institute. The biopsy of penile lesion confirmed the diagnosis in the patient who was treated for stage III rectal cancer with sandwich approach (neoadjuvant chemotherapy followed by surgery and then adjuvant therapy).

Introduction

The most common site of metastasis of the rectal carcinoma is liver followed by lung and bone. The first case of penile metastasis to penis was reported in 1870. Despite the highly vascular anatomy of penis, it is a rare site of metastasis with approximately 500 cases reported in the literature.1 Neighboring genito-urinary organs like bladder and prostate are the most common sources of penile metastasis and 18.5% are from lower gastrointestinal tract.2

Case presentation

58 years male presented to surgical OPD with complaints of pain in perineum and penile shaft, and swelling of the prepuceal skin for 5 days following replacement of the Foley’s catheter. There was difficulty in negotiating urethra while changing Foley. On examination there was gross swelling of the prepuceal skin and the penile shaft had multiple hard nodular lesions with single nodule on right shaft of the glans penis.

Patient had undergone neo-adjuvant chemotherapy and radiotherapy (2 cycles of 5-FU based regimen and 2 cycles of radiotherapy) followed by abdomino-perineal resection for rectal carcinoma 2 years prior. The histopathological evaluation of the resected specimen showed well differentiated adenocarcinoma of rectum, pT3N1a with all margins free of tumor. Patient subsequently received adjuvant chemotherapy with FOLFOX for 12 cycles. Patient was on regular follow-up and his contrast enhanced CT of chest, abdomen and pelvis done 1 year back showed multiple metastatic lesions in bilateral lungs and bilateral adrenals with no local recurrence, which was confirmed by FNAC from lung mass. Patient received 6 cycles of chemotherapy with no response and patient denied further chemotherapy.

MRI of the penis showed 36x25 × 30 mm3 lesion in the glans penis and multiple nodules in corpora cavernosa involving the fascia (Fig. 1). Biopsy form glans penis showed adenocarcinoma, likely metastasis from the rectal cancer. Presently patient is under palliative care.

Discussion

Here we report a rare case of metastasis to penis associated with metastasis to lungs and adrenals, from previously operated rectal carcinoma. Despite high vascular supply it is rare for the penile secondary to occur.1 The first description of the possible mechanism of tumor spread to penis was proposed by Paquin and Roland in 1956 but still the exact mechanism cannot be elucidated in individual cases because of presence of disseminated disease in most of the patients.1 The most common mechanism is retrograde venous route with corpus cavernosum being most commonly involved and the glans penis and corpus spongiosum are rarely involved. Other mechanisms include retrograde lymphatic route, arterial spread, direct extension and implantation secondary to instrumentation.1

Penile secondary from rectal cancer usually takes on average 37 months after the treatment of primary tumor and mostly associated with involvement of multiple organs.3 In our case it was 26 months and was associated with metastasis to lungs and adrenals without local recurrence.

Clinical presentation of penile metastasis includes perineal pain, induration, ulceration urethral obstruction, priapism and hematuria.4

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https://doi.org/10.1016/j.eucr.2020.101386
Received 10 August 2020; Accepted 12 August 2020
Available online 12 August 2020
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Magnetic resonance imaging is the best non-invasive modality for the investigation of penile lesions and helps in assessment of tumor extent and involvement of the neighboring anatomic structures while USG and CT-scan can be helpful in diagnosis. Biopsy is required to differentiate metastasis from primary tumor.\(^2,3,5\)

Treatment options for metastatic penile cancer necessitates multimodality treatment approach. The choice of treatment depends on patient’s general health, site of primary tumor, extent of metastatic disease and severity of systemic and local symptoms.\(^3\) As most of the patients have disseminated disease at diagnosis and supportive or palliative therapy is only required.\(^2\)

**Conclusion**

Metachronous penile secondary from rectal cancer is a rare entity with poor prognosis. New onset penile lesion and perineal pain should raise the suspicion of penile metastasis in a patient with previously diagnosed malignancy in pelvic region. Isolated lesion could be amenable to surgery but palliation and supportive care is the only option for disseminated disease.

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![](image.png)

**Fig. 1.** MRI Penis: (a) T2W- Sagittal view (b) T1W-Axial.