Adenocarcinoma of the rectum with metastasis to the penis


ABSTRACT

Tumors metastasizing to the penis are rare but predisposing factors are its abundant vascularity and its proximity to pelvic organs. The first case of cancer of the rectum with metastasis to the penis was reported in 1870. Up to the present date about 50 cases of sigmoid rectum cancer with metastasis to the penis have been reported and 300 cases worldwide of patients with metastasizing cancers arising at different sites. The most frequent primary tumors are bladder tumor (30%), prostate tumor (30%), and kidney tumor (10.5%). Urinary and testicular tumors are less frequent. The gastrointestinal tract accounts for 22% of cases, particularly the colon and rectum representing 16%. The remaining metastases arise from the lung, bone, nasopharynx, melanomas, and hematopoietic and supraglottic tumors.

The present case is a 45-year-old man with diabetes mellitus and adenocarcinoma of the rectum with hepatic metastases after abdominoperineal resection. A few months later he presented with a 6 cm ulcer on the glans penis and inguinal adenomegaly. Biopsy report stated stroma with moderately differentiated adenocarcinoma glands and no squamous epithelium.

Key words: Colon cancer, metastasis in penis, Mexico.

RESUMEN

Los tumores metastásicos a pene son raros. Como factores predisponentes para ello están su abundante vascularity y su proximidad con los órganos pélvicos. El primer informe de cáncer de recto con metástasis a pene fue en 1870. A la fecha, se han publicado cerca de 50 casos de cáncer de recto sigmoides con metástasis a pene y de 300 casos con otro sitio de origen. Los tumores primarios más frecuentes son: vejiga y próstata otro 30% cada uno; riñón con 10.5% y la uretra y testículo con menor frecuencia. El tracto gastrointestinal conjunta 22%; en particular, el colon y recto abarcan 16%. El resto de las metástasis proceden de pulmón, hueso, nasofaringe, melanomas, neoplasias hematopoyéticas y supraglottis.

Presentamos el caso de un varón de 45 años, diabético, con adenocarcinoma de colon con metástasis hepáticas, posoperado de resección abdominoperineal. Pocos meses después presentó una úlcera en glande de 6 mm y adenomegalías inguinales. La biopsia de tejido informó estroma con infiltración por glándulas de adenocarcinoma moderadamente diferenciado, no se observó epitelio escamoso.

Palabras clave: Cáncer de colon, metástasis en pene, México.
INTRODUCTION

Tumors metastasizing to the penis are very rare. The cause is thought to be due to its abundant vascularity but the exact dissemination mechanism is not known. It is believed to spread via the veins through retrograde reflux, via the arteries, the lymph nodes and by contiguity. Clinically patients can present with non-painful nodules, corpora cavernosa induration, urinary tract occlusion, and penile ulcer. The majority of these tumors originate in the genitourinary, prostate, and bladder area followed by the digestive tract (colon and rectum). They generally indicate advanced stage disease and prognosis is poor.

Treatment varies depending on clinical characteristics.

CASE PRESENTATION

The patient is a 45-year-old male diabetic with important history of adenocarcinoma of the rectum diagnosed approximately 7 months before. He received chemotherapy (5-fluorouracil 600 mg/m²) and preoperative neoadjuvant radiotherapy (45 Gy) in 25 fractions and then underwent abdominoperineal resection. Histopathological report stated moderately differentiated adenocarcinoma perforating and penetrating serous membrane of the rectum to bladder muscle wall with lymphatic and perineural invasion. Surgical margins were negative and 6 of 16 lymph nodes were positive. Extension studies detected hepatic and pulmonary metastases. Patient was given adjuvant therapy with FOLFOX (leucovorin 200mg/m², fluorouracil 85mg/m², oxaliplatin 400mg/m²). Despite therapy, carcinoembryonic antigen increased from 213 to 354 nL/mL, and 6 months later reached 3793 nL/mL. Treatment was changed to XELIRI (irinotecan 180 mg/m², capecitabine 2500 mg/m² for 14 days). Patient was evaluated at urology service when he presented with an ulcer on the glans penis. It measured 6 mm in diameter and was indurated, painful and non-bleeding (Figure 1). There was increase in consistency up to proximal third of both corpora cavernosa, and non-painful bilateral inguinal adenomegaly of approximately 2 cm. Patient had cystotomy previously placed at general surgery service due to acute urine retention secondary to severe penile urethral stricture. Penile biopsy was carried out in an 8 mm ovoid, the edges of which were brought together with 4-0 chromic suture achieving total lesion extraction. Histopathological study reported stroma with infiltration by moderately differentiated adenocarcinoma glands. Squamous epithelium was not observed (Figure 2).

Patient refused all further treatment and so no other studies were ordered. He died one month after metastasis to the penis was diagnosed.

DISCUSSION

Tumors metastasizing to the penis are rare. The first reported case of cancer of the rectum metastasizing to the penis was in 1870 and about 50 cases of this type have been reported in the United States to date.¹ There have been 300 cases reported worldwide of metastasis to the penis originating from all types of malignant neoplasia. This event is believed to be due to abundant vascularity of the penis and its proximity to pelvic organs and the metastasis mechanism is thought...
to be secondary to venous retrograde flow because of the intense pelvic, lumbar, and penile vein communication, lymphatic and arterial dissemination, as well as contiguity. 1 It is possible that transurethral resection of the prostate (TURP) can disseminate locally advanced prostate cancer. Fifty percent of patients present with a solitary nodule and 34% present with multiple nodules. Both corpora cavernosa are involved in 66-70% of cases, the corpus spongiosum and glans penis are involved in 10-12% of cases, and prepuce is involved in less than 10% of cases. Clinical presentation of tumor metastasizing to the penis includes micturition difficulty, perineal pain, asymptomatic nodules, and priapism. Eighty percent of cases are due to advanced stage of initial neoplasia and generally have very poor prognosis. Usually the only viable treatment is palliative. Twenty percent of cases of tumor metastasizing to the penis present at the same time primary tumor is diagnosed and 50% of cases present 2 years after primary tumor diagnosis. The most frequent primary tumors correspond to the genitourinary area1 and make up approximately 70% of the total. Thirty percent correspond to the bladder and approximately 30% to the prostate while 10.5% correspond to the kidney. Urethral and testicular tumors as primary tumors are less frequent.

Twenty-two percent of all metastases to the penis originate in the gastrointestinal tract, particularly in the sigmoid colon and rectum (16%). The other remaining origins of metastasis are the lung, bone, nasopharynx, melanomas, and hematopoietic and supraglottic tumors. 2-4 Metastasis localization in order of frequency corresponds to the corpus cavernosum, glans penis, and corpus spongiosum. 5,9 Diagnostic method of choice is biopsy. However, imaging studies such as Doppler ultrasound, cavernosography, magnetic resonance, and fine needle aspiration are very helpful. When these studies are employed some authors feel biopsy is not indispensable. 10 Adenocarcinoma of the penis, which is very rare, should be considered in histological differential diagnosis. 3,11,12

Treatment varies widely depending on case characteristics and is usually palliative. 1, 8 Options are chemotherapy, radiotherapy, cavernosum/spongiosum short-circuit, urinary tract diversion through cystotomy, and partial or total phallectomy. 8 Some authors defend total phallectomy in patients in good general state of health in which metastasis is confined to the penis but others consider it to be too aggressive. 13-14 Prognosis is invariably poor with a 4-24 month survival rate for primary prostate tumor, 5-22 months for colorectal tumor, and 2-12 months for kidney tumor. Prognosis is the bleakest for those patients presenting with epidermoid cancer of the penis. 3

To the best of the authors’ knowledge the present case is the first to be reported in Mexico.

CONCLUSIONS

Metastasis to the penis from tumor of the rectum is very rare with less than 50 cases reported in the international literature. Unfortunately it indicates very advanced disease stage and has a short-term fatal prognosis. Therefore it has not been possible to carry out clinical trials on palliative chemotherapy treatment - an option that could offer maximum benefit to these patients. Neither has it been possible to determine the probable benefit of surgical treatment (total or partial phallectomy or even lesion excision) since these patients are usually in a very poor state of health, therefore not justifying the morbidity involved in surgical intervention.

BIBLIOGRAPHY