Case Reports

Penile metastasis from rectal carcinoma

Faisal Al-Mashat, FRCS(I &Ed), FICS, *Abdulrahman Sibiany,* FRCS(Ed), *Saeed Rakha,* MBBCh, *Folabi Olumide,* FRCS(C).

ABSTRACT

We are presenting a 65-year old patient with metastatic carcinoma of the penis which was discovered 19 months after abdomino-perineal resection for rectal cancer (Duke A). There was also metastasis in the perineum and one rib. Penile biopsy and cavernosography were carried out and established the metastatic nature. The patient declined further therapy and died 5 months after diagnosis.

Keywords: Penile mestastasis, cavernosogram, rectal cancer.

Saudi Medical Journal 2000; Vol. 21 (4): 379-381

Metastatic carcinoma of the penis as a result of adenocarcinoma of the rectum was first described by Eberth in 1870. It is a rare clinical entity arising most frequently from primary tumors in the genito-urinary tract and the rectum. It is frequently associated with disseminated metastases. The prognosis is gloomy with most of the patients dying within one year. We report a clinical case with penile metastasis from adenocarcinoma of the rectum.

Case Report. A 65-year old Saudi patient was complaining of rectal bleeding and perineal discomfort of 5 months duration. There was loss of weight but his appetite was normal. There was no family history of malignancies. On examination there was an ulcerated lesion in the lower rectum 5cm from the anal verge. Biopsy showed a well-differentiated adenocarcinoma. The hematological and biochemical parameters were within normal limits. Abdominal ultrasound showed no metastatic lesions in the liver. Patient had undergone abdomino-perineal (A-P) resection. Histo-pathological examination of the specimen showed a well-differentiated adenocarcinoma of the rectum. The pathological staging was $T_2N_0M_0$ (Duke A). Nine months later, the patient presented with dysuria and a perineal swelling. There was bilateral enlargement of the inguinal nodes. Cystoscopy showed mild prostatic hypertrophy. Biopsy of the perineal swelling revealed malignant cells. Abdominal and pelvic CT-scan showed a mass in the left rectus muscle and enlarged left internal iliac lymph nodes. There was no focal hepatic lesions. Fine needle aspiration biopsy of the anterior abdominal wall mass was positive for malignant cells. Patient received radiotherapy to the pelvis and anterior abdominal wall (6000Gy) and chemotherapy. Ten months later he presented with a 3-week history of painful perineal ulcer, painless penile nodule and dysuria. There was no priapism. The penile nodule was 1 cm in diameter and located on the lateral aspect of the penile shaft, proximal to the glans penis. It was hard in consistency, not attached to the skin of the penis and seems to arise from the left corpus cavernosum. Pelvic CT-scan showed a mass posterior to the bladder and CT-guided biopsy showed no evidence of malignancy.

From the Department of Surgery, College of Medicine & Allied Sciences, King Abdul Aziz University (Al-Mashat, Sibiany) and the Department of Surgery, King Abdul Aziz Hospital & Oncology Center (Rakha, Olumide), Jeddah, Kingdom of Saudi Arabia.

Received 17th October 1999. Accepted for publication in final form 6th December 1999.

Address correspondence and reprint request to: Dr. F. Al-Mashat, PO Box 143, Jeddah 21411, Kingdom of Saudi Arabia. Fax No. +966 (2) 6391045.

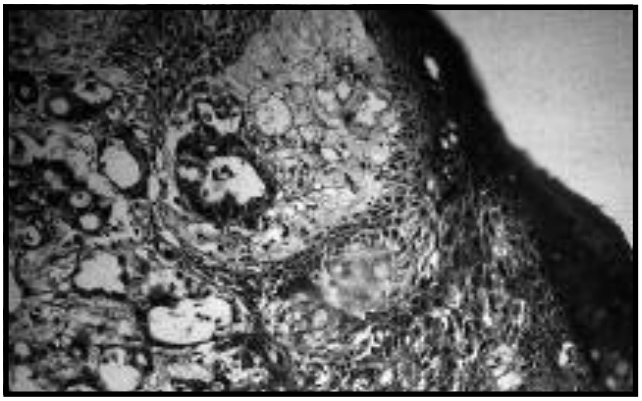

Figure 1 - Penile tissue showing multiple metastatic malignant acini infiltrating the dermis (H & E x 400).

Figure 2 - Cavernosography revealing penile metastases of adenocarcinoma of rectum as filling defects.

Biopsy of the penile nodule and the perineal ulcer revealed metastatic adenocarcinoma (Figure 1). The perineal ulcer was excised. Cavernosogram revealed an irregular filling defect in the left corpus cavernosum extending from the glans to the base of the penis consistent with metastatic carcinoma (Figure 2).

The patient's condition deteriorated and he refused any further treatment. The penile nodule increased gradually in size. Hepatic ultrasonography was free of metastasis but bone scan demonstrated a solitary metastatic lesion in a rib. Five months after confirmed diagnosis of metastatic carcinoma of the penis, the patient died in renal failure.

Discussion. Eberth first described metastatic carcinoma of the penis from an adenocarcinoma of the rectum.[1] This is a rare clinical entity. Until 1998 around 300 cases of metastasis to the penis have been reported,[2] and by 1997, 50 such case were arising from colorectal adenocarcinomas.[3] As far as we know, the present report is the fifty first case to be reported. In the vast majority of patients the primary carcinoma is from the genito-urinary tract (70%) followed by carcinoma of the rectum (22%).[4] The most common modes of presentation are priapism and obstructive uropathy.[5] Penile nodules, perineal pain and penile edema are seen less commonly.[6] The case here reported had most features of this disease. Priapism, however, was absent. Usually both corpora cavernosa are involved,[5] in our patient only one corpus cavernosum was involved. The glans penis is involved less frequently and the corpus spongiosum is involved rarely. Penile metastasis must be differentiated from Peyronie's disease, traumatic or infectious scar tissue and syphillitic cavernositis. The time interval between diagnosis of the primary malignancy and the penile metastasis is 1 to 2 years.[6] The mechanism of metastatic spread to the penis is not well established. Paquin and Roland[4] proposed the following modes of spread: direct extension, retrograde venous transportation, retrograde lymphatic transportation, secondary embolism from lung metastases, tertiary embolism from liver metastases, direct extension into arterial pathways, and instrumentation. Most investigators suggest that retrograde venous transportation is the main mechanism involved in the development of secondary penile tumors.[4,5] It is believed that instrumentation plays little or no role in the spread of cancer. Tissue tumor markers are useful in determining the site of origin of the primary tumor and many immunoperoxidase stains for tumor markers are available, including carcino-embryonic antigen (CEA), prostate specific antigen (PSA), prostatic acid phosphatase, (alpha-fetoprotein and human chorionic gonadotropin (HCG).[7] The diagnosis can easily be established by biopsy or fine needle aspiration biopsy of the penile nodule. Corpus cavernosogram is a safe and valuable diagnostic technique with no adverse reactions to the contrast medium and few complications such as hematoma, abscess at the puncture site and post-priapism fibrosis.[6] The presence of a metastatic tumor of the penis indicates widespread metastases in 80% to 90% of the patients.[8] The prognosis is very poor with short survival and most patients die within one year of diagnosis.[2-6] Treatment is often palliative. Aggressive surgical approach appears to offer the best chance for quality survival and possible cure[9] and seems to give the best results in limited penile lesions.[3] Short term remission using chemotherapy and radiotherapy could be achieved.[10,11] Hormonal therapy may be useful in cases of prostatic carcinoma.[6]

In conclusion, metastatic carcinoma of the penis iS very rare. The genito-urinary tract and the rectum are the most common primary sites. Retrograde venous transportation is the frequent mechanism of spread of the primary tumor to the penis. It must be

suspected in any patient with a known neoplasm in whom priapism, a penile nodule or voiding dysfunction develops. It indicates a widespread-cancer dissemination with gloomy prognosis. Treatment is often supportive or palliative.

Acknowledgments. We wish to thank Prof. E. Christian, Consultant Pathologist, who kindly reviewed the specimens. We also express our profound gratitude to Prof. Mahmoud Atwa, Consultant Urologist, for final revision of the manuscript and Mrs. Joy De Silva for her secretarial assistance.

References

1. Eberth CJ. Krebsmetastasen den corpus cavernosum penis. Virchow's Arch T Path Anat 1870; 74: 145.
2. Perdomo JA, Hizuta A, Iwagaki H, Yoshino T, Tanaka N. Penile metastasis secondary to caecum carcinoma: a case report. Hepatogastroenterology 1998; 45: 1589-1592.
3. Lange G, Fagot H, Faulques B, Hoepffner JL, Lange S. Penile metastasis of recto-sigmoid adenocarcinoma. Apropos of a case. Ann Chir 1997; 51: 294-296.
4. Paquin AJ Jr, Roland SI. Secondary carcinoma of the penis. A review of the literature and a report of nine new cases. Cancer 1956; 9: 626-632.
5. Abeshouse BS, Abeshouse GA. Metastatic tumors of the penis: A review of the literature and a report of two cases. J Urol 1961 July; 86: 99-112.
6. Escribano G, Allona A, Burgos FJ, Garcia R, Navio S, Escudero A. Cavernosography in diagnosis of metastatic tumours of the penis: 5 new cases and a review of the literature. J Urol 1987; 138: 1174-1177.
7. Bosch PC, Forbes KA, Kollin J, Golji H, Miller JB. Secondary carcinoma of the penis. J Urol 1984; 132: 990-991.
8. Dubocq FM, Tefilli MV, Grignon DJ, Pontes JE, Dhabuwala CB. High flow malignant priapism with isolated metastasis to the corpora cavernosa. Urology 1998; 51: 324-326.
9. Allen RA, Bumpers IIL, Kennedy AP, Parsh S, Mobley DL, Hoover EL. Primary adenocarcinoma, signet-ring, and transitional cell carcinoma of the bladder with penile metastasis. J Natl Med Assoc 1997; 89: 253-256.
10. Tefilli MV, Gheiler EL, Shekarri ZB, de Oliveira JG, Tiguert R, Grignon D et al. Metastasis to the glans penis: successful treatment with chemotherapy and radiation therapy. Urology 1998; 52: 517-519.
11. Cuvillier X, Donnaint A, Rigot JM, Mazeman E. Report of a case of penile metastasis. Review of the literature. Prog Urol 1995; 5: 1009-1011.